ULTIMHEAT

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2



THERMOSTATS WITH INGRESS PROTECTION HOUSINGS

and connection boxes for heating elements

The professional solution: an extended, rational and consistent range of products

Technical catalogue for R&D department

Edition 02/04/2013

JPC

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GENERAL: our sales are made under the here below terms of sales. Any contrary conditions provided by the buyer shall not be binding and shall not have any legal effect.
The execution and delivery of any purchase order is made in conformity with the present general terms of sales and it is noted that the buyer first has full knowledge of these terms.
In case of dispute on any of the herein below terms, we will consider ourselves as completely free from any contract related to the execution of any pending order.
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For orders less than € 75 Excl. tax exclusive of fees, administrative costs amounting to € 7.62 Excl. tax will be charged to customer.

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Regarding the conformity and visible quality of delivered goods related to an order, the buyer must send his eventual written claim within an 8 days legal notice from the collection date. Claims will be taken into account only if the goods are kept in the consignment conditions.
For manufacturing reasons, we reserve the right of delivering plus or minus 10 percent of the ordered quantities.

PAYMENT TERMS: unless other arrangements expressly provided by special conditions at the bottom of our order acknowledgment, our invoice is resolvable by draft accepted at 30 days end of month .
The invoices less than € 150 Excl. tax, the first order and the files not accepted by our factoring company are resolvable cash on order.
No discount for pre-payment is accepted.
Whatever the mean of payment, we reserve the ability of cancelling or postponing any blanket or purchase order, invoicing any related charges and to ask for an immediate payment of all pending invoices and all implemented collection charges until total settlement has been completed.
In no way, payments due to JPC can be postponed or be subjected to either deduction nor compensation unless JPC's express written consent.
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Any refuse from the customer will open JPC's right to partial or total order cancellation.
Any payment to JPC will apply to due amounts whatever the cause, starting with the oldest due amounts.

RETENTION OF PROPERTY: our goods are sold with a retention of property.: according to the terms of the 1980/05/12 Law and the 1985/01/25 Law (amended 1994/06/10), the Seller shall keep the ownership of the Products until the full payment of the agreed price is made including any other payments outstanding, if any, from the Purchaser to the Seller. However, the Purchaser shall bear the risk of the loss, damages, harms, deterioration or destruction of the sold Products since such Products are at the disposal of the Purchaser and he must have subscribed any related insurance.
In the event of payment delayed by the Purchaser and 8 days after receipt of a registered reminder letter remained unfruitful, the contract shall be regarded as executed. In such an event, JPC will reserve the right to take back the goods and all related settlements by the Purchaser will not be refunded and regarded as damages, without any restitution or compensation claim from the Purchaser related to an eventual resell.
To prevail over the aforesaid clause and in the event of collective judicial proceedings, JPC will notify its such express will to the Purchaser or to its official representative, by registered letter, to have the goods returned.

PROPERTY OF TOOLS: the tools that have been fully settled to JPC are the customer's property. They remain at his entire disposal at JPC's facility if the end product is made by JPC, or in the sub-contractor's French or Foreign facility if the product is sub-contracted or imported.
Unless otherwise written consent from the Purchaser, all tools unused for more than 2 years will be considered as abandoned and will be destroyed. Storage charges can be invoiced if the customer wishes to keep unused tools.
Tools for which a partial amount has been invoiced to the Purchaser remain the property of JPC. The tools are made to fit the manufacturing equipment, Norms or Standards in force at JPC's or at its sub-contractors. Unless otherwise specified, their lifetimes are equal to 3 years life according to the annual quantities provided by the Purchaser during original negotiation or on the original order. In the meantime, all maintenance and repairs charges shall be borne by JPC. For additional quantities than provided, all maintenance and repairs charges shall be borne by the Purchaser.

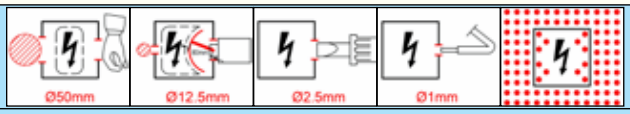
WARRANTY: goods manufactured by JPC are covered by a 1 year warranty coming into force at the delivery date.
For all imported good, our warranty period is limited to the manufacturer's warranty. We cannot be held as responsible for any manufacturing ascertained default on goods re-sold as are. We forward the claims on delivered goods and apply the eventual warranty clauses after agreement receipt from our constituents.
To benefit the warranty, The Purchaser must send a written claim to JPC, providing all ascertained defaults and give JPC all means to ascertain and bring corrective actions.
Packing, freight, return, carriage, un-assembly and re-assembly charges shall be borne by the Purchaser.

LIABILITY LIMITATIONS: the buyer must ensure that the use of the purchased products complies with Norms and Rules into force, whatever the advices or recommendations shown in the seller's documents. De facto, he resigns all claims against the Seller. No request for compensations for direct or indirect damages or loss is receivable.
JPC's liability is strictly limited to the aforesaid obligations.

APPROPRIATE COURT – APPLICABLE LAWS: all sales by JPC are subjected to French Laws including the 1980 Vienna Convention on International Sales. Any controversy, dispute or claim arising out of or related to this contract or breach thereof shall be settled by arbitration of The Tribunal de Commerce Court held in Meaux, 77, France.

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Table of Contents

		Summary	1
		Technical introduction	2-9
		Alphabetical and reference tables	10-12
Y0		Housings and temperature control of ambient, surface, air, liquids, pipes, by means of bimetal, bulb and capillary, ambiance or rod probes. Ingress protection by plastic housings **IP20 to IP44**	13-22
Y1		Housings and temperature control of ambient, surface, air, liquids, pipes, by means of bulb and capillary, ambiance or rod probes. Ingress protection by **IP65** aluminum housings	23-100
Y2		Temperature control of ambient, surface, air, liquids, pipes, by means of bulb and capillary, ambiance or rod probes. Ingress protection by **IP54 to IP65** plastic housings	101-116
Y3		Housings and temperature control of immersion heaters. Protection by aluminum and plastic housing specially designed to fit immersion heaters, **IP54 to IP65**	117-168
Y4		Waterproof aluminum and plastic housings for SSR, GFCI, relays, connection blocks, for electro-thermal applications, **IP54 to IP65**	169-176
Y5		Hand hold and wall mounting electromechanical and electronic temperature controls, for ambient, surface, pipes, liquids and air, sensing by incorporated sensor, bulb and capillary, or electronic sensor Ingress protection by **IP54** plastic housing	177-186
ACC1		Silicone caps, grommets and boots for housings, sensors and thermostats, **IP20 to IP67**	187-198
ACC2		Brass and stainless steel fittings for immersion heaters	199-210
ACC3		Pockets, flanges and accessories for thermostats with housings	211-222

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Introduction to enclosures and thermostats with enclosures of types Y0 to Y5

The housings are designed to protect electrical equipment located inside. This protection must be considered in the electrical and environmental angles.)
Sets Y0 to Y5 describe products with protection classes which are different and intended for different applications. This introduction allows to understand and define the specifications for an application.
For further information on the specific protection explosive atmospheres, see catalogs No. 4 and No. 2 for the resistance of plastics and elastomers to temperature and UV

Electrical protection classes

There are two main types of electrical protection, protection against the risk of **direct contact** (functional isolation) and protection against **indirect contact** hazards.
The functional isolation is not sufficient in case of electrical failure and it is necessary to add protection against the risks of indirect contacts, which can be achieved by the following means:
-The earthing of all metal parts
- Double or reinforced insulation
- A low voltage supply via a transformer
The combination of these protections determines the class of electrical protection of the device.

The 4 electrical safety levels of electrical devices

Class	Symbol	Description
0		Equipment with only functional insulation but not binding to the metal masses. Banned in Europe.
1		Material with a functional isolation and earthing of metal masses. These devices must be connected to earth
2		Equipment with dual insulation of live parts (functional isolation and physical). No earthing of metal parts. This ensures that no double insulation accessible part may be subject to dangerous voltages even after a first insulation fault The advantage of this class of appliances is a higher protection to the user regardless of the electrical sockets used (With or without earth terminal). These devices must not be connected to earth
3		Equipment class 2 transformer with a SELV (Safety Extra Low Voltage). This solution ensures that no accessible part may be subject to dangerous voltages even after a first and a second insulation fault. The electrical insulation of a device by a transformer located apart eliminates the risks of electrical ground return on a user by accidental contact with an electric leakage. On the other hand, the low voltage SELV severely limits the current that can pass through the human body in contact with two elements of the device under different potentials. The advantage of this class of appliances is a higher protection to the user regardless of the electrical sockets used (With or without earth terminal). These devices must not be connected to earth

IP protection (Ingress protection)

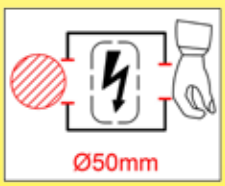
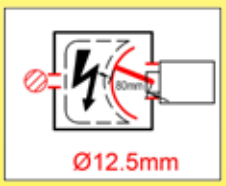
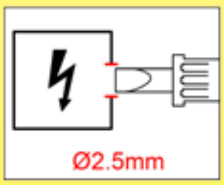
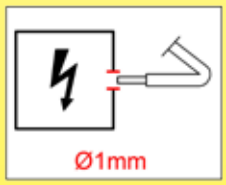
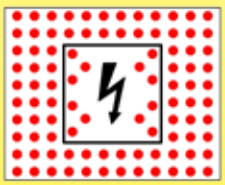
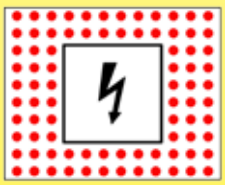
The IP rating defined by the IEC 60529 specifies the degree of protection against ingress of solid bodies (first digit) and against the ingress of water (second digit). The third and fourth characters are optional and provide information on the level of protection. The classification is done by increasing efficiency. There are 7 levels against solid (0: no protection, 6 fully protected) and 9 levels against water (0: no protection, 8: protected against immersion under pressure).
For example, "IP21" means protected against solid objects greater than 12.5 mm (eg a finger) and resistant to condensation.

« X» use in the IP Coding

The letter X is used anywhere in the code when the protection it repersents is meant to be avoided. There may be various reasons for choosing this coding variant, such as marketing considerations. Thus, e.g. an IPX7 rating for a consumer device specifies that the device has water protection up to limited immersion, but gives deliberately no information as to whether the device has any protection against mechanical ingress or dust. Among other common IP ratings using the letter X, is IPX4. IP2X is frequently used on electrical items to specify the item must prevent from finger access to live terminals i.e plug sockets are IP2X.

First digit (Solid particle protection)

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects
The first digit of the IP marking is not required by EN 60335-1

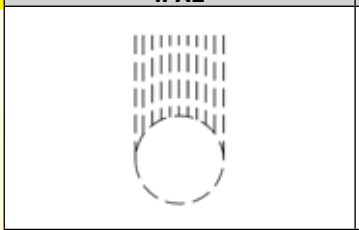
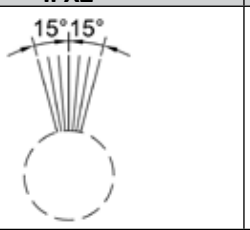
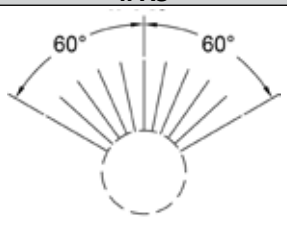
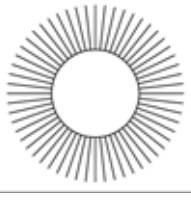
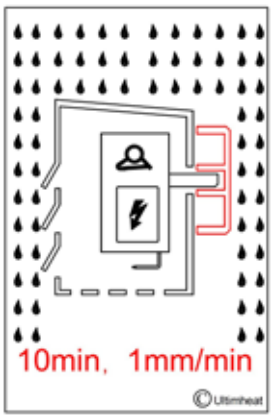
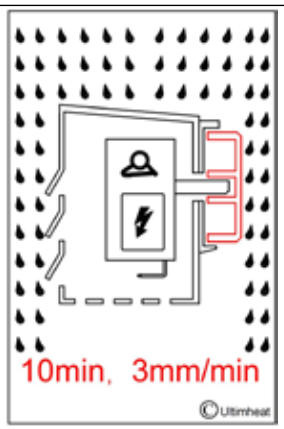
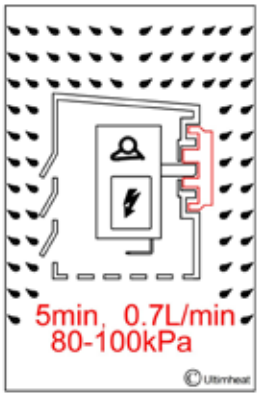
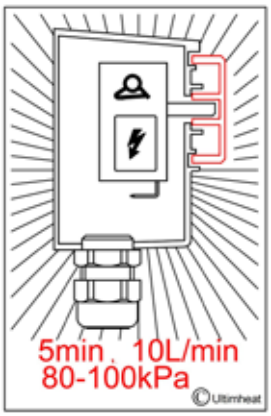
IP1X	IP2X	IP3X	IP4X	IP5X	IP6X
					

First digit	Protection type	Effective
0	No protection	No protection against contact and ingress of objects
1	Protected against solid particles >50 mm	Protected against any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a smaller body part
2	Protected against solid particles >12.5 mm	Protected against fingers or similar objects
3	Protected against solid particles >2.5 mm	Protected against tools, thick wires, etc.
4	Protected against solid particles >1 mm	Protected against most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment. Completely protected against contact.
6	Dust tight	Completely protected against ingress of dust. Completely protected against contact.

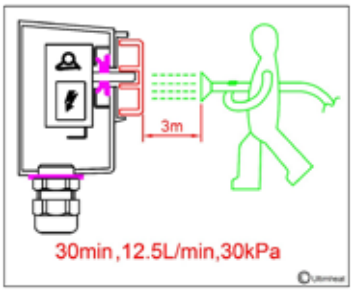
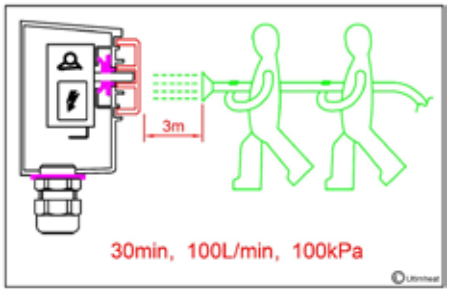
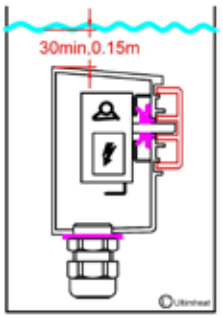
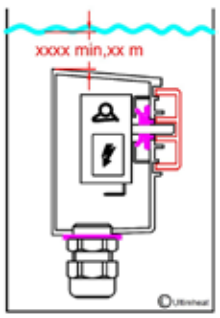
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Second digit (Liquid ingress protection)

The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

IPX1	IPX2	IPX3	IPX4
			
			

Second digit	Protection type	Effective protection	Test description
0	Not protected		
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.	- Water equivalent to 1 mm rainfall per minute. - Test duration: 10 minutes
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.	- Water equivalent to 3 mm rainfall per minute. - Test duration: 10 minutes
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.	- Water volume: 0.7 liters per minute - Pressure: 80-100 kPa - Test duration: 5 minutes
4	Splashing water	Water splashing against the enclosure from any direction shall have no harmful effect.	- Water volume: 10 liters per minute - Pressure: 80-100 kPa - Test duration: 5 minutes

IPX5	IPX6	IPX7	IPX8
			

Second digit	Protection type	Effective protection	Test description
5	Water jets	Water projected by a 6.3 mm dia.nozzle against enclosure from any direction shall have no harmful effects.	- Water volume: 12.5 liters per minute - Pressure: 30 kPa - Distance: 3 m - Test duration: 3 minutes
6	Powerful water jets	Water projected in powerful jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.	- Water volume: 100 liters per minute - Pressure: 100 kPa - Distance: 3 m - Test duration: 3 minutes
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).	- Immersion at depth of at least 1 m measured at bottom of device, and at least 15 cm measured at top of device - Test duration: 30 minutes
8	Immersion beyond1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a way that it produces no harmful effects.	Test duration: continuous immersion in water. Depth is specified by the manufacturer

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First additional letter

Additional letters that can be appended to classify only the level of protection against access to hazardous parts by persons

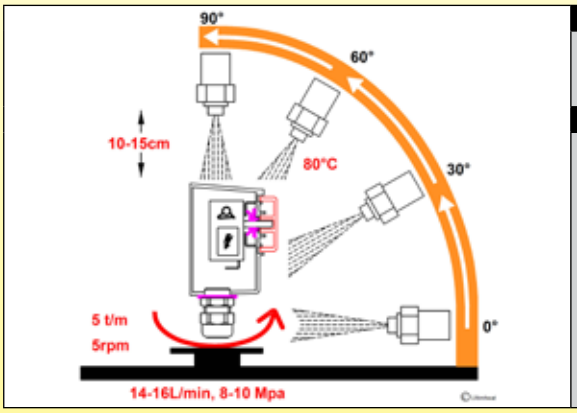
Letter	Protected against access to hazardous parts with
A	Back of hand
B	Fingers
C	Tools
D	Wires

Second additional letter

Further letters can be appended to provide additional information related to the protection of the device

Letter	Meaning
H	High voltage device
M	Device moving during water test
S	Device standing still during water test
W	Weather conditions

IP69K (DIN 40050-9)



Description

Specific ingress protection rating for high-pressure, high-temperature washing applications. Such enclosures must not only be dust tight (IP6X), but also able to withstand high-pressure and steam cleaning.

Test description

- Water volume: 14-16L liters per minute
- Water temperature: 80°C
- Pressure: 8–10 Mpa (80–100 bar)
- Distance: 10 to 15cm from the tested device at angles of 0°, 30°, 60° and 90° for 30s each.

The test device sits on a turntable that rotates once every 12s

Examples of ingress protection ratings requested by standards and applications

An IP protection rating may be required by specific standards such as NF15100 (domestic electrical installation rules), EN60335-xx (design rules for electrical appliances) and machine-specific standards. Hereafter are the main specifications extracted from these standards.

Bath rooms, swimming pools and assimilated	These rooms are divided in 4 area volumes: 0,1,2,3. These volumes and installation rules are described in the French standard NFC15100, International standard Cenelec HD384 and European standard IEC 60364.

Areas	Minimal IP requirements	Electrical protection
0	All electric heaters are prohibited. Other equipments: Bathrooms: IPX7 Pools and similar: IPX8	SELV limited to 12V DC or 30V AC
1	All electric heaters are prohibited. Other equipments: Bathrooms: IPX4, but IPX5 if this volume can be subjected to water jets for cleaning in public baths. Pools and similar: IPX5	SELV limited to 12V DC or 30V AC
2	Bathrooms: IP24 mini heaters are authorized Other equipments: IPX3, but IPX5 if this volume can be subjected to water jets for cleaning in public baths. Indoors Pools: IP24 mini heaters authorized Other equipments: IPX2, but IPX5 if this volume can be subjected to water jets for cleaning. Outdoors Pools: IPX5	- Class 2 devices - Controls should not be accessible from the shower or bath. - Heaters must not be powered by a wall mounted socket. - Line must be protected by a 30 mA residual current circuit breaker
3	Bathrooms: IP21 mini heaters are authorized Other equipments: IPX1 Pools: Heaters authorized IP21 mini Other equipments: IPX1, but IPX5 if this volume can be subjected to water jets for cleaning. Outdoors Pools: IPX5	- Class 1 or Class 2 devices - Heaters must not be powered by a wall mounted socket. - Line must be protected by a 30 mA residual current circuit breaker

Saunas	Electrical equipment must have an IP 24 minimum protection rating
Under floor heating	The heating elements intended to be embedded in a concrete or other similar material must be IPX7
Electrical devices that are permanently outdoor	The degree of protection shall be at least IPX4.
Residential, Offices, Schools	Generally clean, dry and free from harmful deposits of dust, but some condensate may be present due to atmospheric conditions. Minimum protection is typically IP2X for dry conditions.
Control rooms/ Sub-Stations	Generally dry and free from harmful deposits of dust, but some condensate may be present due to atmospheric conditions. Where access is restricted to skilled or instructed persons, IP2X is the typical minimum requirement for dry conditions.
Commercial, Light Industrial	These premises may not be clean, but normally dry and free from harmful deposits of dust. Suitable minimum protection: - Where condensate is not present: IP2X - Where condensate may be present: IP21. - Equipment installed within range of fire sprinkler systems: IP22.

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Machine control equipment	Where fluids may be present, e.g. lathes, millers etc., minimum protection typically requested is IP54. Consideration should also be given to the corrosive properties of certain fluids
Heavy Industrial, Chemical.	These environments are not usually totally clean, with possible presence of corrosive elements and harmful deposits of dust. Protection to IP54 will be typically required, with special consideration given to the corrosion resisting properties of the enclosure. When explosion risks exist, enclosures and equipment should meet the specifications of these environments.
Food Processing	Will vary depending on the type of food being processed and the possible requirement for washing down. Where fine powders are present, a minimum of IP53 should be used. This should be increased to IP54/65 if the equipment needs to be washed or hosed down. If the equipment should be washed with a jet of hot or cold water under high pressure, it is possible that the IP 65 rating is insufficient and that the IP69K is required
Dump trucks, cement mixers, food industry, car wash	In these high-pressure, high-temperature wash-down applications, enclosures must not only be dust tight (IP6X), but also able to withstand high-pressure and steam cleaning. The recommended protection rating is IP69K (DIN40050-9)
Weather proof equipment	If subjected to exposure to any specific weather condition, an agreement between the User and Manufacturer is necessary, with consideration given to specific testing conditions, including the corrosion resisting properties of the enclosure, fittings and cable glands

IK : Mechanical impact resistance (EN62262)

This mechanical impact is identified by the energy needed to qualify a specified resistance level, which is measured in joules (J). Protection class impact resistance was eventually given previously by the third digit of the IP rating. It was dropped during the 3rd edition of IEC60529 (1978), and replaced by an independent marking specified by the EN62262 standard.
Although dropped from the 3rd edition of IEC 60529 onwards, and not present in the current EN versions, older enclosure specifications will sometimes be seen with an optional third IP digit denoting impact resistance. Newer enclosures must be coded with an IK rating. However there is not an exact correspondence of values between the old and new standards.

Obsolete IP third number for mechanical impact resistance

IP third digit	Impact energy (Joules)	Equivalent drop mass and height
0	Unprotected	No test
1	0.225	150 g dropped from 15 cm
2	0.375	250 g dropped from 15 cm
3	0.5	250 g dropped from 20 cm
5	2	500 g dropped from 40 cm
7	6	1.5 kg dropped from 40 cm
9	20	5.0 kg dropped from 40 cm

IK mechanical impact resistance values

IK number	Impact energy (Joules)	Equivalent drop mass and height
00	Unprotected	No test
01	0.15	200 g dropped from 7.5 cm
02	0.2	200 g dropped from 10 cm
03	0.35	200 g dropped from 17.5 cm
04	0.5	200 g dropped from 25 cm
05	0.7	200 g dropped from 35 cm
06	1	500 g dropped from 20 cm
07	2	500 g dropped from 40 cm
08	5	1.7 kg dropped from 29.5 cm
09	10	5 kg dropped from 20 cm
10	20	5 kg dropped from 40 cm

Other classifications

NFC 15100 standard also refers to a “water drop” marking that household appliances and lightings can wear depending on their protection rating. This marking is different from the IP marking. Double marking, the water drops and the IP code, is not allowed because the tests are different.

Description	Protected against vertical water drops	Protected against rainfall	Protected against splashing water	Protected against water jets	Protected against immersion up to 1 m
IP equivalent	**IPX1**	**IPX3**	**IPX4**	**IPX5**	**IPX7**
Standard logo					

NEMA (USA) rating equivalences with IP

The United States National Electrical Manufacturers Association (NEMA) also publishes protection ratings for enclosures similar to the IP rating system published by the International Electro-technical Commission (IEC). However, it also dictates other product features not addressed by IP codes, such as corrosion resistance, gasket aging, and construction practices. Thus, while it is possible to map IP Codes to NEMA ratings that satisfy or exceed the IP Code criteria, it is not possible to map NEMA ratings to IP codes, as the IP Code does not mandate the additional requirements. The below table indicates the minimum NEMA rating that satisfies a given IP code, but can only be used in that way, not to map IP to NEMA.
North American enclosure rating systems are defined in NEMA 250, UL 50, UL 508, and CSA C22.2 N°. 94.

Equivalent IP Code	Min. NEMA Enclosure rating to satisfy IP Code.
IP20	NEMA-1
IP54	NEMA-3
IP66	NEMA-4, NEMA-4X
IP67	NEMA-6
IP68	NEMA-6P

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Corrosion resistance
Outdoor use of aluminum enclosures

The plastic enclosures and their weather resistance are treated in the catalog N ° 3. We will deal here with the corrosion resistance of aluminum housings and accessories. The aluminum used in enclosures is available in two grades: ADC12 boxes for AC currents and 44,300 for flameproof enclosures. Both grades have good resistance to corrosion inside and outside.

Chemical composition

Material and standards	Si	Cu	Mg	Zn	Mn	Fe	Ni	Sn	Ti	Al
EN AC 44300 DIN 1706 AlSi12(Fe)	10.5-13.5	<0.10	-	<0.15	<0.55	<1	-	-	<0.15	remainder
ADC12 (JIS H5302:2000)	9.6-12.0	1.5-3.5	<0.3	<1.0	<0.5	0.6-0.9	<0.5	<0.2	-	remainder

Galvanic corrosion, also called Bimetallic Corrosion

Protective housings may be subject to a special phenomenon which reduces their lifespan, up to the perforation of the envelope or complete locking of the closing screws. This is galvanic corrosion.
Although most standards specify that appropriate safeguards must be taken to avoid galvanic corrosion on aluminum boxes, none advocates any solution or imposes materials or precise compositions of alloys.
Galvanic (Bi-Metallic) corrosion is an electrochemical phenomenon that occurs when dissimilar metals are in contact in the presence of an electrolyte (e.g. water, sea water). This will cause additional corrosion that can occur with other phenomena and uncoupled metals, and its progression is usually much faster.
A difference of potential appears between the two metals depending on both the metal and the solution. Two metals or two different alloys in contact with the same medium generally take two different potentials. If both metals are electrically connected, their difference of potential generates electrochemical reactions and an electric current flow.
The most negative metal (least noble) is positively polarized and the most positive metal is negatively biased. In the vast majority of cases, this configuration is an increase of the corrosion rate of the corrodible metal most (most negative), and a decrease in the rate of corrosion of the least corrodible metal (most positive).

Joint conditions necessary for the appearance of a galvanic corrosion couple.

Galvanic corrosion is a function of several different factors that need to be carefully evaluated when assessing the likelihood to have galvanic corrosion.
The simultaneous requirements for bi-metallic corrosion are as follows:
- An electrolyte bridging the two metals
- Electrical contact between the two metals.
- A difference in potential between the metals to enable a significant galvanic current
- A sustained cathodic reaction on the most noble of the two metals.

NB: If the metals are dry, bimetallic (galvanic) corrosion cannot occur.

Electrolyte

The conductivity of electrolyte will also affect the degree of attack.
When the conductivity of the electrolyte is low, the corrosion is localized to the contact zones between the two metals.
When the conductivity of the electrolyte increases, the corroded surface increases.

Electrical contact between metals

If the electrical contact is prevented between the two metals by interposing an insulator (aluminum oxide, phosphating, paint, oil, etc ...), the current does not run and there is no corrosion

Electrical potential difference between metals

The higher the value, the greater the electromotive force of the phenomenon. A difference of hundreds of millivolts is likely to result in galvanic corrosion, but a 200-300mV difference is unlikely to be a problem.
The galvanic corrosion potentials of various metals and alloys are listed in a table which gives the metal electrical potential values and are usually measured with respect to the Standard Calomel Electrode (S.C.E.).
"Anodic" metals such as magnesium, zinc and aluminum are more easily corroded metals than "cathodic" ones (titanium, silver, gold).
Corrosion is proportional to the potential difference between two metals.
The values to be considered are the potentials of the metals and alloys which form the couple with respect to the medium in question. These potentials are experimental values and must be distinguished from the standard potentials of thermodynamic tables. Experimental potentials are strongly influenced by parameters such as temperature, agitation and ventilation. In addition, some metals can take two different potentials when in the same environmental conditions according to whether they are active or passive (case of stainless steels in contact with sea water, for example).
These considerations show that it can be difficult to predict trends without the need for experimentation, as many parameters are likely to reverse the polarity of some galvanic couples.

Aggravation or reduction factors

- Area ratio of the two metals: the worst case is when a large cathode surface (the most positive material) is electrically connected to a small anode surface (metal most negative). The corrosion rate of the most negative metal can be multiplied by 100 or by 1000.
For instance, the assembly of a disc thermostat aluminum cup (dia 16mm) on a stainless steel tank will cause a quick corrosion of the cup if the necessary joint conditions are fulfilled.
On the other side, stainless steel screws closing an aluminum case will be much less subject to corrosion if the contact surfaces are minimized.

Resistance to corrosion of noble metals

- Regardless of its potential, the corrosion resistance of the most noble metal significantly influences the behavior of bimetallic couples. If the most noble metal corrodes, its corrosion products may, by motion, accelerate the corrosion of the most corroding metal. For instance, copper, yet considered as a noble metal and whose galvanic couple with aluminum is small, produces oxides that can corrode aluminum, which is a critical parameter in the design of earth terminals on aluminum housings that accommodate copper conductors.
If the noble metal couple is not corroding (Gold, Platinum), it will not present a risk of galvanic corrosion regardless of the metal that will be associated.

Sacrificial metal coatings

By applying to the cathode a sacrificial coating having a potential similar to or near that of the anodic member, the galvanic corrosion is reduced.
Main design rules:
- The sacrificial element should be on the anodic side and smaller.
- Be careful to use fasteners that have intact coatings.

Examples:
- Cadmium plating on steel fasteners holding 2024-T4 aluminum plates, will sacrifice the cadmium instead of corroding the Aluminum. (Potential difference 100 to 200mV)
- Zinc plating on steel fasteners will sacrifice the zinc instead of corroding the Aluminum (Potential difference 100 to 200mV).

Do not use nickel plated on steel fasteners as the potential difference (450mV) between nickel and alminum is too high and will corrode aluminum.
Note: The current trend is the search for an alternative to cadmium because of its toxicity, and its prohibition by the RoHS European Directive

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Some special cases of bimetallic electrochemical couples

Corrosion risks with galvanized steel and stainless steel in contact
Galvanized steel in contact with stainless steel is not normally considered to be a serious corrosion risk, except possibly in severe (marine type) environments. In these situations, precautions such as insulating barriers are usually considered adequate to avoid bimetallic corrosion in most practical situations.
Galvanic corrosion between stainless steel and aluminum
The corrosion potentials of the stainless steels are "cathodics" and located in the "noble" area. The corrosion potentials of aluminum are "Anodic" and located in the "non-noble" area, with a large potential difference. This means that there will be no galvanic corrosion on stainless steel when placed in contact with aluminum while aluminum will corrode.
Although aluminum is anodic to stainless steel, large relative surface areas of aluminum to stainless steel can be acceptable, depending on local conditions. Stainless steel fasteners in aluminum plates or sheets are normally considered safe, whereas aluminum rivets or bolts holding stainless steel parts together is an unwise combination, as there is a practical risk of corrosion.
Even with no insulation between the metals, there should be little risk of corrosion, in continental weather conditions.
In contrast, in a marine environment, severe localized pitting corrosion to the aluminum treads has been observed where un-insulated stainless steel bolts were used to secure the treads in place.
On the same ladder however, bolts with sound insulating washers did not show any pitting on the surrounding aluminum.
Mechanical methods of reducing galvanic corrosion between aluminum and stainless steel
- Isolating the two materials by means of an electrical insulating material, like plastic, wherever practical
- Avoid relatively small areas of the less noble metal (Aluminum) and large areas of the more noble metal (Stainless steel).
- The same metal or more noble (Cathodic, higher number in the table) metals should be used for small fasteners and bolts.
- Avoid crevices in stainless steel: In the presence of crevices stainless steels may feature less noble potentials due to oxygen depletion within the crevice. Therefore, coupling a relatively large aluminum area with a small creviced area of a stainless steel part may result in rapid attack of the material within the crevice leading to stainless steel corrosion.
- Exclude electrolyte from around the bimetallic junction e.g by painting. Paint both metals where possible: if impractical paint the most noble metal
- Seal: insure that faying surfaces are water-tight.
- Apply corrosion-inhibiting pastes or compounds under screw heads or bolts inserted into dissimilar metal surfaces whether or not the fasteners have been previously plated or otherwise treated.
- In some instances, it may be feasible to apply an organic coating to the faying surfaces prior to assembly. This would be applicable to joints which are not required to be electrically conductive.
- Where practicable or where it will not interfere with the proposed use of the assembly, the external joint should be coated externally with an effective paint system.
- Avoid threaded joints for materials far apart in the galvanic series

Galvanic couple limitation by aluminum and stainless steel protection with chemical conversion surface treatments
Steel and Stainless steel phosphate coating
The phosphate coating is a conversion process used to form layers obtained by a reaction of the substrate with a selected medium. It is particularly applied to carbon steels and stainless steels. In the case of steel parts, phosphate coating is used primarily to enhance the adhesion of paints.
We distinguish between thin layers of phosphates (0.2-0.8 g/m²) mainly composed of iron phosphates, phosphate layers of average thickness (1.5-4 g/m²) containing zinc phosphate, and heavy phosphate layers (7-30 g/m²).
The latter, consisting of iron, zinc and manganese phosphates, can be used as anticorrosive coating, even in the absence of paint.
In the case of aluminum-stainless steel assemblies, thick and medium phosphate coating on steel parts is recommended.
However, the ideal is to treat the two structures by phosphate coating, separately since the processes are different for aluminum and steel.
Aluminum phosphate coating
Aluminum phosphating has taken an important place in surface treatments due to the combined use of this metal with steel in the automotive industry. The metal is immersed in a solution of phosphoric acid in which it corrodes.
In the attack of aluminum, the hydrogen is released, causing a local increase of pH and thus the deposition of sparingly soluble triphosphates. Other ions can be added to baths, Zn but also Mn and Ni. The layers obtained, unlike phosphochromate layers that are amorphous, are formed of small crystals of Zn phosphate (Mn Ni). Germination of these crystals is facilitated by immersing the metal in a solution of colloidal titanium phosphate.
Aluminum Anodization
Anodizing consists in strengthening the natural oxide film by anodic oxidation. The thick anodizing provides a good galvanic insulation
Joining metals by non-metallic materials
To be suitable for joining to metals, non-metallic materials must be:
- free of corrosive agents (salts)
- free of acid or alkaline materials (neutral pH)
- free of carbon or metallic particles,
- Must not be subject to bio-deterioration
- must not support fungal growth
- Must not absorb or wick water

Do not use: non-metallic materials that will initiate corrosion of metals to which they are joined, e.g., cellulosic reinforced plastics, carbon or metal loaded resin materials, asbestos-cement composites.

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Electrochemical couples between aluminum alloys

(Names highlighted in yellow or blue) and other base metals, in a 2% saline solution.
There is no appearance of significant corrosion when the galvanic couple value is less than 300mV

	Pt (Platinum/ Platine)	Au (Gold/ Or)	Ti (Titanium / Titane)	AISI 316L(passive/passif)	Ag (Silver/ Argent)	Ni (Nickel/ Nickel)	Ni Cu 30 (Monel 400)	NiCr15 Fe8 (Inconel 600)	Cu55 Zn23 Ni22 (Arcap)	Cu (Copper/ Cuivre)	Al10 Sn66 Pb34	Cu Zn34 (Brass/ Laiton)	Cu88 Sn12 (Bronze)	Sn (Tin/ Etain)	Pb (Lead / Plomb)	Al Cu Mg1(Duralumin)	Mild steel / Acier doux)	Al Si 10Mg (Alpax H)	Al 99.5 (Aluminum)	Hard steel/ Acier dur	Al Mg5 (Duralinox)	ADC12 (Aluminum alloy)	Cd (Cadmium/ Cadmium)	Fe (Steel / Fer)	Cr (Chromium/ Chrome)	Al Mg Si0.7 (Almasilium)	Sn75 Zn25	Zn (Zinc/ Zinc)	Al PVD (Physical vapor deposition)	Mg (Magnesium)
Pt (Platinum/ Platine)	0	130	250	250	350	430	430	430	450	570	600	650	770	800	840	940	1000	1065	1090	1095	1100	1100	1100	1105	1200	1200	1350	1400	1400	1900
Au (Gold/ Or)	130	0	110	110	220	300	300	300	320	410	470	520	610	670	710	810	870	935	960	965	970	970	970	975	1070	1070	1230	1270	1270	1820
Ti (Titanium / Titane)	250	110	0	0	110	180	180	180	200	320	350	400	520	550	590	690	750	815	840	845	850	850	850	855	950	950	1100	1150	1150	1700
AISI 316L(passive/passif)	250	110	0	0	110	180	180	180	200	320	350	400	520	550	590	690	750	815	840	845	850	850	850	855	950	950	1100	1150	1150	1700
Ag (Silver/ Argent)	350	220	100	100	0	80	80	80	100	220	250	300	420	450	490	590	650	715	740	745	750	750	750	755	850	850	1010	1050	1050	1600
Ni (Nickel/ Nickel)	430	300	180	180	80	0	0	0	20	110	170	220	340	370	410	510	570	635	660	665	670	670	670	675	770	770	930	970	970	1520
Ni Cu 30 (Monel 400)	430	300	180	180	80	0	0	0	20	110	170	220	340	370	410	510	570	635	660	665	670	670	670	675	770	770	930	970	970	1520
NiCr15 Fe8 (Inconel 600)	430	300	180	180	80	0	0	0	20	110	170	220	340	370	410	510	570	635	660	665	670	670	670	675	770	770	930	970	970	1520
Cu55 Zn23 Ni22 (Arcap)	450	320	200	200	100	20	20	20	0	120	150	200	320	350	380	490	550	615	640	645	650	650	650	655	750	750	910	950	950	1500
Cu (Copper/ Cuivre)	570	440	320	320	220	140	140	140	120	0	30	80	200	230	270	370	430	495	520	525	530	530	530	535	630	630	780	830	830	1380
Al10 Sn66 Pb34	600	470	350	350	250	170	170	170	150	30	0	50	170	200	210	310	400	465	490	495	500	500	500	505	600	600	760	800	800	1350
Cu Zn34 (Brass/ Laiton)	650	520	400	400	300	220	220	220	200	80	50	0	120	150	190	290	350	415	410	445	450	450	450	455	550	550	710	750	750	1300
Cu88 Sn12 (Bronze)	770	640	520	520	420	340	340	340	320	200	170	120	0	30	70	170	230	295	320	325	330	330	330	335	430	430	590	630	630	1180
Sn (Tin/ Etain)	800	670	550	550	450	370	370	370	350	230	200	150	30	0	40	140	200	265	290	295	300	300	300	305	400	400	560	600	600	1150
Pb (Lead / Plomb)	840	710	590	590	490	410	410	410	380	270	240	190	70	40	0	100	160	225	250	255	260	260	260	265	360	360	520	660	560	1110
Al Cu Mg1(Duralumin)	940	810	690	690	590	510	510	510	490	370	340	290	170	140	100	0	60	125	150	155	160	160	160	165	260	260	420	560	560	1010
Mild steel / Acier doux)	1000	870	750	750	650	570	570	570	550	430	400	350	230	200	150	60	0	65	90	95	100	100	100	105	200	200	360	400	400	950
Al Si 10Mg (Alpax H)	1065	935	815	815	715	635	635	635	615	495	465	415	295	265	225	125	65	0	25	30	35	35	35	40	135	135	295	355	355	885
Al 99.5 (Aluminum)	1090	960	840	840	740	660	660	660	640	520	490	440	320	290	250	150	90	25	0	5	10	10	10	15	110	110	270	310	310	860
Hard steel/ Acier dur	1095	965	845	845	745	665	665	665	645	525	495	445	325	295	255	155	95	30	5	0	5	5	5	10	105	105	265	305	305	855
Al Mg5 (Duralinox)	1100	970	850	850	750	670	670	670	650	530	500	450	330	300	260	160	100	35	10	5	0	0	0	5	100	100	260	300	300	850
ADC12 (Aluminum alloy)	1100	970	850	850	750	670	670	670	650	530	500	450	330	300	260	160	100	35	10	5	0	0	0	5	100	100	260	300	300	850
Cd (Cadmium/ Cadmium	1100	970	850	850	750	670	670	670	650	530	500	450	330	300	260	160	100	35	10	5	0	0	0	5	100	100	260	300	300	850
Fe (Steel / Fer)	1105	975	855	855	755	675	675	675	655	535	505	455	335	305	265	165	105	40	15	10	5	5	5	0	95	95	255	295	295	845
Cr (Chromium/ Chrome)	1200	1070	950	950	850	770	770	770	750	630	600	550	430	400	380	260	200	135	110	105	100	100	100	95	0	0	160	200	200	750
Al Mg Si0.7 (Almasilium)	1200	1070	950	950	850	770	770	770	750	630	600	550	430	400	380	260	200	135	110	105	100	100	100	95	0	0	160	200	200	750
Sn75 Zn25	1350	1230	1110	1110	1010	930	930	930	910	790	760	710	590	650	520	420	360	295	270	265	260	260	260	225	160	160	0	40	40	590
Zn (Zinc/ Zinc)	1400	1270	1150	1150	1050	970	970	970	950	830	800	750	630	600	560	460	400	335	310	305	300	300	300	295	200	200	40	0	0	550
Zn Al4 (Zamak3/Zamac 3)	1400	1270	1150	1150	1050	970	970	970	950	830	800	750	630	600	560	460	400	335	310	305	300	300	300	295	200	200	40	0	0	550
Al PVD (Physical vapor deposition)	1400	1270	1150	1150	1050	970	970	970	950	830	800	750	630	600	560	460	400	335	310	305	300	300	300	295	200	200	40	0	0	550
Mg (Magnesium)	1900	1820	1700	1700	1600	1600	1600	1600	1520	1500	1390	1300	1180	1150	1110	1010	950	885	860	850	850	850	850	845	845	845	590	560	560	0

0-300 mV | 301-500 mV | 501-800 mV | > 800 mV

Other limitations in the use of aluminum alloys

To avoid ignition hazards due to impact or friction, standards for explosion-proof equipment (IEC 60079-0) restrict the use of aluminum.

Enclosures for group I:

The total weight of aluminum + magnesium + titanium should not exceed 15% of the total weight (or 6% of the total weight of magnesium + titanium alloys having no aluminum), which eliminates, for that group, most alloys containing aluminum

Enclosures for Group II:

- For zone 0: the total weight of aluminum + magnesium + titanium + zirconium should not exceed 10% of the total weight (or 7.5% of the total weight of magnesium + titanium + zirconium alloys for not containing aluminum), which eliminates, for this group and this zone most alloys containing aluminum
For zone 1: the weight of magnesium should not exceed 7.5% of the total weight
For zone 2: no specifications

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Reference list

References	Page
9BBJ01000ELH058A	192
9BBJO1000000161A	196
9BBJO1000000162A	196
9BBJO1000000163A	196
9BBJO1000004035A	193
9BBJO1000004038A	195
9BBJO1000CAP007A	193
9BBRASI10ELHD11A	207
66BF1	215
66BF1	216
66BF3	216
66BF4	216
66DG000805010000	210
66DG000805020000	210
66DG000805030000	210
66DG000805040000	210
66DG000805050000	210
66DG000805060000	210
66DI0000805010000	210
66DI000805020000	210
66DI0000805030000	210
66DI000805040000	210
66DI0000805050000	210
66DI000805060000	210
66DI08500FL	182, 185
66DI08500FL	214
66DI12S090S10	213
66DI12S090S12	213
66DI12S100S08	214
66DI12S100S10	213
66DI12S100S10	214
66DI12S100S12	213
66DI12S190S08	214
66DI12S190S10	213
66DI12S190S10	214
66DI12S190S12	213
66DI12S230S10	213
66DI12S230S12	213
66DI12S290S08	214
66DI12S290S10	213
66DI12S290S10	214
66DI12S290S12	213
66DI12S440708	214
66DI12S440710	213
66DI12S440710	214
66DI12S440712	213
66DK12S090710	213
66DK12S100708	214
66DK12S100710	213
66DK12S100710	214
66DK12S100712	213
66DK12S100714	214
66DK12S190708	214
66DK12S190710	213
66DK12S190710	214
66DK12S190712	213
66DK12S190714	214
66DK12S230710	213
66DK12S230712	213
66DK12S290708	214
66DK12S290710	213
66DK12S290710	214
66DK12S290712	213
66DK12S290714	214
66DK12S440708	214
66DK12S440710	213
66DK12S440710	214
66DK12S440712	213, 214
66DK12S440714	214
66DK12S900712	213
66DL14P10010065N	214
66DL14P10010075N	213
66DL14P10010075N	214
66DL14P19010065N	214
66DL14P19010075N	213
66DL14P19010075N	214
66DL14P29010065N	214
66DL14P29010075N	213
66DL14P29010075N	214
66DL14P44010065N	214
66DL14P44010075N	213
66DL14P44010075N	214
66DR12510021C000	213
66DU	218
66PA045000020	218
66RF0231M12	215
66RF07015	213
66RF07015	215
66RF0701F12	215
66RI1238	213
66TY00	217
66TY002	217
66TY003	217
6YEBMG004	220
6YGPU10200	219
6YGSS10200	219
6YTMA**********	192
6YTMC2000ELH062A	192
6YTNA**********	192
6YTPEM04SS	220
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Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

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Alphabetical and references tables

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Y1RKUA060500845C	68	Y1T8GB050200045C	73	Y1V8X0130160830C	79	Y2C8GB-35035AO67	110	Y305UM3B36TT0XA1	134	Y309U00A00TT0XA0	152
Y1RKUA080200823C	68	Y1T8GB050300823C	73	Y1V8X0150180823C	79	Y2D8GB004040AO66	111	Y305UM3B37TT0XA1	134	Y309U00A90TT0XA0	158
Y1RKUA080200830C	68	Y1T8GB050300830C	73	Y1V8X0150180830C	79	Y2D8GB004040AO67	111	Y305UM3B45TT0XA1	133	Y309U00B00TT0XA0	152
Y1RKUA080200845C	68	Y1T8GB050300845C	73	Y1V8X0150180845C	79	Y2D8GB030090AO66	111	Y305UM3BR4TT0XA1	134	Y309U00B24TT0XA0	153
Y1RKUA180600845C	68	Y1TKRA000050023C	74	Y1V8X0170200823C	79	Y2D8GB030090AO67	111	Y305UM6B00TT0XA1	133	Y309U00B2ITT0XA0	154
Y1RKUA2807006 45C	68	Y1TKRA000050030C	74	Y1V8X0170200830C	79	Y2D8GB030110AO66	111	Y305UM6B24TT0XA1	134	Y309U00B2RTT0XA0	154
Y1RSRA000050045C	65	Y1TKRA000050045C	74	Y1V8X0170200845C	79	Y2D8GB030110AO67	111	Y305UM6B2ITT0XA1	134	Y309U00B34TT0XA0	153
Y1RSRA000100023C	65	Y1TKRA000070823C	74	Y1WKXA000050023C	82	Y2D8GB050200AO66	111	Y305UM6B2RTT0XA1	134	Y309U00B36TT0XA0	154
Y1RSRA000150017C	65	Y1TKRA000070830C	74	Y1WKXA000050030C	82	Y2D8GB050200AO67	111	Y305UM6B34TT0XA1	133	Y309U00B37TT0XA0	154
Y1RSRA010060045C	65	Y1TKRA000070845C	74	Y1WKXA000050045C	82	Y2D8GB050300AO36	111	Y305UM6B36TT0XA1	134	Y309U00B45TT0XA0	153
Y1RSRA030090038C	65	Y1TKRA010150823C	74	Y1WKXA000070823C	82	Y2D8GB050300AO37	111	Y305UM6B37TT0XA1	134	Y309U00B77TT0XA0	154
Y1RSRA040140023C	65	Y1TKRA010150830C	74	Y1WKXA000070830C	82	Y2D8GB-10040AO66	111	Y305UM6B45TT0XA1	133	Y309U00B7RTT0XA0	154
Y1RSUA000050045C	65	Y1TKRA010150845C	74	Y1WKXA000070845C	82	Y2D8GB-10040AO67	111	Y305UM6BR4TT0XA1	134	Y309U00B90TT0XA0	158
Y1RSUA000100023C	65	Y1TKRA010450830C	74	Y1WKXA010150823C	82	Y2D8GB-35035AO66	111	Y306U00E00TT0XGA	138	Y309U00BR4TT0XA0	153
Y1RSUA000150017C	65	Y1TKRA010450845C	74	Y1WKXA010150830C	82	Y2D8GB-35035AO67	111	Y306U00E24TT0XGA	139	Y309U00C00TT0XA0	152
Y1RSUA010060045C	65	Y1TKRA020090823C	74	Y1WKXA010150845C	82	Y2E8GB030090AO66	112	Y306U00E2ITT0XGA	139	Y309U00C90TT0XA0	158
Y1RSUA030090038C	65	Y1TKRA020090830C	74	Y1WKXA010450845C	82	Y2E8GB030090AO67	112	Y306U00E34TT0XGA	138	Y309U00D00TT0XA0	152
Y1RSUA040140023C	65	Y1TKRA020090845C	74	Y1WKXA020090823C	82	Y2E8GB030110AO66	112	Y306U00E38TT0XGA	139	Y309U1GA00TT0XA0	152
Y1RVRA000100030C	66	Y1TKRA050300830C	74	Y1WKXA020090830C	82	Y2E8GB030110AO67	112	Y306U00E45TT0XGA	138	Y309U1GB00TT0XA0	152
Y1RVRA000100045C	66	Y1TKRA050300845C	74	Y1WKXA020090845C	82	Y2F8GB030090AA66	113	Y306U00ER4TT0XGA	139	Y309U1GB24TT0XA0	153
Y1RVRA000200030C	66	Y1TKRA060500845C	74	Y1WKXA050300830C	82	Y2F8GB030090AA67	113	Y306UH1E00TT0XGA	138	Y309U1GB2ITT0XA0	154
Y1RVRA000300030C	66	Y1TKRA080200823C	74	Y1WKXA050300845C	82	Y2F8GB030110AA66	113	Y306UH1E24TT0XGA	139	Y309U1GB2RTT0XA0	154
Y1RVRA000400045C	66	Y1TKRA080200830C	74	Y1WKXA060500845C	82	Y2F8GB030110AZ67	113	Y306UH1E2ITT0XGA	139	Y309U1GB34TT0XA0	153
Y1RVUA000100030C	66	Y1TKRA080200845C	74	Y1WKXA080200823C	82	Y2G8GB030090AO66	114	Y306UH1E34TT0XGA	138	Y309U1GB36TT0XA0	154
Y1RVUA000100045C	66	Y1TKRA180600845C	74	Y1WKXA080200830C	82	Y2G8GB030090AO67	114	Y306UH1E38TT0XGA	139	Y309U1GB37TT0XA0	154
Y1RVUA000200030C	66	Y1TKRA2807006 45C	74	Y1WKXA080200845C	82	Y2G8GB030110AO66	114	Y306UH1E45TT0XGA	138	Y309U1GB45TT0XA0	153
Y1RVUA000300030C	66	Y1TKUA000050023C	74	Y1WKXA180600845C	82	Y2G8GB030110AO67	114	Y306UH1ER4TT0XGA	139	Y309U1GB77TT0XA0	154
Y1RVUA000400045C	66	Y1TKUA000050030C	74	Y1WKXA280700645C	82	Y2H8GB030090AA66	115	Y306UH3E00TT0XGA	138	Y309U1GB7RTT0XA0	154
Y1S8GB004040023D	71	Y1TKUA000050045C	74	Y1WKXF001***823C	82	Y2H8GB030090AA67	115	Y306UH3E24TT0XGA	139	Y309U1GBR4TT0XA0	153
Y1S8GB004040030D	71	Y1TKUA000070823C	74	Y1WKXF001***830C	82	Y2H8GB030110AA66	115	Y306UH3E2ITT0XGA	139	Y309U1GC00TT0XA0	152
Y1S8GB030090011D	71	Y1TKUA000070830C	74	Y1WKXF001***845C	82	Y2H8GB030110AZ67	115	Y306UH3E34TT0XGA	138	Y309U1GD00TT0XA0	152
Y1S8GB030090023D	71	Y1TKUA000070845C	74	Y1WKXF022***023C	82	Y301SC2E1FTTXGA	124	Y306UH3E38TT0XGA	139	Y309UM1A00TT0XA0	152
Y1S8GB030090030D	71	Y1TKUA010150823C	74	Y1WKXF022***030C	82	Y301SM5E1FTT0XGA	124	Y306UH3E45TT0XGA	138	Y309UM1B00TT0XA0	152
Y1S8GB030110011D	71	Y1TKUA010150830C	74	Y1WKXF022***045C	82	Y302SC3E12000XVA	125	Y306UH3ER4TT0XGA	139	Y309UM1B24TT0XA0	153
Y1S8GB030110023D	71	Y1TKUA010150845C	74	Y1WKXF050***823C	82	Y302SC3E1FTT0XGA	125	Y306UH4E00TT0XGA	138		

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Alphabetical and references tables

Reference list

Y309UM1B2ITT0XA0	154
Y309UM1B2RTT0XA0	154
Y309UM1B34TT0XA0	153
Y309UM1B36TT0XA0	154
Y309UM1B37TT0XA0	154
Y309UM1B45TT0XA0	153
Y309UM1B77TT0XA0	154
Y309UM1B7RTT0XA0	154
Y309UM1BR4TT0XA0	153
Y309UM1C00TT0XA0	152
Y309UM1D00TT0XA0	152
Y309UM3A00TT0XA0	152
Y309UM3B00TT0XA0	152
Y309UM3B24TT0XA0	153
Y309UM3B2ITT0XA0	154
Y309UM3B2RTT0XA0	154
Y309UM3B34TT0XA0	153
Y309UM3B36TT0XA0	154
Y309UM3B37TT0XA0	154
Y309UM3B45TT0XA0	153
Y309UM3B77TT0XA0	154
Y309UM3B7RTT0XA0	154
Y309UM3BR4TT0XA0	153
Y309UM3C00TT0XA0	152
Y309UM3D00TT0XA0	152
Y309UM8A00TT0XA0	152
Y309UM8B00TT0XA0	152
Y309UM8B24TT0XA0	153
Y309UM8B2ITT0XA0	154
Y309UM8B2RTT0XA0	154
Y309UM8B34TT0XA0	153
Y309UM8B36TT0XA0	154
Y309UM8B37TT0XA0	154
Y309UM8B45TT0XA0	153
Y309UM8B77TT0XA0	154
Y309UM8B7RTT0XA0	154
Y309UM8BR4TT0XA0	153
Y309UM8C00TT0XA0	152
Y309UM8D00TT0XA0	152
Y309UM9A00TT0XA0	152
Y309UM9B00TT0XA0	152
Y309UM9B24TT0XA0	153
Y309UM9B2ITT0XA0	154
Y309UM9B2RTT0XA0	154
Y309UM9B34TT0XA0	153
Y309UM9B36TT0XA0	154
Y309UM9B37TT0XA0	154
Y309UM9B45TT0XA0	153
Y309UM9B77TT0XA0	154
Y309UM9B7RTT0XA0	154
Y309UM9BR4TT0XA0	153
Y309UM9C00TT0XA0	152
Y309UM9D00TT0XA0	152
Y310400A00TT0XA0	163
Y310400B00TT0XA0	163
Y310400B2ITT0XA0	164
Y310400B2RTT0XA0	164
Y310400B36TT0XA0	164
Y310400B37TT0XA0	164
Y310400B77TT0XA0	164
Y310400B7RTT0XA0	164
Y310400C00TT0XA0	163
Y310400D00TT0XA0	163
Y3104GBA00TT0XA0	163
Y3104GBB00TT0XA0	163
Y3104GBB2ITT0XA0	164
Y3104GBB2RTT0XA0	164
Y3104GBB36TT0XA0	164
Y3104GBB37TT0XA0	164
Y3104GBB77TT0XA0	164
Y3104GBB7RTT0XA0	164
Y3104GBC00TT0XA0	163
Y3104GBD00TT0XA0	163
Y3104M1A00TT0XA0	163
Y3104M1B00TT0XA0	163
Y3104M1B2ITT0XA0	164
Y3104M1B2RTT0XA0	164
Y3104M1B36TT0XA0	164
Y3104M1B37TT0XA0	164
Y3104M1B77TT0XA0	164
Y3104M1B7RTT0XA0	164
Y3104M1C00TT0XA0	163
Y3104M1D00TT0XA0	163
Y3104M3A00TT0XA0	163
Y3104M3B00TT0XA0	163
Y3104M3B2ITT0XA0	164
Y3104M3B2RTT0XA0	164
Y3104M3B36TT0XA0	164
Y3104M3B37TT0XA0	164
Y3104M3B77TT0XA0	164
Y3104M3B7RTT0XA0	164
Y3104M3C00TT0XA0	163
Y3104M3D00TT0XA0	163
Y3104M8A00TT0XA0	163
Y3104M8B00TT0XA0	163
Y3104M8B2ITT0XA0	164
Y3104M8B2RTT0XA0	164
Y3104M8B36TT0XA0	164
Y3104M8B37TT0XA0	164
Y3104M8B77TT0XA0	164
Y3104M8B7RTT0XA0	164
Y3104M8C00TT0XA0	163
Y3104M8D00TT0XA0	163
Y3104M9A00TT0XA0	163
Y3104M9B00TT0XA0	163
Y3104M9B2ITT0XA0	164
Y3104M9B2RTT0XA0	164
Y3104M9B36TT0XA0	164
Y3104M9B37TT0XA0	164
Y3104M9B77TT0XA0	164
Y3104M9B7RTT0XA0	164
Y3104M9C00TT0XA0	163
Y3104M9D00TT0XA0	163
Y3R9U00D90TT0XA0	158
Y3R9U1GA90TT0XA0	158
Y3R9U1GB90TT0XA0	158
Y3R9U1GC90TT0XA0	158
Y3R9U1GD90TT0XA0	158
Y3R9UM1A90TT0XA0	158
Y3R9UM1B90TT0XA0	158
Y3R9UM1C90TT0XA0	158
Y3R9UM1D90TT0XA0	158
Y3R9UM3A90TT0XA0	158
Y3R9UM3B90TT0XA0	158
Y3R9UM3C90TT0XA0	158
Y3R9UM3D90TT0XA0	158
Y3R9UM8A90TT0XA0	158
Y3R9UM8B90TT0XA0	158
Y3R9UM8C90TT0XA0	158
Y3R9UM8D90TT0XA0	158
Y3R9UM9A90TT0XA0	158
Y3R9UM9B90TT0XA0	158
Y3R9UM9C90TT0XA0	158
Y3R9UM9D90TT0XA0	158
Y4AA064084104000	173
Y4AA064084104001	173
Y4AA064084104007	173
Y4AA064084104400G	173
Y4BA066089114000	173
Y4BA066089114001	173
Y4BA066089114007	173
Y4BA066089114400G	173
Y4CA092124159000	173
Y4CA092124159001	173
Y4CA092124159007	173
Y4CA092124159007G	173
Y4DA040086175000	174
Y4DA040086175001	174
Y4DA040086175007	174
Y4DA040086175007G	174
Y4EM081130180000	175
Y4EM081130180001	175
Y4EM081130180007	175
Y4EM081131080000G	175
Y4FN081130180000	175
Y4FN081130180001	175
Y4FN081130180007	175
Y4FN081130180000G	175
Y4GH081130180000	175
Y4GH081130180001	175
Y4GH081130180007	175
Y4GH081130180000G	175
Y4HA096132182000	176
Y4HA096132182001	176
Y4HA096132182007	176
Y4HA096132182000G	176
Y5E090A0000NUDF2	184
Y5E09AA0000NUDF2	183
Y5EK9BA0000NUDF2	184
Y5EK9CA0000NUDF2	184
Y5ER9BA0000NUDF2	184
Y5ER9CA0000NUDF2	184
Y5F090A0000NUDF2	184
Y5FK9BA0000NUDF2	184
Y5FK9CA0000NUDF2	184
Y5FQ9AA0000NUDF2	183
Y5FR9BA0000NUDF2	184
Y5FR9CA0000NUDF2	184
Y5T010A0000CUCF2	181
Y5T020A0000CUCF2	181
Y5T030A0000CUCF2	181
Y5T040A0000CUCF2	181
Y5T050A0000CUCF2	181
Y5T060A0000CUCF2	181
Y5T070A0000CUCF2	181
Y5T38C70000CUAF2	179
Y5T3BB70000CUAF2	179
Y5T3BC70000CUAF2	179
Y5T3C70000CUAF2	179
Y5T3GB70000CUAF2	179
Y5T3GC70000CUAF2	179
Y5T3IB70000CUAF2	179
Y5T3IC70000CUAF2	179
Y5T3KB70000CUAF2	179
Y5T3KC70000CUAF2	179
Y5TM1AA0000CUCF2	180
Y5TM2AA0000CUCF2	180
Y5TM3AA0000CUCF2	180
Y5TN1BA0000CUCF2	181
Y5TN1CA0000CUCF2	181
Y5TN2BA0000CUCF2	181
Y5TN2CA0000CUCF2	181
Y5TN3BA0000CUCF2	181
Y5TN3CA0000CUCF2	181
Y5TN4BA0000CUCF2	181
Y5TN4CA0000CUCF2	181
Y5TN5BA0000CUCF2	181
Y5TN5CA0000CUCF2	181
Y5TR6BA0000CUCF2	181
Y5TR6CA0000CUCF2	181
Y5TR7BA0000CUCF2	181
Y5TR7CA0000CUCF2	181
Y5U010A0000CUCF2	181
Y5U010A0000FUCF2	181
Y5U020A0000CUCF2	181
Y5U020A0000FUCF2	181
Y5U030A0000CUCF2	181
Y5U030A0000FUCF2	181
Y5U040A0000CUCF2	181
Y5U040A0000FUCF2	181
Y5U050A0000CUCF2	181
Y5U050A0000FUCF2	181
Y5U060A0000CUCF2	181
Y5U060A0000FUCF2	181
Y5U070A0000CUAF2	181
Y5U070A0000FUAF2	181
Y5U3BB70000CUAF2	179
Y5U3BB70000FUAF2	179
Y5U3BC70000CUAF2	179
Y5U3BC70000FUAF2	179
Y5U3CB70000CUAF2	179
Y5U3CB70000FUAF2	179
Y5U3CC70000CUAF2	179
Y5U3CC70000FUAF2	179
Y5U3EB70000CUAF2	179
Y5U3EB70000FUAF2	179
Y5U3EC70000CUAF2	179
Y5U3EC70000FUAF2	179
Y5U3GB70000CUAF2	179
Y5U3GB70000FUAF2	179
Y5U3GC70000CUAF2	179
Y5U3GC70000FUAF2	179
Y5U3IB70000CUAF2	179
Y5U3IB70000FUAF2	179
Y5U3IC70000CUAF2	179
Y5U3IC70000FUAF2	179
Y5U3KB70000CUAF2	179
Y5U3KB70000FUAF2	179
Y5U3KC70000CUAF2	179
Y5U3KC70000FUAF2	179
Y5UM1AA0000CUCF2	180
Y5UM1AA0000FUCF2	180
Y5UM2AA0000CUCF2	180
Y5UM2AA0000FUCF2	180
Y5UM3AA0000CUCF2	180
Y5UM3AA0000FUCF2	180
Y5UN1BA0000CUCF2	181
Y5UN1BA0000FUCF2	181
Y5UN1CA0000CUCF2	181
Y5UN1CA0000FUCF2	181
Y5UN2BA0000CUCF2	181
Y5UN2BA0000FUCF2	181
Y5UN2CA0000CUCF2	181
Y5UN2CA0000FUCF2	181
Y5UN3BA0000CUCF2	181
Y5UN3BA0000FUCF2	181
Y5UN3CA0000CUCF2	181
Y5UN3CA0000FUCF2	181
Y5UN4BA0000CUCF2	181
Y5UN4BA0000FUCF2	181
Y5UN4CA0000CUCF2	181
Y5UN4CA0000FUCF2	181
Y5UN5BA0000CUCF2	181
Y5UN5BA0000FUCF2	181
Y5UN5CA0000CUCF2	181
Y5UN5CA0000FUCF2	181
Y5UR6BA0000CUCF2	181
Y5UR6BA0000FUCF2	181
Y5UR6CA0000CUCF2	181
Y5UR6CA0000FUCF2	181
Y5UR7BA0000CUCF2	181
Y5UR7BA0000FUCF2	181
Y5UR7CA0000CUCF2	181
Y5UR7CA0000FUCF2	181

Alphabetical list

Description	Page
Acces to reset button on manual reset thermostats	26
Accessories for air duct temperature sensing with bulb and capillary thermostats	215
Accessories for air duct temperature sensing with rod thermostats	215
Accessories for liquid temperature sensing with bulb and capillary thermostats	214
Accessories for liquid temperature sensing with rod thermostats	213, 214
Accessories for Y5 series	182
Adjustable limiter, definition	28
Air duct temperature control	65 to 86
Air duct temperature sensing, mounting accessories	215
Aluminum boxes, empty models	172 to 174, 176
Aluminum-plastic control boxes	175
Ambiance control thermostats, IP65 aluminium enclosures-comparative features	29, 34 to 43
Ambiance thermostat, fixed setting, IP65 plastic housing	104 to 107
Ambient temperature measurement, digital temperature control	183
Ambient temperature measurement, IP54, hand held or wall mounting controller	18
Antifreeze heaters, temperature control	34 to 43
Antifreeze thermostat, fixed setting	104 to 107
Antifreeze thermostats, IP65 aluminium enclosures-comparative features	29
Aquastat	22
Backside aluminum rings	159
Band for pipe mounting thermostat	217
Bimetallic electrochemical couples	8
Bimetallic expansion measurement, principles	27
Brazing, stainless steel fitting	203
Bulb and capillary thermostats, IP65 aluminium enclosures-comparative features	30, 44 to 64
Cabinet heater	18
Cabinet ventilation	18
Cable gland M16 x 1.5	220
Cable gland silicone gasket	197
Cable gland, gaskets for flat cables	197
Cable outputs	27
Cable tie for pipe mounting thermostat	217
Ceramic spacers	209
Cold room, temperature control	34 to 43
Compatible thermostats with Y1 enclosures	26, 28
Connection block	220
Connection cords for Y5 series	182
Control + manual reset thermostat	63, 64, 86, 99, 100
Control boxes, main products	172
Control thermostat, adjustment by screwed cap	46
Control thermostat, inside adjustment	34, 41, 44, 65, 76, 87
Control thermostat, outside knob	38, 43, 5, 73, 91
Control thermostat, window	36, 42, 48, 69, 89
Cooler for rod thermostat	215
Corrosion resistance	7
Corrosive water (thermostat for)	22
Corrugated protection tube for capillaries	219
Defrost, thermostat starting a system of-	104 to 107
Distance temperature measurement, digital temperature control	183
Distance temperature measurement, IP54, hand held or wall mounting controller	179
Earthing provisions	201
Edge grommets, water ingress protection	194
Electrical accessories for thermostats	220
Electrical cabinet ambient temperature thermostats	18
Electrical cabinet thermostats	18
Electrical connections	27
Electrical protection classes	3
Electrical safety levels	3
Electrochemical couples between aluminium alloys	9
Electronic thermostat	41 to 43
Eletronic controller for ambient temperature measurement, IP54, hand held or wall mounting	181
Enclosure for oil filled electric radiator	17
Enclosures for controls, empty models	169
Enclosures, product specifications	171
Filling silicone	192
Finishes of Aluminum housings	171
Fitting for tank	208
Fitting, 3/8"x1/2" for rod thermostats	213
Fittings nuts	208
Flange for rod and bulb and capillary thermostat mounting	216
Flat cables, cable gland gaskets	197
Galvanic corrosion, bimetallic corrosion	7
Gas temperature control	44 to 64
Gaskets for immersion heaters	209
Green houses, temperature control	34 to 43
Grommet for Y5 series	182
Grommets for pockets	214
Ground terminal	220
Ground terminals	201.209
Grounding provisions	201
Hand held controllers	177
Heat conductive silicone parts	196
Heat trace wire end	193
Heating elements terminals output, protection	190, 191
High temperature edge grommets	195
Hole caps	193
Ice detection	104 to 107
IK	6
Immersion heater brass fittings - description	200
Immersion heater brass fittings, features	200
Immersion heater brass fittings, main products	202
Immersion heater stainless steel fittings, description	203 to 205
Immersion heaters connection boxes, accessories	121, 122
Immersion heaters connection boxes, aluminium, 105x105x96	133 to 135
Immersion heaters connection boxes, aluminium, 105x105x96, simplified model	136, 137
Immersion heaters connection boxes, aluminium, 182x132x144	152 to 157
Immersion heaters connection boxes, aluminium, 182x132x148	158 to 162
Immersion heaters connection boxes, aluminium, 182x132x224	163 to 167
Immersion heaters connection boxes, aluminium, 78x66x50	126, 127
Immersion heaters connection boxes, aluminium, 78x78x74	128 to 132
Immersion heaters connection boxes, PA66 and aluminium, 182x130x132	147 to 151
Immersion heaters connection boxes, PA66, 100x100	138 to 141
Immersion heaters connection boxes, PA66, 130x130x150	142 to 146
Immersion heaters connection boxes, PA66, 48x48x45	124
Immersion heaters connection boxes, PA66, 54x66	125
Immersion heaters connection boxes, screws	123
Immersion heaters connection boxes, surface finish	122
Immersion heaters connection boxes, Y3 serie	119
Immersion heaters, accessories	208 to 210
Industrial and commercial premises, temperature control	34 to 43
Ingress protection	3 to 6
IP protection	3 to 6
IP20 to IP44, Enclosures and thermostatic controls	15
IP44 bulb and capillary thermostat	20
IP44 set point adjustable rod thermostat	21
IP65 metal enclosure	26
IP69K	5
Knobs for Y5 series	182
Limitations in use of aluminium alloys	9
Liquid expansion measurement, principles	27
Liquid ingress protection	4
Liquid temperature control	44 to 64
Liquid temperature sensing, mounting accessories	213, 214
Livestock stables, temperature control	34 to 43
M20 screw cap for set point adjustment access	220
M4 screw cap for manual reset access	220
Manual reset thermostat, adjustment by external knob	62, 91
Manual reset thermostat, adjustment by internal knob	53, 56, 61, 81, 84, 94, 97
Manual reset thermostat, adjustment by screwed cap	59, 83, 98
Manual reset thermostat, fixed set point calibration	53, 56, 78, 84
Mechanical impact resistance	6
Miniature room temperature thermostat	19
Mobile extension for immersion heater connection box	163
NEMA rating equivalences with IP	6
NTC thermistors for electronic thermostats	182
Orientation of immersion heater enclosures	158
Pipe surface mounting thermostats, IP65 aluminium enclosures-comparative features	29, 87 to 100
Pipe surface temperature control	87 to 100
Pipe temperature measurement, mounting accessories	217
Pipeline temperature control	65 to 86
Pocket tubes	210
Pockets for rod thermostats	213
Pockets output grommets	193
Protection against ingress of solid objects	16
Protection against water	16
Protection class IP	16
Protection for capillaries and temperature sensor cables	219
Protection of persons against access to hazardous parts	16
Protection tube for capillaries	219
Pt100 for digital temperature controller	184
Pt100 temperature sensors	184
Remote control	44 to 64
Remote digital temperature control	183
Rod thermostats, IP65 aluminium enclosures-comparative features	31, 65 to 86
Rotation rings	209
Sensors protection	27
Set point adjustements on control thermostats	26
Silicone boots	189
Silicone caps	193
Silicone, molded silicone parts properties	189
Simplified Y3 serie	121
Sleeved grommets	195
Solid particle protection	3
Spare parts for Y1 series	220
Spring for pipe mounting thermostat	217
Stainless steel fitting for immersion heater	203
Stainless steel fittings for immersion heater, main products	206, 207
Standard CENELEC H0384	5
Standard EN62262	6
Standard IEC60364	5
Standard NFC 15100, "water drop"	6
Standards for domestic appliances	16
Summary	1
Surface mounting of thermostat bulb	218
Surface temperature sensing, mounting accessories	218
Swimming pool, rod thermostat	22
Tank temperature control	65 to 86
Thermal cut-out, definition	28
Thermal link, definition	28
Thermal overshoot	196
Thermistor (NTC) for electronic thermostats	182
Thermocouple K	184
Thermostat boots	192
Thermostat shafts, water ingress protection	194
Thermostat, ambient model, IP65 plastic housing	108, 109
Thermostat, bulb and capillary model, IP65 plastic housing	110, 111
Thermostat, definition	28
Thermostat, pipe mounting model, IP65 plastic housing	114, 115
Thermostat, surface model, IP65 plastic housing	112, 113
Thermostats protection	192
Thermostats with IP65 plastic housings	103
Three pole control thermostat	38, 5, 73, 91
Three pole manual reset thermostat	56, 78
Thru-panel gaskets	194
TIG welding, stainless steel fitting	203
Tube end caps	193
Tube heating element (enclosure for)	17
Two pole manual reset thermostat	53, 56, 78, 84
Wall mounting controllers	177
Wall mounting thermostat, home appliance style	19
Water ingress protection for heat trace wire end	193
Water ingress protection for thermostats shafts	194
Water ingress protection levels	16
Water ingress protection, thru-panel	194
Y0 series, design concept	16
Y1 range - main products	32, 33
Y1 series, design concept	26
Y2 series, main products	103
Y3, technical features	121

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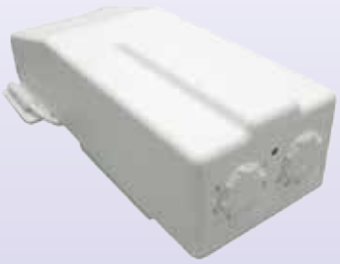
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Type Y0
Housings and thermostats with IP20 to IP44 housings

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Main products

Serie Y01 P 17	Serie Y01 P 17	Serie Y01 P 17	Serie Y01 P 17
 200x77x58 mm for oil filled electrical radiator. IP22. External temperature sensing probe. Exist with one or 2 knobs	 200 x 77 x 50 mm for oil filled electrical radiator. IP22. One knob	 200 x 77x 50 mmfor oil filled electrical radiator.IP22. 2 knobs	 150x80x37 mm for oil filled electrical radiator. IP33. Rounded design

Serie Y01 P 17	Serie Y01 P 17	Serie Y02N P 18	Serie Y02M P 19
 150x80x40 mm for oil filled electrical radiator. IP30. 45° design	 150x80x40 mm for oil filled electrical radiator. IP30. Staggered design	 Miniature ambient temperature thermostat for electrical cabinets, Din rail mounting. IP30. 67x50x35mm	 Miniature wall mounting ambient temperature thermostat. IP30.67x50x31mm

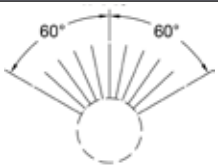
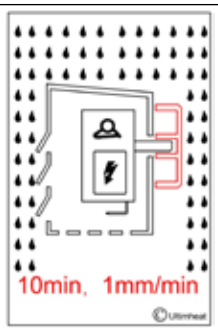
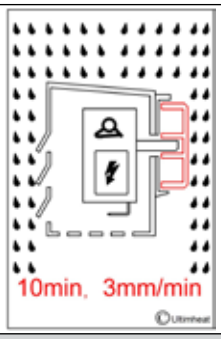
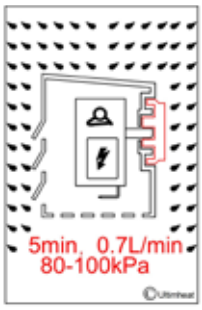
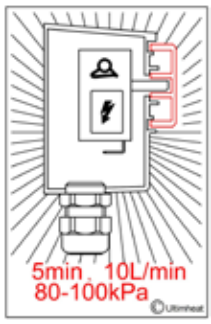
Serie Y03 P 20	Serie Y04 P 21	Serie Y05 P 22
 Bulb and capillary distance temperature control thermostat , wall mounting, 77,5x54x53 mm, IP44	 Central heating or commercial heating rod thermostat, brass or stainless steel pocket, 77,5x54x53 mm, IP44	 Swimming pool or corrosive water commercial rod thermostat, plastic pocket, 77,5x54x53 mm, IP44

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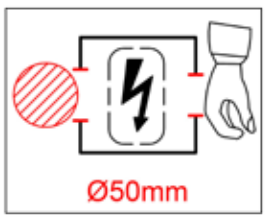
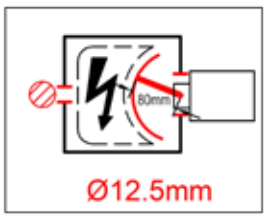
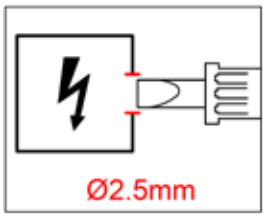
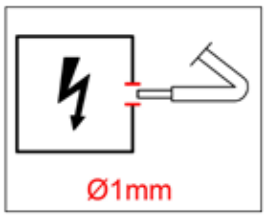
Design concept of the Y0 types

The design of the Y0 enclosures was made to provide a starting range with a particular selection of low cost solutions. The plastic used is PC-ABC compound, with or without fiberglass reinforcement. This material combines good mechanical strength, good resistance to deformation under load according to ASTM D648 (98 °C for the version without fiberglass and 125 ° C for the 20% fiberglass version), fire resistance UL94-V0 and a glow wire test 650 ° C to meet the major specifications of EN60335 relating to domestic heating units.
The covers are snapped or use self-tapping screws. Cable glands, when present, are made of polyamide.
Shafts and buttons wall crossings comply IPX0, IPX1 or IPX2, IPX3, IPX4 class, depending on the model.
The housings for oil filled radiators or convectors are supplied without control and are designed to receive standard electronic controls of French suppliers (Cotherm, Watts, Delta Dore etc ...)
Caution: Protection class IP is given for a specified enclosure position. Installation and assembly of electronic cards by customer can modify this class of protection
For industrial applications: products should be defined according to the specific application and its specific environmental constraints.

Y0 enclosures with external shaft or button: Water ingress protection ratings

			
			
IPX1	**IPX2**	**IPX3**	**IPX4**
Protection against dripping water (condensation), the enclosure being in its normal position. Examples of construction: - Openings in the housing at the bottom or louvres on side are possible. - The adjustment shaft is covered by a handle or protected by a rib on the housing	Protection against falling of drops of water, whereby the enclosure can be inclined by 15 ° relative to its normal position. Examples of construction: - Openings in the housing at the bottom or louvres on side having at least an angle of 30° are possible. - The adjustment shaft is protected by a cap or knob with a flanged bezel with cover or a rib on the housing	Protection against rainwater, as long as it has not at an angle greater than 60 ° to the vertical Examples of construction: - Openings in the housing at the bottom or louvres on side having at least an angle of 60 ° are possible. - The adjustment shaft is protected by a screw cap or a knob with labyrinth	Protection against splashing water splashes in all directions. Examples of construction: - Openings in the housing are not possible, even at the bottom if they are not protected by a seal or appropriate labyrinth. - The adjustment shaft is protected by a screw cap or a knob with triple labyrinth. Louvres are possible but difficult.

Y0 enclosures with outside adjustment or button: Protection of persons against access to hazardous parts and protection of equipment against ingress of solid objects

			
IP1X	IP2X	IP3X	IP4X
Protected against solid objects bigger than 50 mm (eg accidental contact of the hand) Examples of construction: Enclosures or covers whose output does not have cable gland, if its bore has a diameter ≥ ISO M12 or> PG7	Protected against solid objects bigger than 12 mm (eg finger) Examples of construction: Enclosures or covers whose output does not have cable gland, if its bore has a diameter less than or equal to 12mm (<or ISO M12 <PG7)	Protected against solidobjets bigger than 2.5 mm (eg tools, wires) Examples of construction: Enclosures with air circulation holes smaller than 2.5mm (Room thermostats, room humidistats, temperature sensors and humidity sensors)	Protected against solid objects bigger than 1 mm (eg small tools, small wires) Examples of construction: Closed enclosures, without gasket between cover and base, and seamless adjustment shaft, or without protection cap on external buttons .

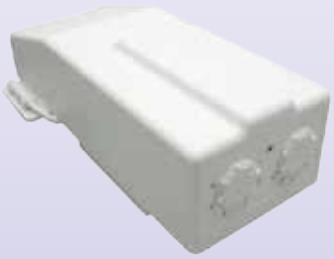
Examples of standards which we recommend you refer to define technical needs for domestic appliances: Room heaters (IEC60335-2-30), Heaters that are built into air conditioners (IEC 60335-2-40); Clothes dryers and towel rails (IEC 60335-2-43); Heaters for saunas (IEC 60335-2-53); Thermal-storage room heaters (IEC 60335-2-61); Heating appliances for breeding and rearing animals (IEC 60335-2-71); Foot warmers and heating mats (IEC 60335-2-81); Flexible sheet heating elements for room heating (IEC 60335-2-96); Heating cables (IEC 60800).

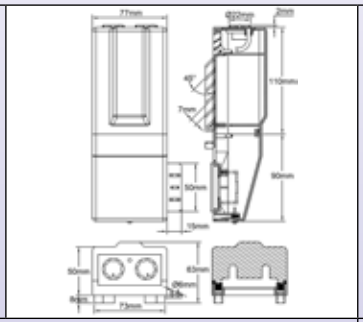
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Empty enclosure for oil filled electric radiators, with single tube heating element and electronic temperature control, Type Y01

These boxes are mounted on the outer threaded ½ " single tube heating elements in oil filled radiators. They are designed to accommodate existing electronic cards from manufacturers such as Cotherm, Delta Dore etc ...
Their IP protection class allows them to be mounted in most domestic applications.
They are designed to respond to a class II insulation: creepage distances and clearances between the metal parts or live parts are greater than or equal to 8mm (Indicative values, which may vary according to internal electronic circuits)
The minimum plastic wall thickness is 1.6 mm.
They can be supplied with mains cable with pull out force greater than 10 daN.
The development of these boxes is on customer specifications.
Contact us for reference and suppliers of compatible electronic circuit board

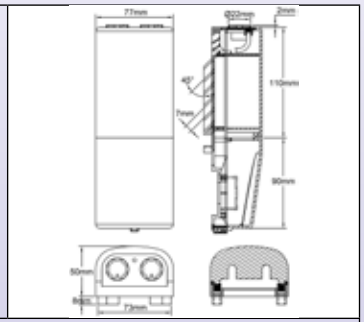




Dimensions: 200x77x58 (excluding knob and bracket)
Setting: One or two knobs, one pilot light
IP Rating: IP22 (vertical mounting only)
Weight: 192 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: Electronic area is ventilated by louver

Reference with two knobs setting	Y019ETE200502162
Reference with one knob setting	Y019ETE200502161

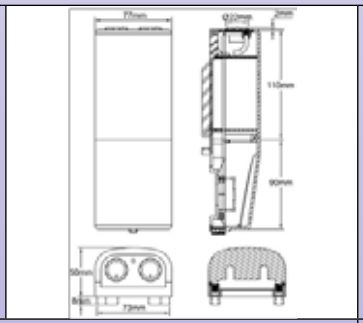




Dimensions: 200x77x50 (excluding knob and bracket)
Setting: One knobs, one pilot light
IP Rating: IP22 (vertical mounting only)
Weight: 195 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: Electronic area is ventilated by louver style air inlet of 7 mm, for triac output temperature control

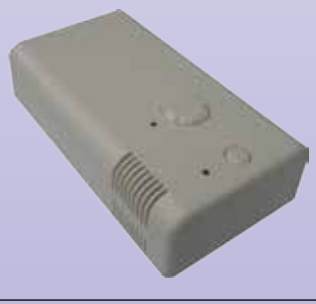
Reference	Y019ETE200511212

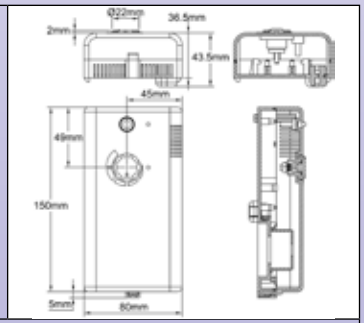




Dimensions: 200x77x50 (excluding knob and bracket)
Setting: Two knobs, one pilot light
IP Rating: IP22 (vertical mounting only)
Weight: 195 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: Electronic area is ventilated by louver style air inlet of 7 mm, for triac output temperature control.

Reference	Y019ETE200511211(One Knob)

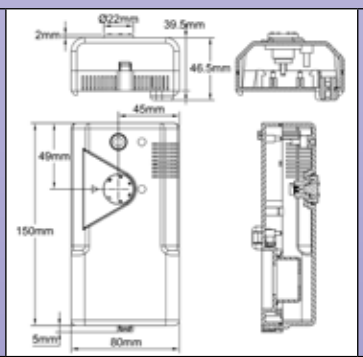




Dimensions: 150x80x37 (excluding knob and bracket)
Setting: One knob, one button, two pilot lights
IP Rating: IP33 (vertical mounting only)
Weight: 130 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: For relay output electronic controls . Not suitable for triac.

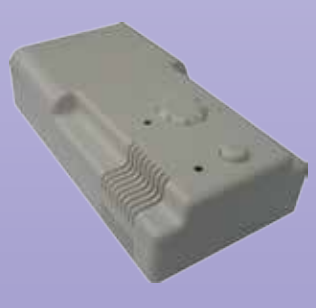
Reference	Y019ET020090604A

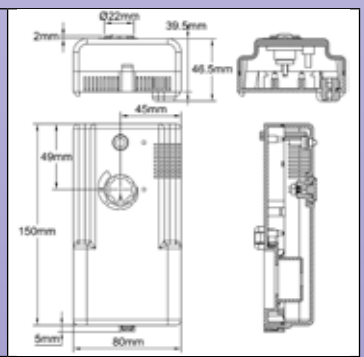




Dimensions: 150x80x40 (excluding knob and bracket)
Setting: One knob, one button, two pilot lights
IP Rating: IP33 (vertical mounting only)
Weight: 130 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: For relay output electronic controls . Not suitable for triac.

Reference	Y019ET020091231A





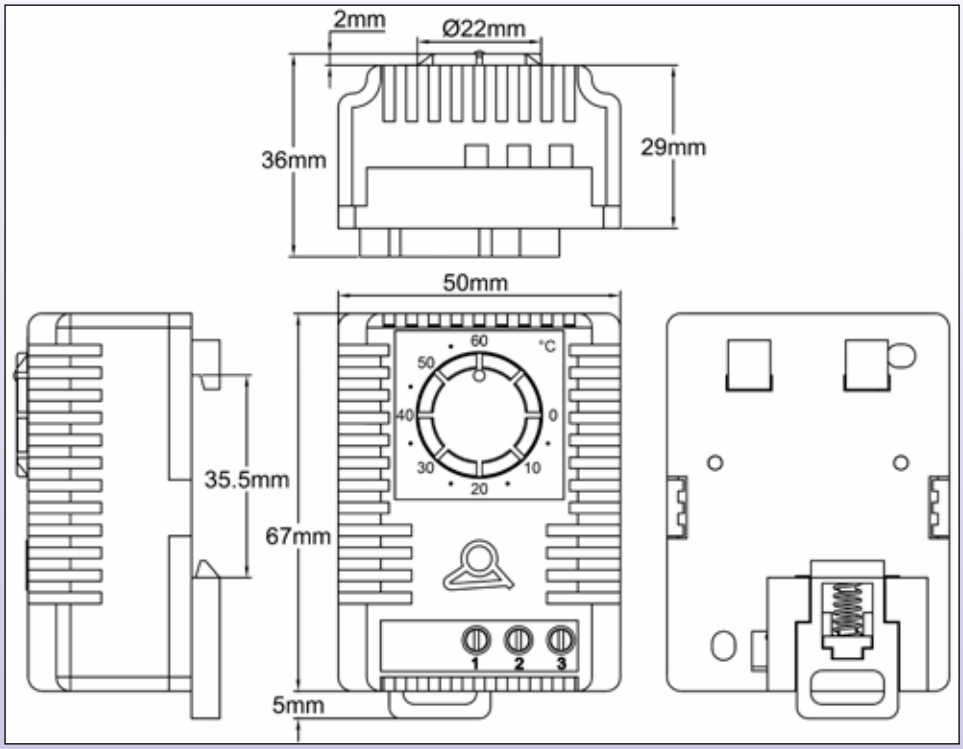
Dimensions: 150x80x40 (excluding knob and bracket)
Setting: One knob, one button, two pilot lights
IP Rating: IP33 (vertical mounting only)
Weight: 125 gr.
Color: RAL1010
Material: PC-ABS
Ventilation: For relay output electronic controls . Not suitable for triac.

Reference	Y019ET020100525A

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Electrical cabinet ambient temperature thermostats, Din Rail mounting, type Y02N





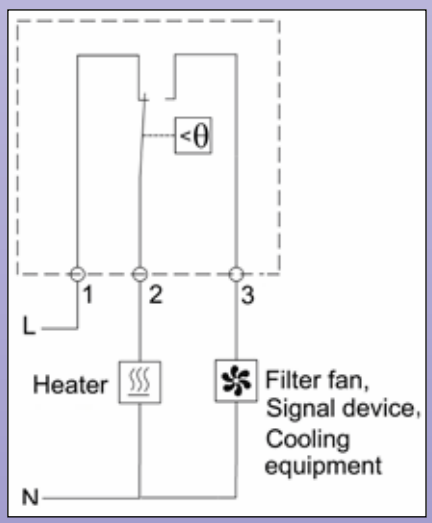
Main use:
These models have been designed to control the temperature inside electrical cabinets, being mounted on their DIN rail. Their SPDT contact allows their use to control a cabinet heater, a fan or a filter fan, or a cooling system.
Temperature ranges: -10+20°C (14+68°F) ; -10+50°C (14+122°F) ;0-60°C (32-140°F) ;5-35°C (41-95°F) ; 20+80°C (68-176°F)
Set point adjustment: knob
Sensing element: bimetal
Contact type: snap-action contact, open or close on temperature rise, 10(2)A 250VAC, 15(2)A 120VAC
Electrical life: > 10.000 cycles at rated values
Contact resistance: < 10mOhm
Electrical connection: 3 screw terminals, for 1.5 mm² wires
Mounting: Clip for 35mm DIN rail, EN50022
Casing: UL94 V0, PC-ABS, RAL 1010 light grey
Dimensions: 67 x 50 x 35 mm
Operating temperature range: -20 to +80°C (-4+176°F)
Ingress protection: IP30

Main references

°C		
Temperature range (°C)	**Differential (°C)**	**References**
-10+50°C	4°C±2°C	Y02NAC-10050114L
-10+20°C	4°C±2°C	Y02NAC-10020114L
+5+35°C	4°C±2°C	Y02NAC005035114L
0+60°C	4°C±2°C	Y02NAC000060114L
+20+80°C	4°C±2°C	Y02NAC020080114L

°F		
Temperature range (°F)	**Differential (°F)**	**References**
15-120°F	7±3°F	Y02NAC-10050114P
15-70°F	7±3°F	Y02NAC-10020114P
40-95°F	7±3°F	Y02NAC005035114P
30-140°F	7±3°F	Y02NAC000060114P
70-180°F	7±3°F	Y02NAC020080114P

Wiring diagram

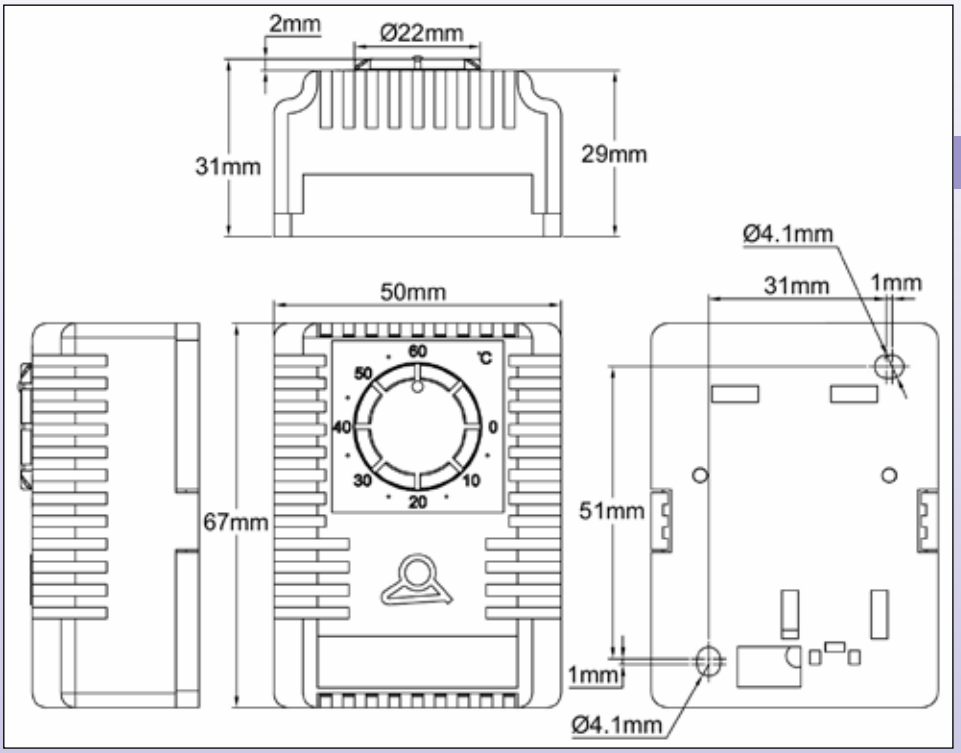


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Miniature room temperature thermostats wall mounting, home appliance style, type Y02M





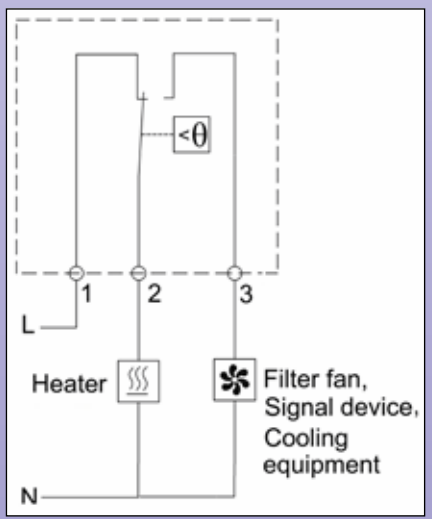
Main use:
These models have been designed to control electrical equipment temperature. They are designed for wall mounting with 2 backside screws. Their SPDT contact allows their use to control a cabinet heater, afan or a filter fan,or a cooling system.
Temperature ranges: -10+50°C (14+ 122°F) ; 0-60°C (32-140°F) ; 20+80°C (68-176°F)
Set point adjustment: screw driver knob, red color for open on rise models, blue color for close on rise models
Sensing element: bimetal
Contact type: snap-action contact, open or close on temperature rise, 10(2)A 250VAC, 15(2)A 120VAC
Electrical life: > 100 000 cycles at rated values
Contact resistance: < 10mOhm
Electrical connection: 4 screw terminals, for 1.5 mm² wires
Mounting: Clip for 35mm DIN rail (EN50022)
Casing: UL94 V0, PC-ABS, RAL 1010 light grey
Dimensions: 67 x 50 x 46 mm
Operating temperature range: -20 to +80°C
Ingress protection: IP30

Main references

°C		
Temperature range (°C)	**Differential (°C)**	**References**
-10+50°C	4°C±2°C	Y02MAC-10050114M
-10+20°C	4°C±2°C	Y02MAC-10020114M
+5+35°C	4°C±2°C	Y02MAC005035114M
0+60°C	4°C±2°C	Y02MAC000060114M
+20+80°C	4°C±2°C	Y02MAC020080114M

°F		
Temperature range (°F)	**Differential (°F)**	**References**
15-120°F	7±3°F	Y02MAC-10050114N
15-70°F	7±3°F	Y02MAC-10020114N
40-95°F	7±3°F	Y02MAC005035114N
30-140°F	7±3°F	Y02MAC000060114N
70-180°F	7±3°F	Y02MAC020080114N

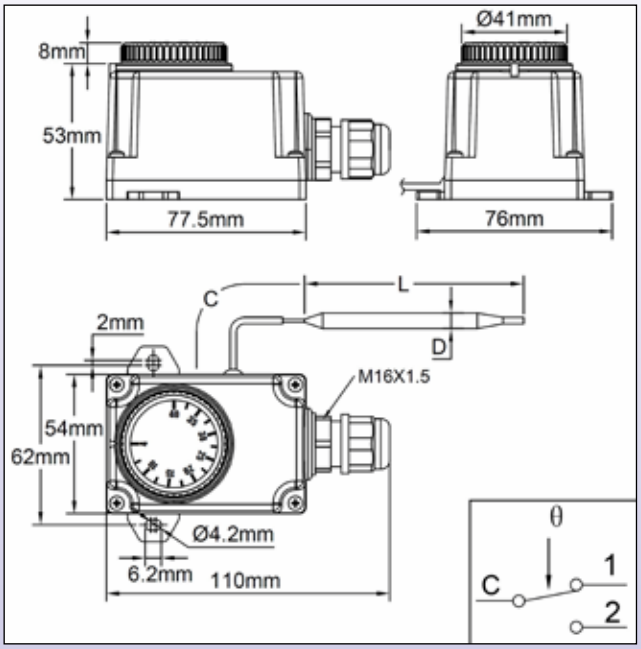
Wiring diagram



Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Bulb and capillary thermostat, IP44 commercial style enclosure, type Y03





Housing: IP44, 77,5 x 54 x 53 mm, (Knob and cable gland not included), black PC-ABS, UL94V0. High impact and UV resistance. 2 removable wall mounting lugs.
Electrical input: M16 cable gland.
Temperature Adjustment: With °C printed knob.
°F printed knobs available in option
Sensing element: Liquid filled bulb, distance measurement with capillary.
Adjustment ranges: -35+35°C (-30+95°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (90-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F)
Capillary length: 1.5 m
Electrical connections: screw terminals
Mounting: Wall mounting, by two side lugs with holes for dia.4 mm screws, 62 mm distance.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC

°C		°F		Bulb diameter (D, mm)	Bulb length (L, mm)	Differential °C (°F)	Max temperature on bulb °C (°F)
References (°C)	Temperature ranges (°C)	References (°F)	Temperature ranges (°F)				
Y038GA-35035AO6J	-35+35°C	Y038GA-35035AO6K	-30+95°F	6	98	3±2 (5.5±4)	55 (130)
Y038GA004040AO6J	4-40°C	Y038GA004040AO6K	40-105°F	6	140	3±2 (5.5±4)	60 (140)
Y038GA030090AO6J	30-90°C	Y038GA030090AO6K	85-195°F	6	87	4±3 (7±5.5)	120 (250)
Y038GA030110AO6J	30-110°C	Y038GA030110AO6K	90-230°F	6	93	5±3 (9±7)	150 (300)
Y038GA050200AO6J	50-200°C	Y038GA050200AO6K	120-390°F	6	59	8±5 (14±9)	250 (480)
Y038GA050300AO3J	50-300°C	Y038GA050300AO3K	120-570°F	3	165	10±5(18±9)	350 (660)

Knob printings

°C Printing

-35+35°C	4-40°C	30-90°C	30-110°C	50-200°C	50-300°C
					

°F Printing

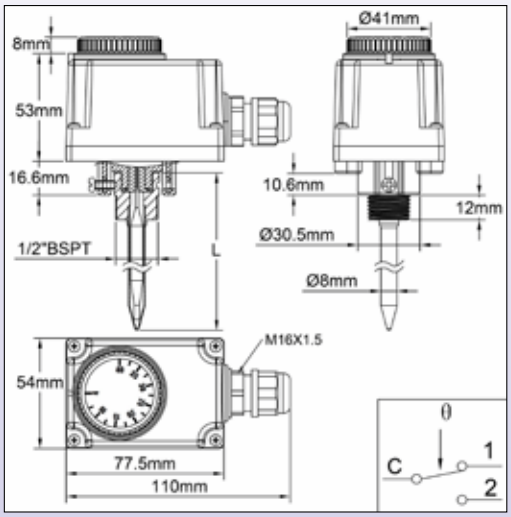
					

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Set point adjustable rod thermostat, IP44 commercial housing type Y04
With general use stainless steel or nickel plated pocket





Housing: IP44, 77,5 x 54 x 536 mm, (Knob and cable gland not included), black PC-ABS, UL94V0. High impact and UV resistance. Stainless steel wall mounting plate, with 2 plastic lugs.
Electrical input: M16 cable gland.
Temperature Adjustment: With °C printed knob.
°F printed knobs available in option
Sensing element: Liquid filled bulb, located inside a backside mounted 304L stainless steel pocket.
Adjustment ranges: -35+35°C (-30+95°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (90-230°F)
Rod length: 90, 230, 300 mm. Other length on request
Electrical connections: screw terminals
Mounting: by the ½"BSPT pocket fitting
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC.

Main references with nickel plated brass pocket*

Temperature ranges (°C)	Temperature ranges (°F)	References in °C with rod length L=90 mm*	References in °C with rod length L=230 mm*	References in °C with rod length L=300 mm*	Differential °C (°F)	Max temperature on rod °C (°F)
-35+35°C	-30+95°F		Y048GA-35035N23C	Y048GA-35035N30C	3±2 (5.5±4)	55 (130)
4-40°C	40-105°F		Y048GA004040N23C	Y048GA004040N30C	3±2 (5.5±4)	60 (140)
30-90°C	85-195°F	Y048GA030090N09C	Y048GA030090N23C	Y048GA030090N30C	4±3 (7±5.5)	120 (250)
30-110°C	90-230°F	Y048GA030110N09C	Y048GA030110N23C	Y048GA030110N30C	5±3 (9±7)	150 (300)

Main references with AISI 304 pocket*

Temperature ranges (°C)	Temperature ranges (°F)	References in °C with rod length L=90 mm*	References in °C with rod length L=230 mm*	References in °C with rod length L=300 mm*	Differential °C (°F)	Max temperature on rod °C (°F)
-35+35°C	-30+95°F		Y048GA-35035I23C	Y048GA-35035I30C	3±2 (5.5±4)	55 (130)
4-40°C	40-105°F		Y048GA004040I23C	Y048GA004040I30C	3±2 (5.5±4)	60 (140)
30-90°C	85-195°F	Y048GA030090I09C	Y048GA030090I23C	Y048GA030090I30C	4±3 (7±5.5)	120 (250)
30-110°C	90-230°F	Y048GA030110I09C	Y048GA030110I23C	Y048GA030110I30C	5±3 (9±7)	150 (300)

Other temperature range, consult us
* Versions with °F printed knobs: replace the last character C by D in the reference

Knob printings

°C Printing

-35+35°C	4-40°C	30-90°C	30-110°C
			

°F Printing

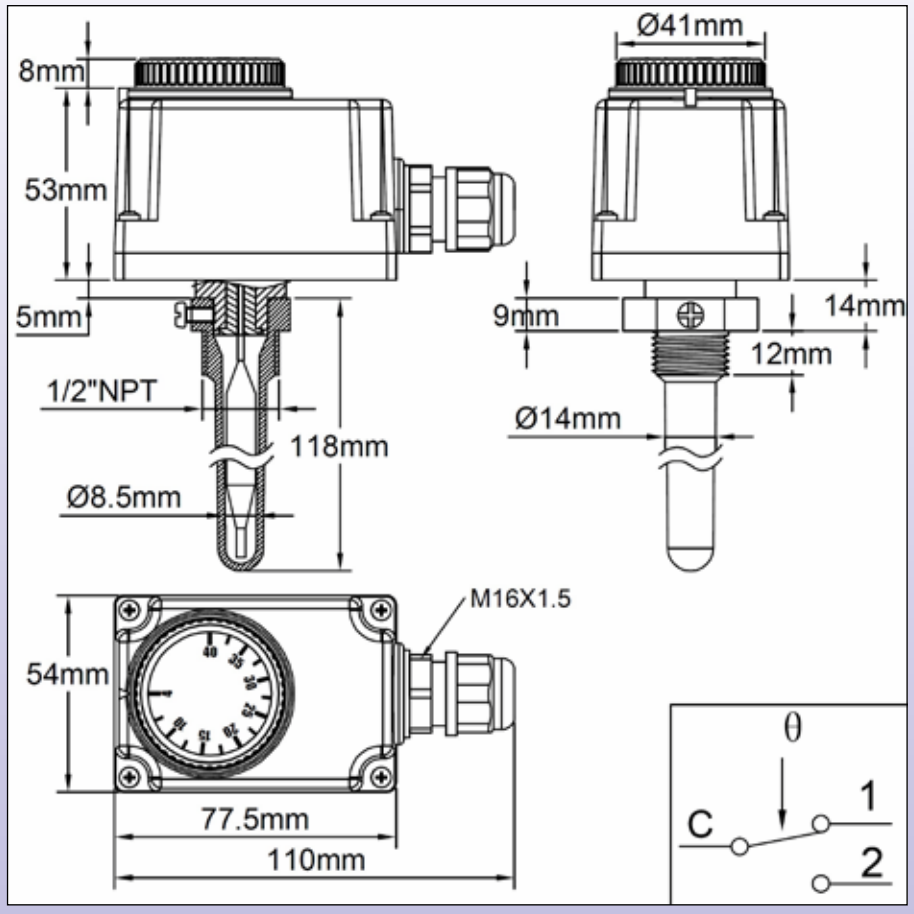





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Set point adjustable rod thermostat, IP44 commercial housing type Y05 with plastic pocket, for corrosive water and swimming pools





Housing: IP44, 77,5 x 54 x 53mm, (Knob and cable gland not included), black PC-ABS, UL94V0. High impact and UV resistance. Stainless steel wall mounting plate, with 2 plastic lugs.
Electrical input: M16 cable gland.
Temperature Adjustment: With °C printed knob.
°F printed knobs available in option
Sensing element: Liquid filled bulb, located inside a backside mounted PBT pocket.
Adjustment ranges: 4-40°C(40-105°F)
Rod length: 97 mm
Electrical connections: screw terminals and external ground terminal
Mounting: by the ½"NPT pocket fitting
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC.

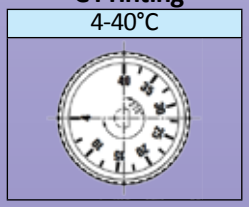
Main references

°C		°F		Differential °C (°F)	Max temperature on rod °C (°F)
Temperature range (°C)	°C knob	Temperature range (°F)	°F knob		
4-40°C	Y057GA004040P10P	40-105°F	Y057GA004040P10Q	1,5 (-0+2) °C 3 (-0+3,5)°F	60°C (140°F)

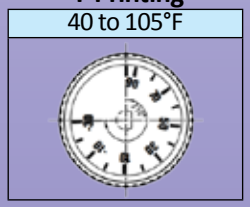
Other temperature range, consult us

Knob printings

°C Printing



°F Printing



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The Y1 range of thermostats with IP65 enclosures

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Technical introduction to the Y1 range

The range design concept and main features

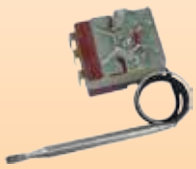
Y1 range includes a wide range of thermostats in IP65* metal housing with high mechanical resistance (IK10** except models with external knob), intended for commercial or industrial applications covering ranges from -35 °C to +760 °C. Technical details are the result of more than 50 years of experience and field comments.

*IP65= totally protected against dust and protected against low pressure water jets from all directions

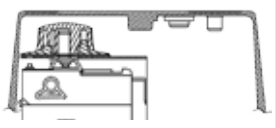
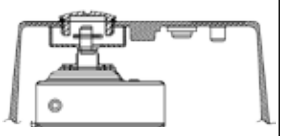
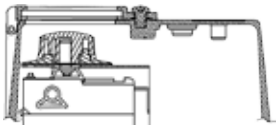
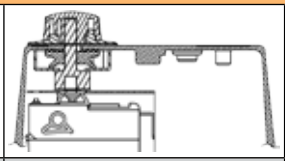
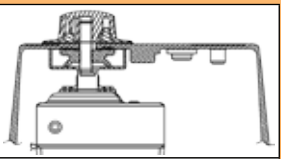
**IK10= resistant to the impact of a 5kg weight dropped from 40 cm(=20 Joules)

Compatible thermostats

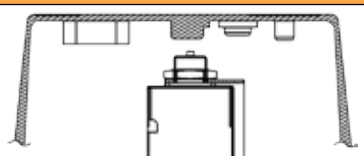
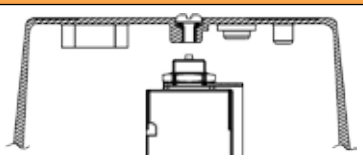
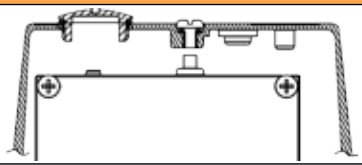
(See catalogue Nr 1 for extensive description of these thermostats)

			
Liquid expansion thermostats, ambient or antifreeze	Electronic thermostats, ambient or antifreeze	Temperature control, liquid expansion thermostats, single pole and 3 poles	Fixed setting, manual-reset,liquid expansion thermostats, single pole double pole or 3 poles.
			
Adjustable manual-reset, liquid expansion thermostats, single pole	Combination of temperature control + manual reset liquid expansion thermostat, single pole	Bimetal expansion rod temperature control thermostats, single pole and double pole	Bimetal expansion rod manual reset thermostats, single pole and double pole

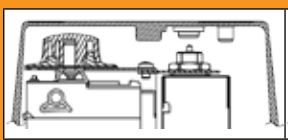
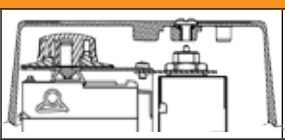
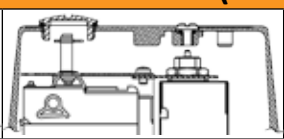
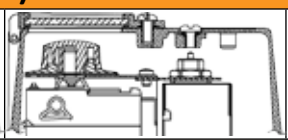
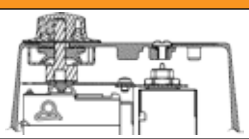
Set point adjustments on control thermostat (IP65)

				
Inside adjustment	Screw driver adjustment, under screwed cap	Inside adjustment by knob, access by window	Outside knob adjustment, bottom mounted thermostat (not available on all models)	Outside knob adjustment, thermostat mounted on cover (3 pole and electronic control)

Manual reset thermostats: access to reset button (IP65)

		
Fixed setting limiter, inside manual reset	Fixed setting limiter, outside manual reset with a tool	adjustable setting limiter, outside set point adjustment under screwed cap,outside manual reset with a tool

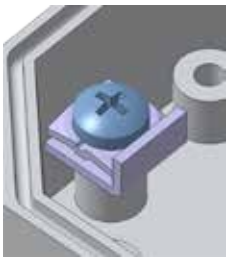
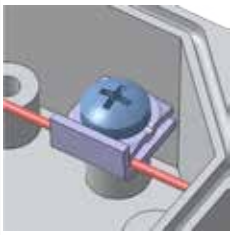
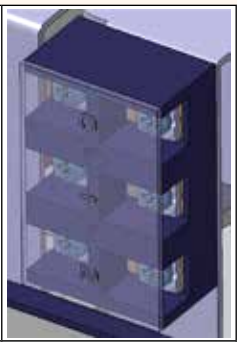
Combination of control and manual reset thermostats: access to set point adjustment and to reset button (IP65)

				
Control thermostat with inside set point adjustment, manual reset thermostat with inside access	Control thermostat with inside set point adjustment, manual reset thermostat with outside access with a tool	Control thermostat with outside set point adjustment under screwed cap, manual reset thermostat with outside access with a tool	Control thermostat with outside set point adjustment under screwed window, manual reset thermostat with outside access with a tool	Control thermostat with outside set point adjustment by knob, manual reset thermostat with outside access with a tool

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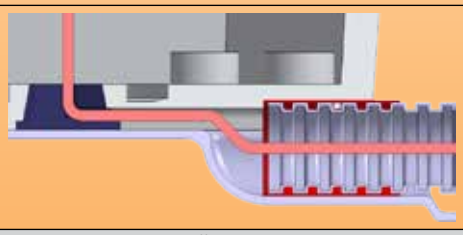
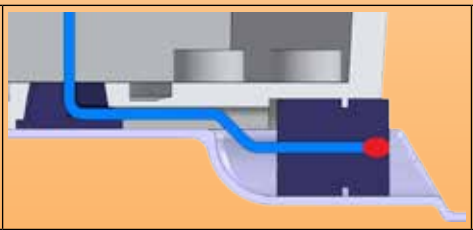
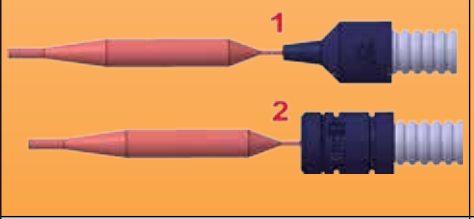
Technical introduction to the Y1 range

Electrical connections and cable outputs

					
The internal grounding is made by a M4 stainless steel terminal with saddle and anti-loosening washer	Metallic adjustment shafts and capillaries are grounded (compliance to EN 60335-1, § 22-34)	The electrical connection of single pole bulb and capillary models is made by a 3 x 2.5 mm² terminal block, 15A, 250V, with terminal protection cover. (compliance with EN60335-26-1)	The electrical connection of 2 and 3 pole limiters, 3 pole thermostats, bimetal rod thermostats and electronic control is made directly to the screw terminals on the device	Thermostats are mounted on the bottom of the enclosure, without electrical or capillary connection to the cover to facilitate wiring. (With the exception of 3 pole models with external handle, and electronic controls)	Output made by cable gland ISO M16 PA66, IP68, for cable dia. 5 to 10 mm. 3 pole models and electronic versions have two M16 cable glands.

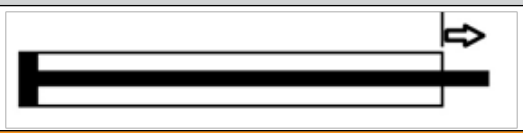
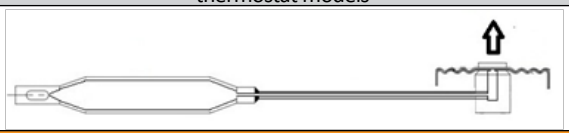
Sensors and temperature measurement probes

- Electronic ambient measurement sensor are protected by a silicone boot.
- The outputs of the temperature sensors of electronic models are protected by a flexible stainless steel sheath.
- The outputs by capillary are protected by a flexible stainless steel sheath terminated by a ferrule for pocket mounting, or by a flexible silicone termination for measurements without pocket.
- Rod thermostat outputs are sealed with gasket.
- Rod thermostats exist with bimetallic expansion or liquid expansion measuring system
- The pocket mounting system is identical across the Y1 range (see Y1 range accessories)
- Rods are made of 304L stainless steel

		
Capillary output	Electronic ambient measurement sensors	Rod output
		
Silicone boot (1) or ferrule (2) termination for capillary output	Rod output pocket mounting system	Pipe mounting bracket model (1: SS304 band, 2: Hose clamps, 3: Tie wraps)

Temperature measurement principles

(non electronic models)

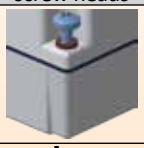
Bimetallic expansion measurement: Used on some rod models.	**Liquid expansion measurement:** Used on the ambient control thermostats, bulb and capillary thermostats, pipe mounting thermostats and on some rod thermostat models
	
Advantages: - Fast response time, - No risk of leakage measurement - Simple mechanical - Insensitive to ambient temperature variations on the head - Measurement of the average temperature over the entire length of the rod - Good resistance to overheating Disadvantages: - Relatively sensitive to vibrations, - Rigid rod cannot be bent or folded - Length cannot be changed	Advantages: - Available in different capillary lengths - Allows to make rod thermostats with short or very long probes - Flexibility of the capillary - Quite insensitive to vibrations Disadvantages: - Sensitive to ambient temperature variations on the body - The risk of leakage on bulb or capillary requires in some applications to use failsafe limiters - The overheating of the bulb beyond the permissible values may cause deterioration of the diastat

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Technical introduction to the Y1 range

Fasteners and identification

Unalterable identification plate, riveted and customiz-able.	Stainless steel captive cover screws	Anti-galvanic corrosion insulating washers under the screw heads	Miniature chain provides non-detachable cover,avoiding to drop it during electrical connection or maintenance. (Comply to EN60335-26-1)
			

Aluminum enclosure material

Material and standards	Si	Cu	Mg	Zn	Mn	Fe	Ni	Sn	Al
ADC12 (JIS H5302:2000)	9.6-12.0	1.5-3.5	<0.3	<1.0	<0.5	0.6-0.9	<0.5	<0.2	rest

Surface protection

Enclosure are sand blasted and epoxy painted, oven cured, color grey RAL7035 (Other colors : MOQ apply)

Regulations

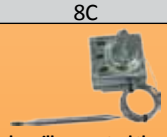
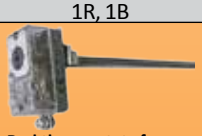
Non-self resetting protective device:
It requires the use of a tool or removal of a cover to reset it. (EN60335-1, §30-1)
Adjustable limiter:
Appliances provided with controls or switching devices are tested with these controls or devices adjusted to their most unfavourable setting, if the setting can be altered by the user. If the adjusting means of the control is accessible without the aid of a tool, this sub-clause applies whether the setting can be altered by hand or with the aid of a tool. If the adjusting means is not accessible without the aid of a tool and if the setting is not intended to be altered by the user, this sub-clause does not apply.
Adequate sealing is regarded as preventing alteration of the setting by the user (EN60335-1, §5-6).

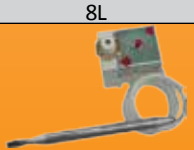
Definitions of temperature control devices

Thermostat:
Temperature-sensing device, the operating temperature of which may be either fixed or adjustable and which during normal operation keeps the temperature of the controlled part between certain limits by automatically opening and closing a circuit (EN60335-1§3.7.1)
Temperature limiter:
Temperature-sensing device, the operating temperature of which may be either fixed or adjustable and which during normal operation operates by opening or closing a circuit when the temperature of the controlled part reaches a predetermined value. It does not make the reverse operation during the normal duty cycle of the appliance. It may or may not require manual resetting. (EN60335-1§3.7.2)
Thermal cut-out:
Device which during abnormal operation limits the temperature of the controlled part by automatically opening the circuit, or by reducing the current, and is constructed so that its setting cannot be altered by the user (EN60335-1§3.7.3)
Self-resetting thermal cut-out:
Thermal cut-out that automatically restores the current after the relevant part of the appliance has cooled down sufficiently (EN60335-1§3.7.4)
Non-self-resetting thermal cut-out:
Thermal cut-out that requires a manual operation for resetting, or replacement of a part, in order to restore the current. (EN60335-1§3.7.5).
Protective device:
Device, the operation of which prevents a hazardous situation under abnormal operation conditions (EN60335-1§3.7.6)
Thermal link:
Thermal cut-out which operates only once and requires partial or complete replacement (EN60335-1§3.7.7)

Description of thermostats used in Y1 enclosures

(For more information, consult the Introduction to Thermostats Technology in our catalogue N°1)

8G	KR	8C	SR, VR	1R, 1B
				
Bulb and capillary control thermostat, liquid expansion, appliance type, Single Pole Double Throw contact, 16A 250V For Y1 series, they are used in the following versions: - wall mounting models for ambient temperature control, - bulb and capillary models, - rod models - tube mount models. Temperature ranges available from -35°C to 300°C. Electrical life time: 100.000 cycles.	**Bulb and capillary control thermostat, liquid expansion, commercial and industrial type, Single Pole Double Throw contact, 15A 250V/400V** For Y1 series, they are used in the following versions: - wall mounting models for ambient temperature control, - bulb and capillary models, - rod models. Temperature ranges available from -25°C to 760°C. Electrical life time: 500.000 cycles. They withstand -50°C. Do not fit combined versions with a safety thermostat. (also available in low differential version: KU)	**Bulb and capillary control thermo-stats, liquid expansion, appliance type, three poles, Normally Closed contacts, 16A 250V, 10A 400V** For Y1 series, they are used in the following versions: - wall mounting models for ambient temperature control, - bulb and capillary models, - rod models - tube mount models. Temperature ranges available from -35°C to 300°C. Electrical life time: 100.000 cycles. Do not fit combined versions with a safety thermostat.	**Invar Rod thermostats for tem-perature control, commercial and industrial type, Single Pole Double Throw contact, 15A 250V/400V** For Y1 series, they are used in the following versions: - rod models. Temperature ranges available from 0°C to 150°C for S series and up to 300°C for V series. Electrical life time: 500.000 cycles. Do not fit combined versions with a safety thermostat. (also available in low differential ver-sions: SU, VU)	**Invar Rod thermostats for temperature control, commercial and industrial type, Single Pole Double Throw contact (1R) or Double Pole Normally Closed (1B), 15A 250V/400V** For Y1 series, they are used in the following versions: - rod models. Temperature ranges available from -10°C to 165°C. Electrical life time: 100.000 cycles. Do not fit combined versions with a safety thermostat. (also available in low differential versions: 1U, 1C)

8L	KX	8X	82	1X, 1E
				
Bulb and capillary cut-outs, fixed setting, fail safe, vapor pressure (also called boiling), appliance type, Normally Closed contact, 15A 250V For Y1 series, they are used in the following versions: - wall mounting models with manual reset (unusual version), - bulb and capillary models, - rod models, - tube mount models. Temperature set points available between +70°C to +300°C. Electrical life time: 300 cycles.	**Bulb and capillary cut-outs, with adjustable set point, liquid expansion, commercial and industrialtype, Single Pole Normally Closed contact, 15A 250V/400V** For Y1 series, they are used in the following versions: - wall mounting models with ambient temperature control, - bulb and capillary models, - rod models. They withstand -50°C. Do not fit combined versions with a control thermostat. Temperature ranges available between -25°C to 760°C. Electrical life time: 100.000 cycles.	**Bulb and capillary cut-outs,fixed setting, vapor pressure (also called boiling), appliance type, Double Pole Normally Closed contacts, 20A 250V** For Y1 series, they are used in the following versions: - wall mounting models with manuel reset (unusual version), - bulb and capillary models, - rod models, - tube mount models. Do not fit combined versions with a control thermostat. Temperature set points available between +70°C to +170°C. Electrical life time: 300 cycles.	**Bulb and capillary cut-out,fixed setting, vapor pressure (also called boiling), commercial type, Three Pole Normally Closed contacts, 25A 250V, 16A 400V, double break contacts** For Y1 series, they are used in the following versions: - wall mounting models with manual reset (unusual version), - bulb and capillary models, - rod models, - tube mount models. Do not fit combined versions with a control thermostat. Temperature set points available between +70°C to +170°C. Electrical life time: 300 cycles (250V), 1000 cycles (400V) .	**Invar Rod thermostats with manual reset, commercial and industrial type, adjustable or fixed setting, Single Pole Double Throw (1X) or Double Pole Normally Closed (1E), 15A 250V/400V** For Y1 series, they are used in the following versions: - rod models. Do not fit combined versions with a control thermostat. Temperature ranges available from -10°C to 165°C. Electrical life time: 1000 cycles.

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Technical introduction to the Y1 range

Comparative features of the Y1 range models

Ambiance control thermostats, antifreeze thermostats

Type Y1	Type inside	Sensing element		Set point adjustment access				Action type			Contacts	Limits of possible temperature ranges
		Liquid expansion	Electronic sensor	Inside	Cap	Window	Outside Knob	Control	Manual reset	Combination control + reset		
Y1A	KR KU											-25+70°C
Y1A	8G*											-35+40°C
Y1B	KR KU											-25+70°C
Y1B	8G*											-35+40°C
Y1C	KR KU											-25+70°C
Y1C	8G*											-35+40°C
Y1C	8C											-35+40°C
Y1D	2PE2N											-35+40°C
Y1E	2PE2N											-35+40°C
Y1F	2PE2N											-35+40°C

* This range can also be done with manual reset models or combined control thermostat + manual reset (Unusual options). Contact us for references

Pipe surface mounting thermostats (liquid expansion sensor)

Type Y1	Type inside	Set point adjustment access				Manual reset access		Action type			Contacts	Limits of possible temperature ranges
		Inside	Cap	Window	Outside Knob	Inside	Outside access under screwed cap	Control	Manual reset	Combination control + reset		
Y10	KR, KU											0+120°C
Y10	8G											4+110°C
Y11	KR, KU											0+120°C
Y11	8G											4+110°C
Y12	KR, KU											0+120°C
Y12	8G											4+110°C
Y12	8C											4+120°C
Y13	8L*										Fail safe	30-120°C
Y13	8X*										Fail safe	70-120°C
Y13	82*										Fail safe	70-120°C
Y14	KXA*, KXF											0+120
Y15	KXA*											0+120
Y16	8G+8L*											4+120°C
Y17	8G+8L*											4+120°C

* This range can also be done with internal manual reset (Unusual options). Contact us for references

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Bulb and capillary thermostats (Liquid expansion measurement)

Type Y1	Type inside	Set point adjustment access				Manual reset access		Action type			Contacts	Limits of possible temperature ranges
		Inside	Screwed cap	Window	Outside Knob	Inside*	Cap	Control	Manual reset	Combination control + reset		
Y1G	KR KU											-25+760°C
Y1G	8G											-35+300°C
Y1H	KR KU											-25+760°C
Y1H	8G											-35+300°C
Y1I	KR KU											-25+760°C
Y1I	8G											-35+300°C
Y1J	KR KU											-25+760°C
Y1J	8G											-35+300°C
Y1J	8C											-35+300°C
Y1K	8L										 Fail safe	60-300°C
Y1K	8X										 Fail safe	60-170°C
Y1K	82										 Fail safe	60-170°C
Y1L	8L										 Fail safe	60-300°C
Y1L	8X										 Fail safe	60-170°C
Y1L	82										 Fail safe	60-170°C
Y1M	KXA											-25+760
Y1N	KXA											-25+760
Y1O	KXA											-25+760
Y1P	8G+8L										 Fail safe	60-300°C
Y1Q	8G+8L										 Fail safe	60-300°C

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Rod thermostats

Type Y1	Type inside	Sensing element		Set point adjustment access				Manual reset access		Action type			Contacts	Limits of possible temperature ranges
		Liquid expansion	Bimetal Rod	Inside	Screwed cap	Window	Outside Knob	Inside*	Screwed Cap	Control	Manual reset	Combination control + reset		
Y1R	SR, SU													-50+150
Y1R	VR, VU													0-400
Y1R	8G													-35+300
Y1R	KR, KU													-25+760
Y1S	SR, SU													-50+200
Y1S	VR, VU													0-400
Y1S	8G													-35+300
Y1S	KR, KU													-25+760
Y1T	8G													-35+300
Y1T	KR, KU													-25+760
Y1T	8C													-35+300
Y1U	1R, 1U													-10+165°C
Y1U	1B, 1C													-10+165°C
Y1V	8L												Fail safe	60-300°C
Y1V	8X												Fail safe	60-170°C
Y1V	82												Fail safe	60-170°C
Y1W	KXA, KXF													-25+760
Y1X	KXA													-25+760
Y1Y	1X													-10+165°C
Y1Y	1D													-10+165°C
Y1Z	8G+8L												Fail safe	60-300°C

* This range can also be done with internal access manual reset (Unusual options). Contact us for references

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Main products of the Y1 range
Ambient temperature thermostats and antifreeze thermostats

Y1A	Pages 34-35	Y1B	Pages 36-37	Y1C	Pages 38-40
					
Ambient temperature thermostat control, internal adjustment (single pole)		Ambient temperature thermostat control, outside adjustment by window (single pole)		Ambient temperature thermostat control, outside adjustment by knob (single pole and 3 poles)	

Y1D	Page 41	Y1E	Page 42	Y1F	Page 43
					
Ambient temperature electronic control, internal adjustment by window (single pole)		Ambient temperature electronic control, outside adjustment by window (single pole)		Ambient temperature electronic control, knob outside adjustment (single pole)	

Bulb and capillary thermostats

Y1G	Pages 44-45	Y1H	Pages 46-47	Y1I	Pages 48-49	Y1J	Pages 50-52
							
Bulb and capillary thermostat, control, internal adjustment (single pole)		Bulb and capillary thermostat, control, outside adjustment under screwed cap (single pole)		Bulb and capillary thermostat, control, outside window adjustment (single pole)		Bulb and capillary thermostat, control, outside knob adjustment (single pole and 3 pole)	

Y1K	Pages 53-55	Y1L	Pages 56-58	Y1M	Pages 59-60	Y1N	Page 61
							
Bulb and capillary thermostat, manual reset, fixed setting internal access (single pole, double pole and 3 poles)		Bulb and capillary thermostat, manual reset, fixed setting external access by tool (single pole, double pole and 3 poles)		Bulb and capillary thermostat, adjustable manual reset, internal adjustment andmanual reset external access by tool (single pole)		Bulb and capillary thermostat, adjustable manual reset, adjustment inside screwed cap andmanual reset external access by tool (single pole)	

Y1O	Page 62	Y1P	Page 63	Y1Q	Page 64
					
Bulb and capillary thermostat, external adjustable setting by knob, manual reset under screwed cap with access by tool (single pole)		Bulb and capillary thermostat, outside knob adjustment for control combinated with fixed setting manual reset, external access by tool (single pole)		Bulb and capillary thermostat, windows knob adjustment for control combinated with fixed setting manual reset, external access by tool (single pole and 3 pole)	

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Technical introduction to the Y1 range

Rod thermostats

Y1R Pages 65-68	Y1S Pages 69-72	Y1T Pages 73-75	Y1U Pages 76-77	Y1V Pages 78-80
				
Rod thermostat, control, internal knob adjustment (single pole)	Rod thermostat, control, window knob adjustment (single pole)	Rod thermostat, control, outside knob adjustment (single pole and 3 poles)	Rod thermostat, control, inside adjustment, miniature housing, (single pole and double pole)	Rod thermostat, fixed setting manual reset, reset external access by tool (single pole)

Y1W Pages 81-82	Y1X Page 83	Y1Y Pages 84-85	Y1Z Page 86
			
Rod thermostat, manual reset internal adjustable setting, reset inside screwed cap, with access by tool (single pole)	Rod thermostat, external adjustable setting manual reset inside screwed cap, reset external access by tool (single pole)	Rod thermostat, external manual reset with tool, inside adjustment, miniature housing, (single pole and double pole)	Rod thermostat, outside knob adjustment for control combinated with fixed setting manual reset, external access by tool (single pole)

Pipe temperature control thermostats

Y10 Pages 87-88	Y11 Pages 89-90	Y12 Pages 91-93
		
Pipe temperature control thermostat, control, internal knob adjustment (single pole)	Pipe temperature control thermostat, control, window knob adjustment (single pole)	Pipe temperature control thermostat, control, outside knob adjustment (single pole and 3 poles)

Y13 Pages 94-96	Y14 Page 97	Y15 Page 98
		
Pipe temperature control thermostat, fixed setting manual reset, manual reset external access by tool (single pole)	Pipe temperature control thermostat, manual reset internal adjustable setting, reset inside screwed cap, with access by tool (single pole)	Pipe temperature control thermostat, manual reset adjustable setting under screwed cap, reset inside screwed cap, with access by tool (single pole)

Y16 Pages 99	Y17 Pages 100
	
Pipe temperature combination control thermostat, external adjustable setting inside screwed cap, manual reset external access by tool (single pole)	Pipe temperature combination control thermostat, external adjustable setting by knob, manual reset external access by tool (single pole)

Explosion proof version exist, see catalogue N°4

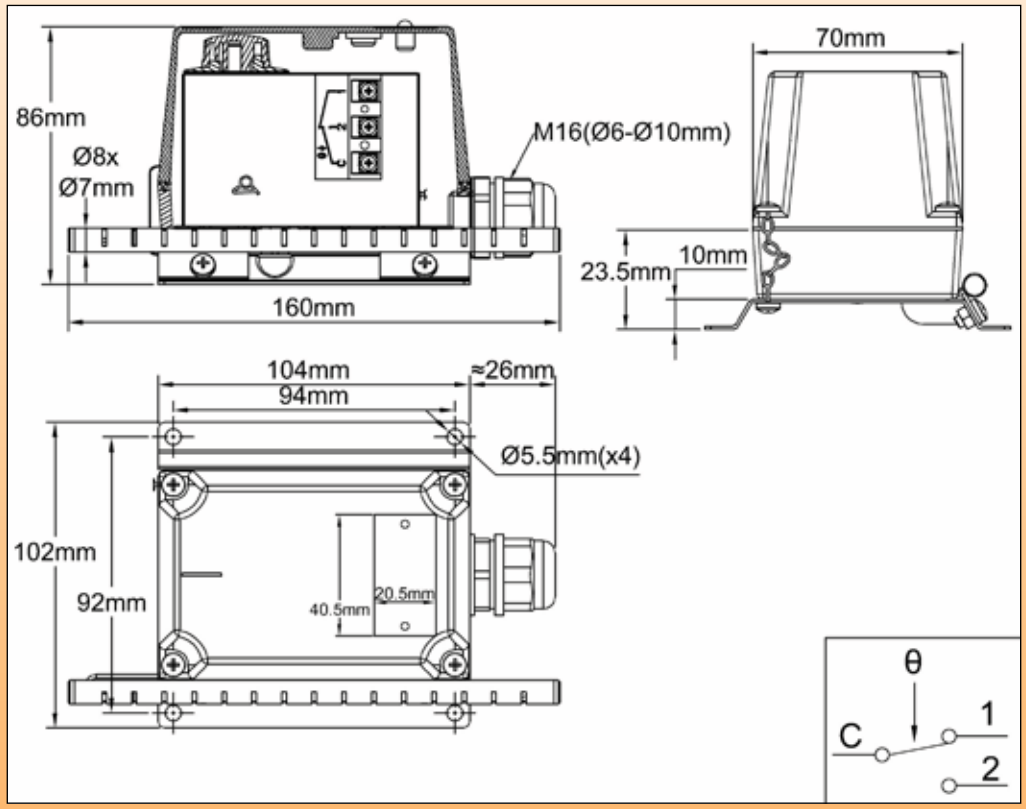
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Ambient	+70 / -25	Y1A Thermostat KR, KU





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Withstand very low ambient temperatures

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube
Electrical connections: Inside, on screw terminals connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature adjustment ranges °C (°F)	Standard differential		Reduced differential		Maximum ambient temperature °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
-25+25°C (-15+80°F)	Y1AKRA-25025220E	3±1°C (5.5±1.8 °F)	Y1AKUA-25025220E	2±1°C (3.6±1.8 °F)	60°C (140°F)
-10+15°C (15-60°F)	Y1AKRA-10015200E	3±1°C (5.5±1.8 °F)	Y1AKUA-10015200E	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-50°C (32-120°F)	Y1AKRA000050200E	3±1°C (5.5±1.8 °F)	Y1AKUA000050200E	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y1AKRA000070500E	5±2°C (9±3.6°F	Y1AKUA000070500E	3±1°C (5.5±1.8 °F)	80°C (180°F)

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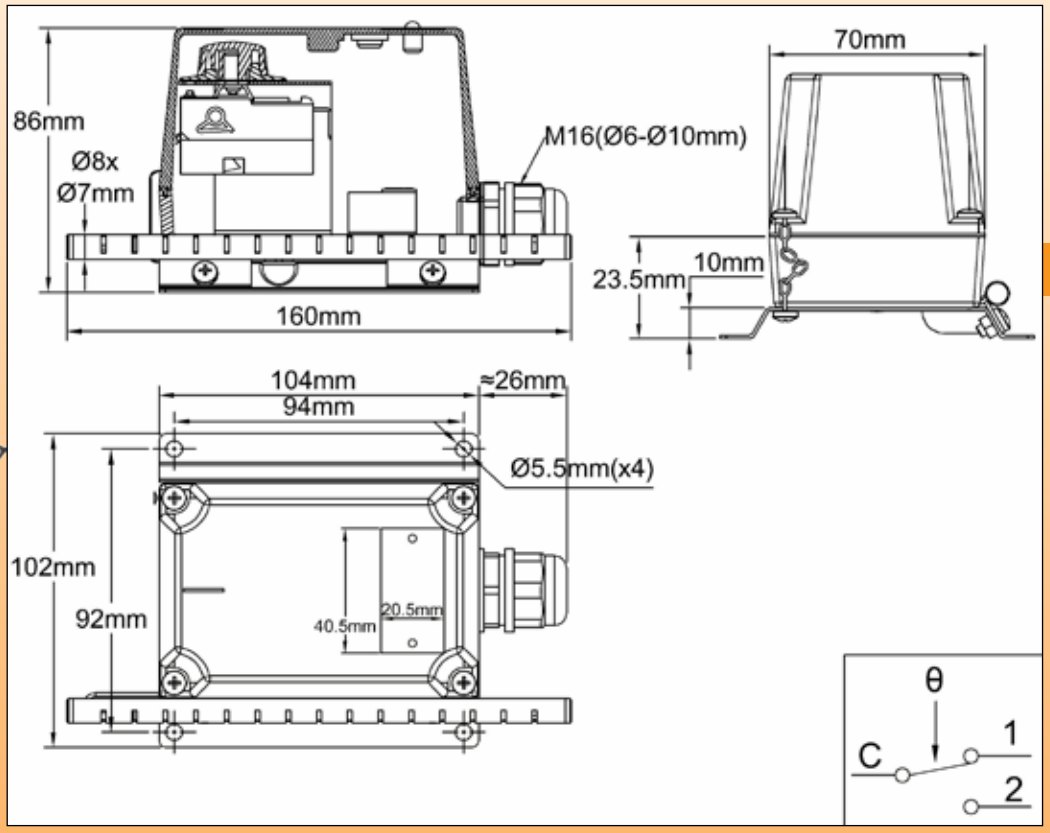
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Ambient	+40 / -35	Y1A Thermostat 8G





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube
Action: temperature control.
Electrical connections: Inside, on screw terminals connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	3±2°C (5.5±3.6 °F)	55°C (130°F)	Y1A8GB-35035AA6E
-10+40°C (15-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1A8GB-10040AA6E
4-40°C (40-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1A8GB004040AA6E

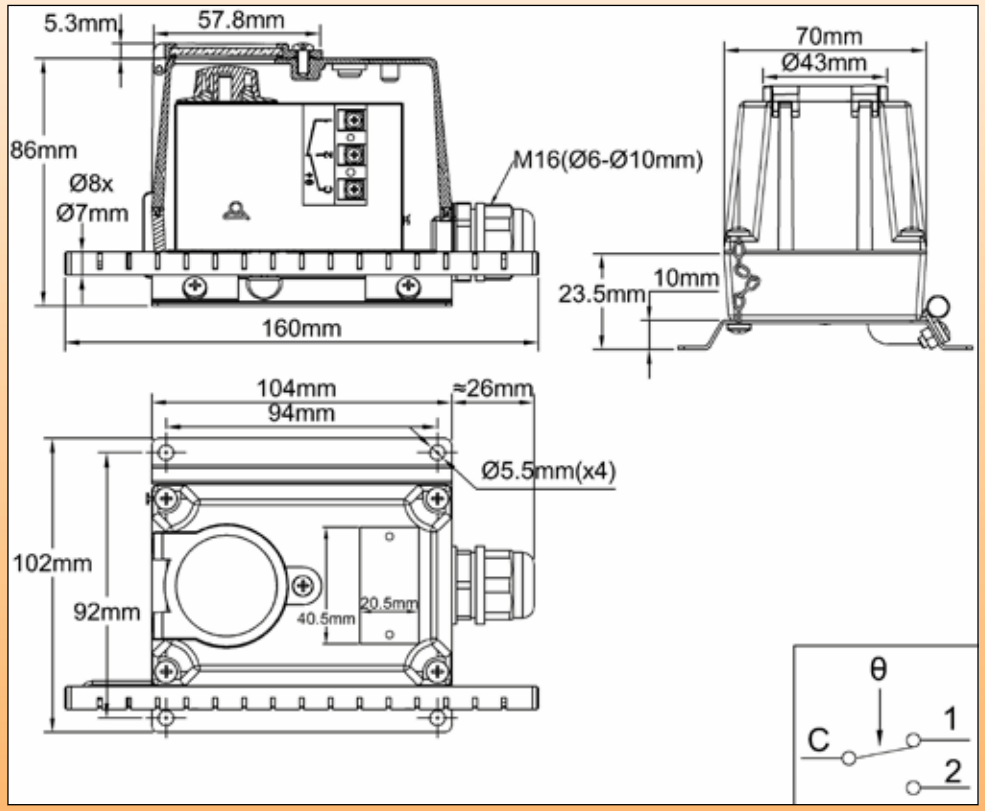
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Ambient	+70 / -25	**Y1B Thermostat KR, KU**





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Withstand very low ambient temperatures

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. External access by window. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube
Electrical connections: Inside, on screw terminals connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature adjustment ranges °C (°F)	Standard differential		Reduced differential		Maximum ambient temperature °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
-25+25°C (-15+80°F)	Y1BKRA-25025220F	3±1°C (5.5±1.8 °F)	Y1BKUA-25025220F	2±1°C (3.6±1.8 °F)	60°C (140°F)
-10+15°C (15-60°F)	Y1BKRA-10015200F	3±1°C (5.5±1.8 °F)	Y1BKUA-10015200F	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-50°C (32-120°F)	Y1BKRA000050200F	3±1°C (5.5±1.8 °F)	Y1BKUA000050200F	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y1BKRA000070500F	5±2°C (9±3.6°F	Y1BKUA000070500F	3±1°C (5.5±1.8 °F)	80°C (180°F)

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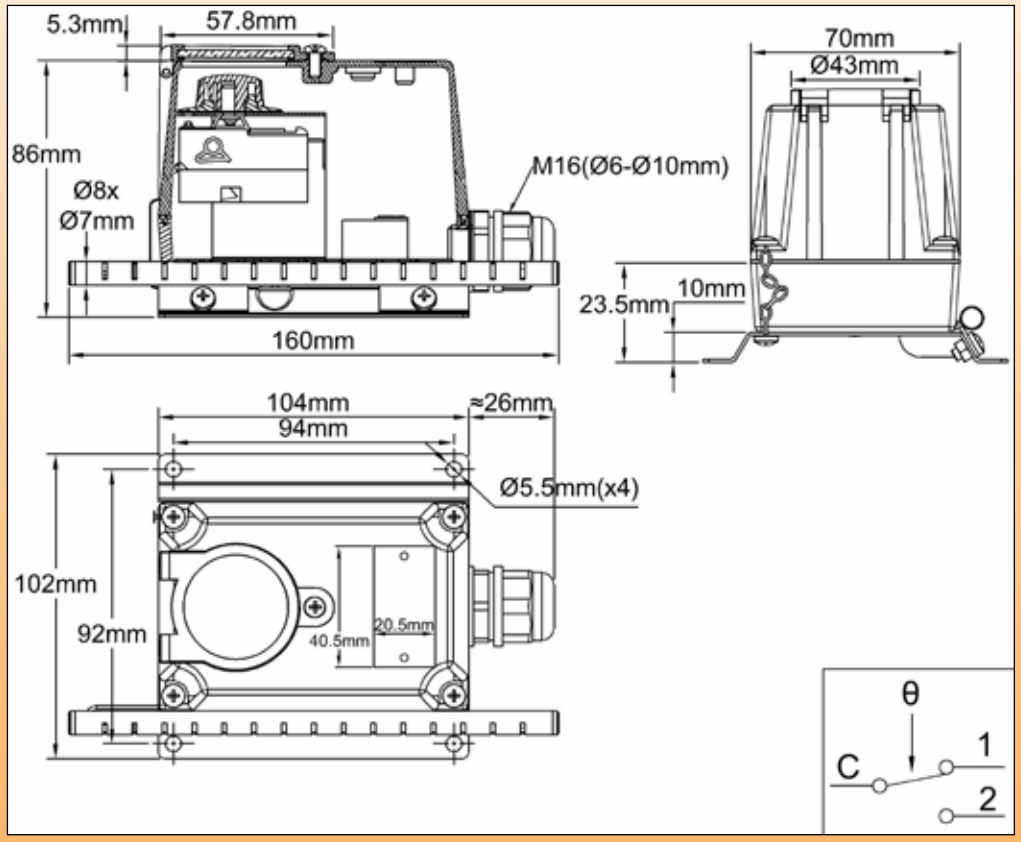
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Ambient	+40 / -35	Y1B Thermostat 8G





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob with window external access. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube
Action: temperature control.
Electrical connections: Inside, on screw terminals connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	3±2°C (5.5±3.6 °F)	55°C (130°F)	Y1B8GB-35035AA6F
-10+40°C (15-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1B8GB-10040AA6F
4-40°C (40-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1B8GB004040AA6F

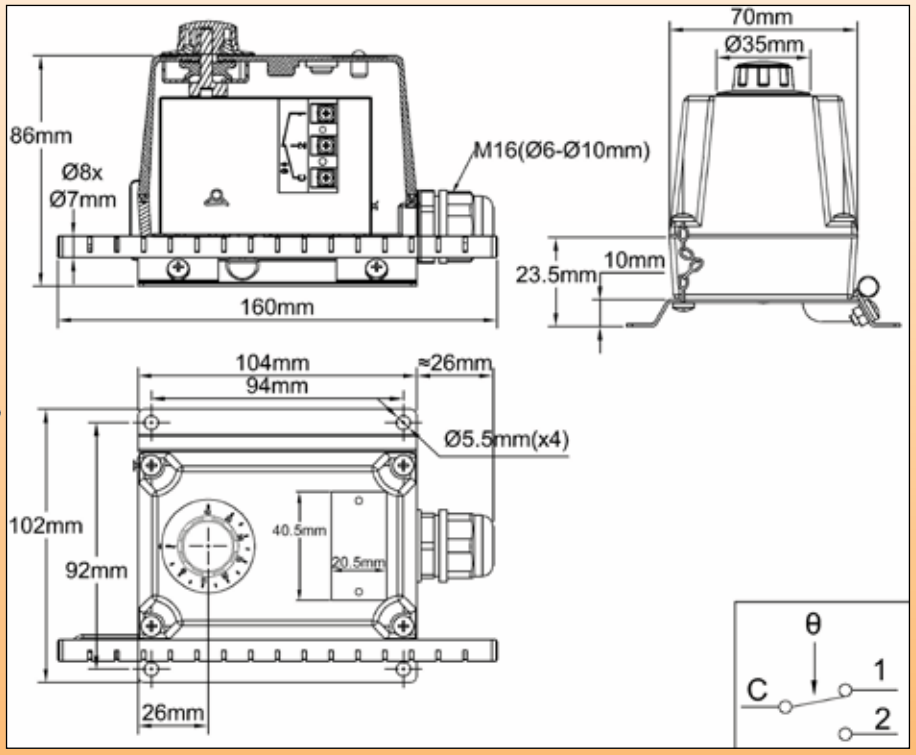
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Ambient	+70 / -25	Y1C Thermostat KR, KU





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Withstand very low ambient temperatures

Housing: Aluminum,IP65, **IK6**, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting

Set point adjustment ranges: -25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F).

Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.

There are no electrical wires between the cover and the thermostat mounted on the bottom of the enclosure. The knob is attached to the cover, and has a coupler for its connection to the thermostat.

Action: temperature control.

Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube

Electrical connections: Inside, on screw terminal connection block

Earthing: on internal screw terminal

Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.

Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance

Identification: 20 x 40 mm stainless steel identification label, riveted.

Contact: SPDT

Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC

Storage minimum temperature: -50°C (-60°F)

Main references

Temperature adjustment ranges °C (°F)	Standard differential		Reduced differential		Maximum ambient temperature °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
-25+25°C (-15+80°F)	Y1CKRA-25025220E	3±1°C (5.5±1.8 °F)	Y1CKUA-25025220E	2±1°C (3.6±1.8 °F)	60°C (140°F)
-10+15°C (15-60°F)	Y1CKRA-10015200E	3±1°C (5.5±1.8 °F)	Y1CKUA-10015200E	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-50°C (32-120°F)	Y1CKRA000050200E	3±1°C (5.5±1.8 °F)	Y1CKUA000050200E	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y1CKRA000070500E	5±2°C (9±3.6°F)	Y1CKUA000070500E	3±1°C (5.5±1.8 °?)	80°C (180°?)

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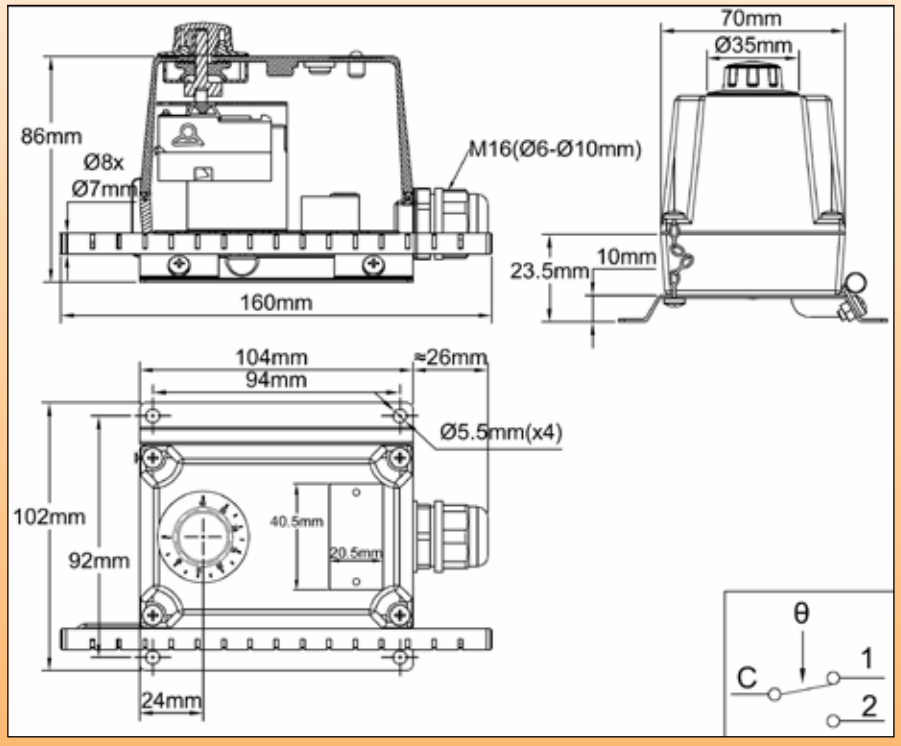
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Ambient	+40 / -35	Y1C Internal control 8G





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Housing: Aluminum,IP65, **IK6**, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F).
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
No electrical wires between the cover and the thermostat mounted on the bottom of the enclosure. Knob is attached to the cover, and has a coupler for its connection to the thermostat.
Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube
Action: temperature control.
Electrical connections: Inside, on screw terminals connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	3±2°C (5.5±3.6 °F)	55°C (130°F)	Y1C8GB-35035AA6E
-10+40°C (15-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1C8GB-10040AA6E
4-40°C (40-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1C8GB004040AA6E

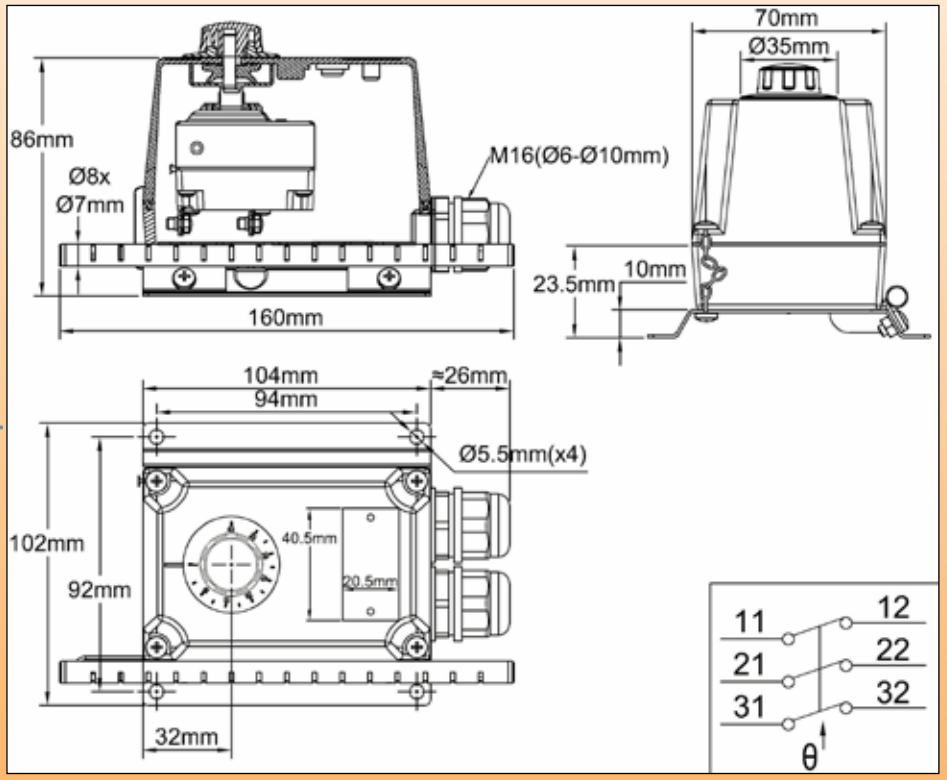
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Tripolaire	Ambiance	+40 / -35	**Y1C** Internal control **8C**





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

Internal adjustment under window cap is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.

Standard electrical and mechanical life model

For use in 250V or 400V, 3 phases

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting

Adjustment ranges: **-35+35°C (-30+95°F), 4-40°C (40-105°F).**

Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.

Remark: The thermostat , its wiring and knob are attached to the cover

Sensing element: Liquid filled bulb. Temperature measurement is made by bulb located on the side of the mounting bracket, under protection tube

Action: temperature control.

Electrical connections: **on thermostat screw terminals**

Earthing: on internal screw terminal

Cable output: 2x M16 cable gland, PA66, for cables up to 10 mm dia.

Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance

Identification: 20 x 40 mm stainless steel identification label, riveted.

Contact: **3 poles,** open on temperature rise

Electrical rating: 3 x 16A (2,6) 250V alt. 3 x10 (0.6) 400V alt

- Electrical life >**100.000 cycles.**

Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	3±2°C (5.5±3.6 °F)	55°C (130°F)	Y1C8CB-35035AA6G
4-40°C (40-105°F)	3±2°C (5.5±3.6 °F)	60°C (140°F)	Y1C8CB004040AA6G

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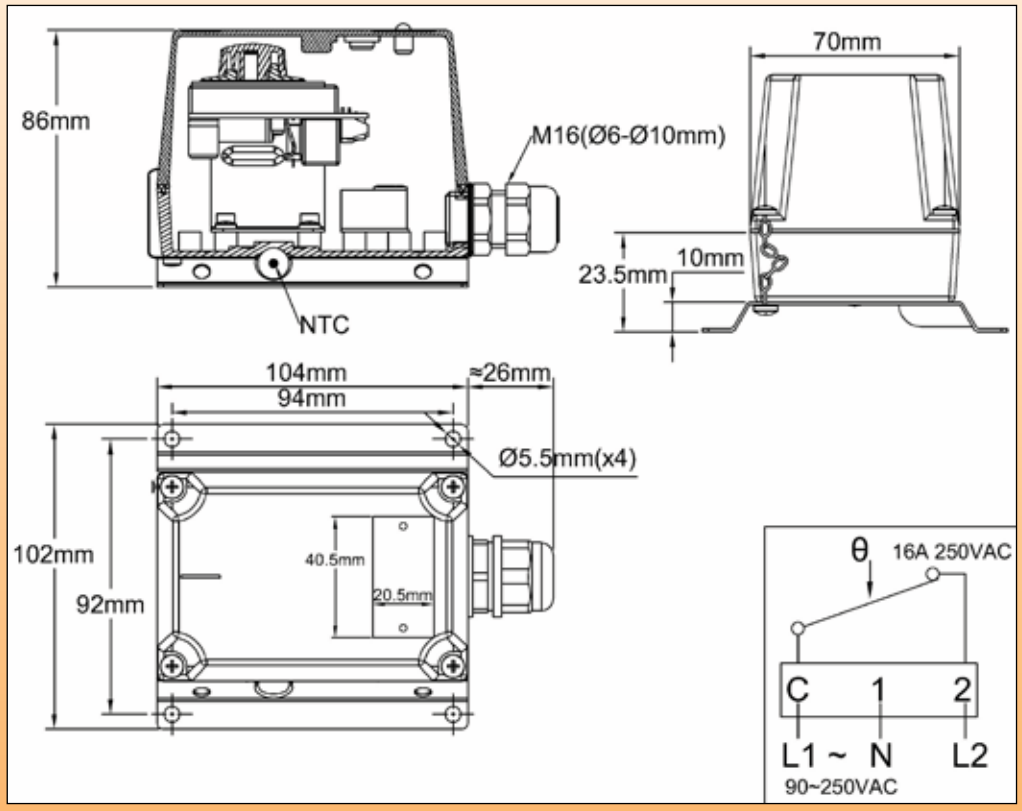
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Ambient	+40 / -35	Y1D Thermostat 2PE2N6





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

This electronic model allows temperature control with smaller differential than liquid expansion

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting
Set point adjustment ranges: -35+35°C (-30+95°F), 0-10°C (32-50°F), 4-40°C (40-105°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Sensing element: NTC sensor located on the side of the mounting bracket, under waterproof silicone protection cap.
Action: electronic temperature control, on off action
Differential: Adjustable by potentiometer located under the internal knob
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: open on temperature rise or close on temperature rise. Selection is made with a switch, with access after removing internal knob.
Power supply: universal, from 90 to 240V, 50Hz or 60Hz
Electrical rating: 16A 250VAC res.
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC
Minimum Storage temperature: -20°C (-5°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	0.5~5.5°C (0.9~10°F)	50°C (120°F)	Y1D2PE2N6-35035E
0-10°C (32-50°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1D2PE2N6000010E
4-40°C (40-105°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1D2PE2N6004040E

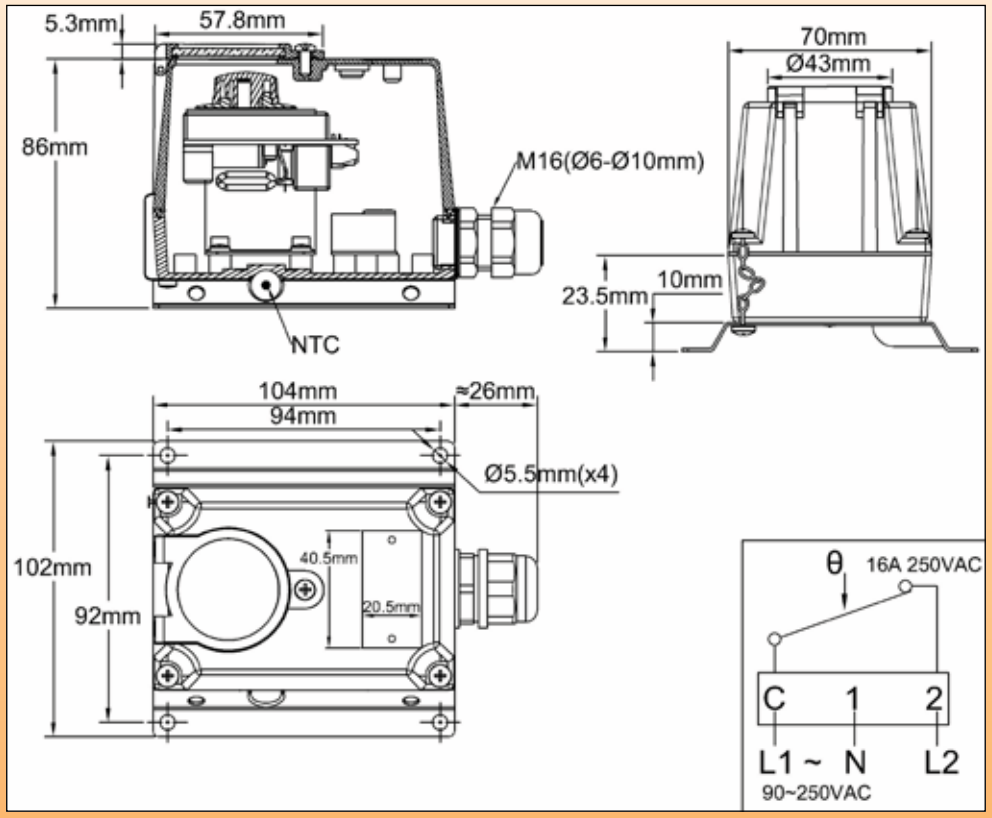
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Ambient	+40 / -35	Y1E Thermostat 2PE2N6





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

This electronic model allows temperature control with smaller differential than liquid expansion

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting

Set point adjustment ranges: -35+35°C (-30+95°F), 0-10°C (32-50°F), 4-40°C (40-105°F).

Temperature adjustment: Set point adjustable by temperature printed **internal knob with external access by window.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.

Sensing element: NTC sensor located on the side of the mounting bracket, under waterproof silicone protection cap.

Action: electronic temperature control, on off action

Differential: Adjustable by potentiometer located under the internal knob

Electrical connections: Inside, on screw terminal connection block

Earthing: on internal screw terminal

Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.

Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance

Identification: 20 x 40 mm stainless steel identification label, riveted.

Contact: open on temperature rise or close on temperature rise. Selection is made with a switch, with access after removing internal knob.

Power supply: universal, from 90 to 240V, 50Hz or 60Hz

Electrical rating: 16A 250VAC res.
- Electrical life >**100.000 cycles.**

Cannot be used in 400VAC

Minimum Storage temperature: -20°C (-5°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	0.5~5.5°C (0.9~10°F)	50°C (120°F)	Y1E2PE2N6-35035F
0-10°C (32-50°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1E2PE2N6000010F
4-40°C (40-105°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1E2PE2N6004040F

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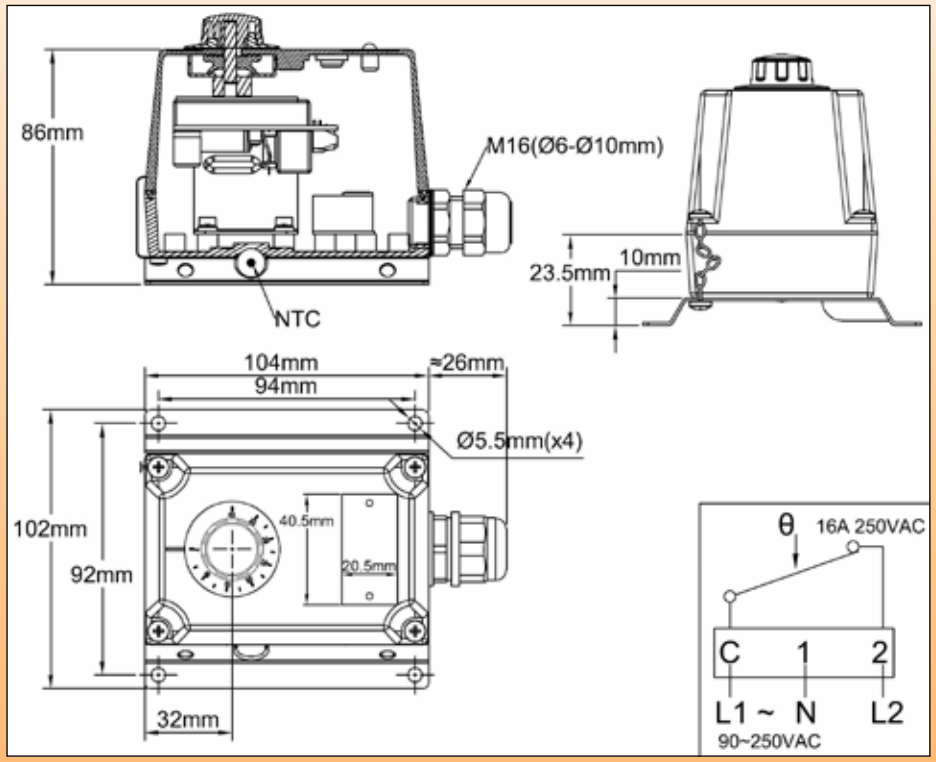
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The Y1 range of thermostats with IP65 enclosures

Ambient and antifreeze

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External knob	Single pole	Ambient	+40 / -35	**Y1F Thermostat 2PE2N6**





Applications:
- Wall mounting for indoor temperature control of cold room
- Temperature control of industrial or commercial premises.
- Outdoor temperature control of antifreeze heaters,
- Green houses and livestock stables temperature control

This electronic model allows temperature control with smaller differential than liquid expansion

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate which keeps temperature sensing element away from the wall. Grey RAL7032 epoxy painting

Set point adjustment ranges: **-35+35°C (-30+95°F), 0-10°C (32-50°F), 4-40°C (40-105°F).**

Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.

No electrical wires between the cover and the thermostat mounted on the bottom of the enclosure. Knob is attached to the cover, and has a coupler for its connection to the thermostat

Sensing element: NTC sensor located on the side of the mounting bracket, under waterproof silicone protection cap.

Action: **electronic temperature control,** on off action

Differential: **Adjustable** by potentiometer located under the internal knob

Electrical connections: Inside, on screw terminal connection block

Earthing: on internal screw terminal

Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.

Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance

Identification: 20 x 40 mm stainless steel identification label, riveted.

Contact: open on temperature rise or close on temperature rise. Selection is made with a switch, with access after removing internal knob.

Power supply: universal, from 90 to 240V, 50Hz or 60Hz

Electrical rating: 16A 250VAC res.
- Electrical life **>100.000 cycles.**

Cannot be used in 400VAC

Minimum Storage temperature: -20°C (-5°F)

Main references

Temperature adjustment ranges °C (°F)	Differential °C (°F)	Maximum ambient temperature °C (°F)	References
-35+35°C (-30+95°F)	0.5~5.5°C (0.9~10°F)	50°C (120°F)	Y1F2PE2N6-35035E
0-10°C (32-50°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1F2PE2N6000010E
4-40°C (40-105°F)	0.5~2.5°C (0.9~4.5°F)	50°C (120°F)	Y1F2PE2N6004040E

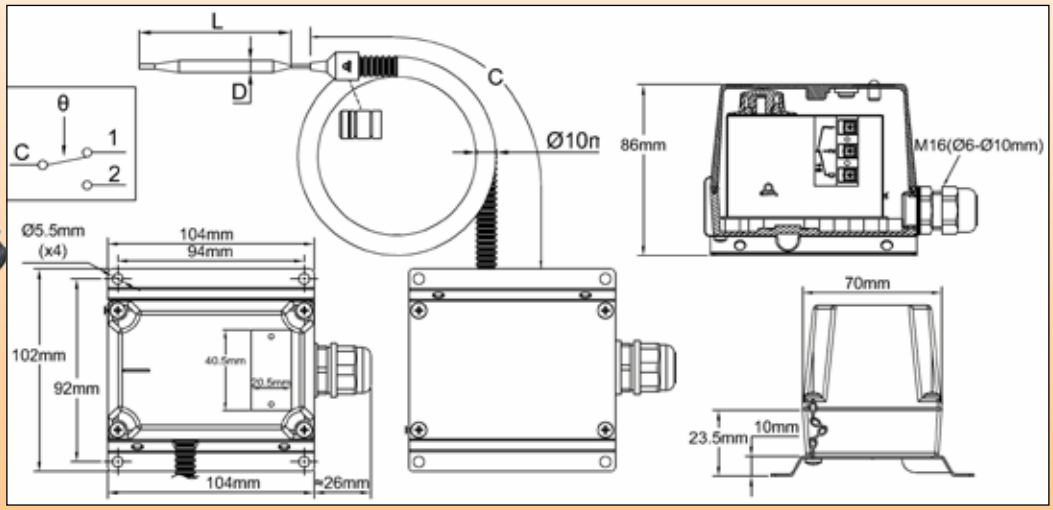
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Remote	+760 / -25	Y1G Thermostat KR, KU





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment is convenient for products that must not be frequently adjusted.
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
-25+25°C(-15+80°F)	Y1GKRA-25025220G	3±2°C (5.5±3.6 °F)	Y1GKUA-25025220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1GKRA-10015220G	3±2°C (5.5±3.6 °F)	Y1GKUA-10015220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1GKRA000050200G	3±2°C (5.5±3.6 °F)	Y1GKUA000050200G	2±1°C (3.6±1.8 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1GKRA000070520G	5±3°C (9±5.4°F)	Y1GKUA000070520G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1GKRA000070120G	5±3°C (9±5.4°F)	Y1GKUA000070120G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1GKRA020090500G	5±3°C (9±5.4°F)	Y1GKUA020090500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1GKRA020090100G	5±3°C (9±5.4°F)	Y1GKUA020090100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1GKRA010150500G	5±3°C (9±5.4°F)	Y1GKUA010150500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1GKRA010150100G	5±3°C (9±5.4°F)	Y1GKUA010150100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1GKRA080200010G	10±4°C (18±7°F)	Y1GKUA080200010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1GKRA050300010G	10±4°C (18±7°F)	Y1GKUA050300010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1GKRA010450700G	20±6°C (36±11°F)	Y1GKUA010450700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1GKRA010450900G	20±6°C (36±11°F)	Y1GKUA010450900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1GKRA060500700G	20±6°C (36±11°F)	Y1GKUA060500700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1GKRA060500900G	20±6°C (36±11°F)	Y1GKUA060500900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1GKRA180600700G	20±6°C (36±11°F)	Y1GKUA180600700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1GKRA180600900G	20±6°C (36±11°F)	Y1GKUA180600900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1GKRA280700700G	20±6°C (36±11°F)	Y1GKUA280700800G	12±4°C (22±7 °F)	1500	3	300	760°C (1400°F)

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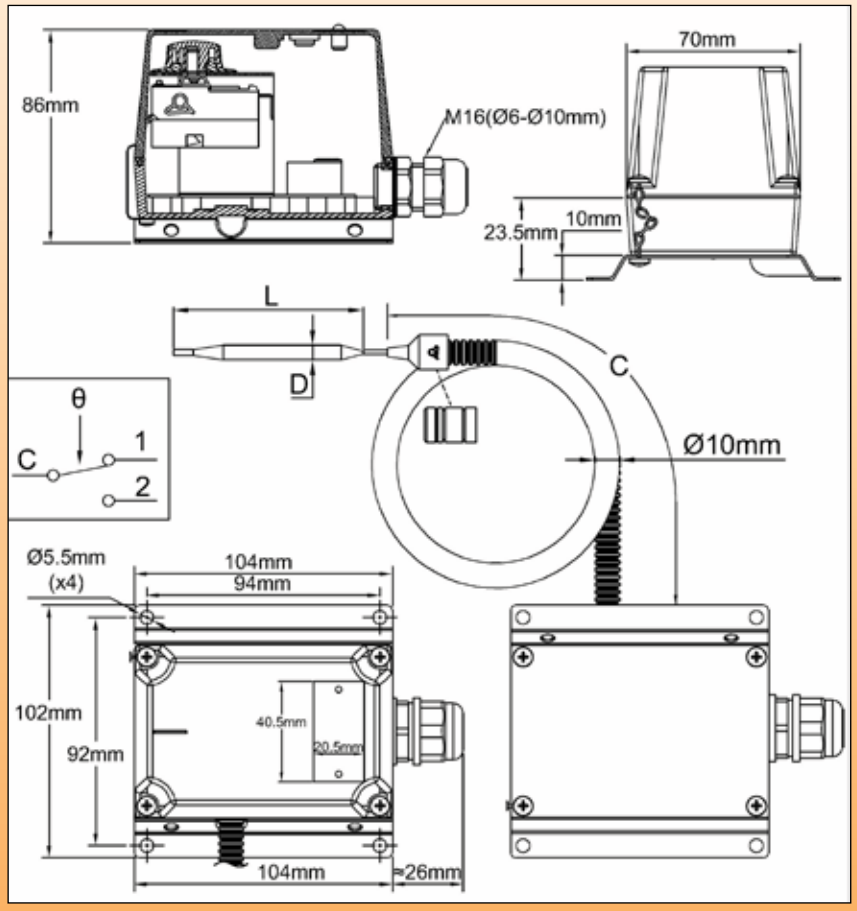
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Remote	+300 / -35	Y1G Thermostat 8G





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment is convenient for products that must not be frequently adjusted.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-35+35°C (-30+95°F)	Y1G8GB-35035AO6G	3±2°C (5.5±3.6 °F)	1500	6	98	55°C (130°F)
-10+40°C (15-105°F)	Y1G8GB-10040AO6G	3±2°C (5.5±3.6 °F)	1500	6	120	60°C (140°F)
4-40°C (40-105°F)	Y1G8GB004040AO6G	3±2°C (5.5±3.6 °F)	1500	6	140	60°C (140°F)
30-90°C (85-195°F)	Y1G8GB030090AO6G	4±3°C (7±5.5 °F)	1500	6	87	120°C (250°F)
30-110°C (85-230°F)	Y1G8GB030110AO6G	5±3°C (9±5.5 °F)	1500	6	83	150°C (300°F)
50-200°C (120-390°F)	Y1G8GB050200AO6G	8±5°C (14.5±9 °F)	1500	6	59	250°C (480°F)
50-300°C (120-570°F)	Y1G8GB050300AO3G	10±5°C (18±9 °F)	1500	3	165	350°C (660°F)

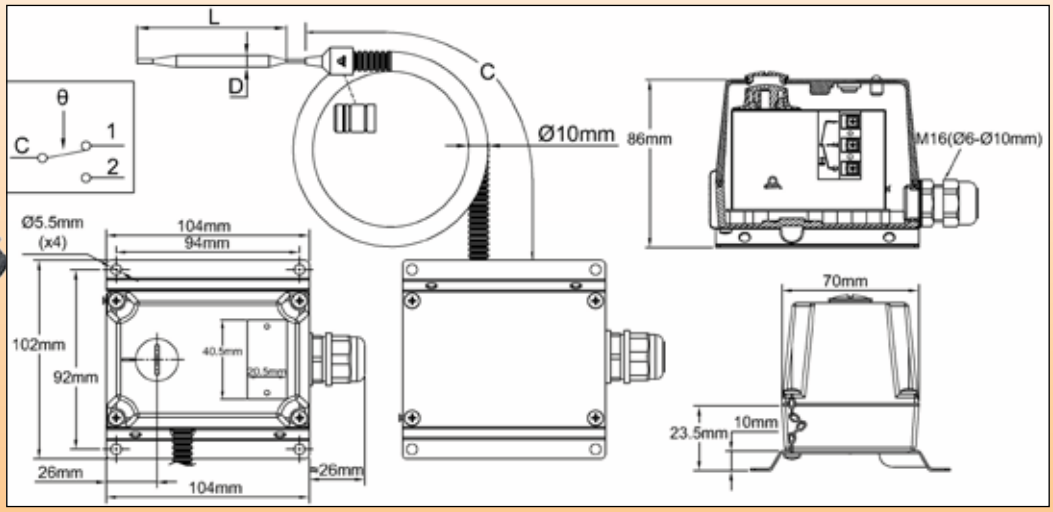
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Screwed cap	Single pole	Remote	+760 / -25	**Y1H Thermostat KR, KU**





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment under screwed cap is convenient for products that must not be frequently adjusted, and avoid to remove the cover for set point adjustment
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob, with access after removal of a screwed cap.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
-25+25°C(-15+80°F)	Y1HKRA-25025220G	3±2°C (5.5±3.6 °F)	Y1HKUA-25025220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1HKRA-10015220G	3±2°C (5.5±3.6 °F)	Y1HKUA-10015220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1HKRA000050200G	3±2°C (5.5±3.6 °F)	Y1HKUA000050200G	2±1°C (3.6±1.8 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1HKRA000070520G	5±3°C (9±5.4°F)	Y1HKUA000070520G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1HKRA000070120G	5±3°C (9±5.4°F)	Y1HKUA000070120G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1HKRA020090500G	5±3°C (9±5.4°F)	Y1HKUA020090500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1HKRA020090100G	5±3°C (9±5.4°F)	Y1HKUA020090100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1HKRA010150500G	5±3°C (9±5.4°F)	Y1HKUA010150500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1HKRA010150100G	5±3°C (9±5.4°F)	Y1HKUA010150100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1HKRA080200010G	10±4°C (18±7°F)	Y1HKUA080200010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1HKRA050300010G	10±4°C (18±7°F)	Y1HKUA050300010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1HKRA010450700G	20±6°C (36±11°F)	Y1HKUA010450700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1HKRA010450900G	20±6°C (36±11°F)	Y1HKUA010450900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1HKRA060500700G	20±6°C (36±11°F)	Y1HKUA060500700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1HKRA060500900G	20±6°C (36±11°F)	Y1HKUA060500900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1HKRA180600700G	20±6°C (36±11°F)	Y1HKUA180600700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1HKRA180600900G	20±6°C (36±11°F)	Y1HKUA180600900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1HKRA280700700G	20±6°C (36±11°F)	Y1HKUA280700800G	12±4°C (22±7 °F)	1500	3	300	760°C (1400°F)

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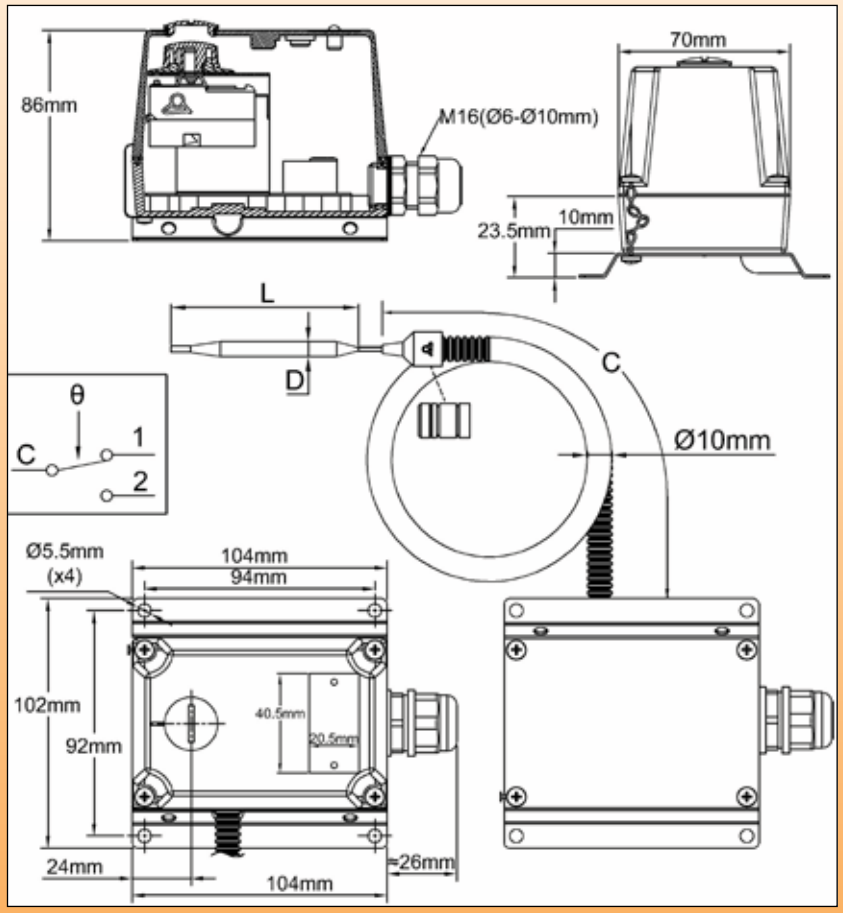
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Screwed cap	Single pole	Remote	+300 / -35	Y1H Thermostat 8G





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment under screwed cap is convenient for products that must not be frequently adjusted, and avoid to remove the cover for set point adjustment
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob with access by screwed cap.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-35+35°C (-30+95°F)	Y1H8GB-35035AO6G	3±2°C (5.5±3.6 °F)	1500	6	98	55°C (130°F)
-10+40°C (15-105°F)	Y1H8GB-10040AO6G	3±2°C (5.5±3.6 °F)	1500	6	120	60°C (140°F)
4-40°C (40-105°F)	Y1H8GB004040AO6G	3±2°C (5.5±3.6 °F)	1500	6	140	60°C (140°F)
30-90°C (85-195°F)	Y1H8GB030090AO6G	4±3°C (7±5.5 °F)	1500	6	87	120°C (250°F)
30-110°C (85-230°F)	Y1H8GB030110AO6G	5±3°C (9±5.5 °F)	1500	6	83	150°C (300°F)
50-200°C (120-390°F)	Y1H8GB050200AO6G	8±5°C (14.5±9 °F)	1500	6	59	250°C (480°F)
50-300°C (120-570°F)	Y1H8GB050300AO3G	10±5°C (18±9 °F)	1500	3	165	350°C (660°F)

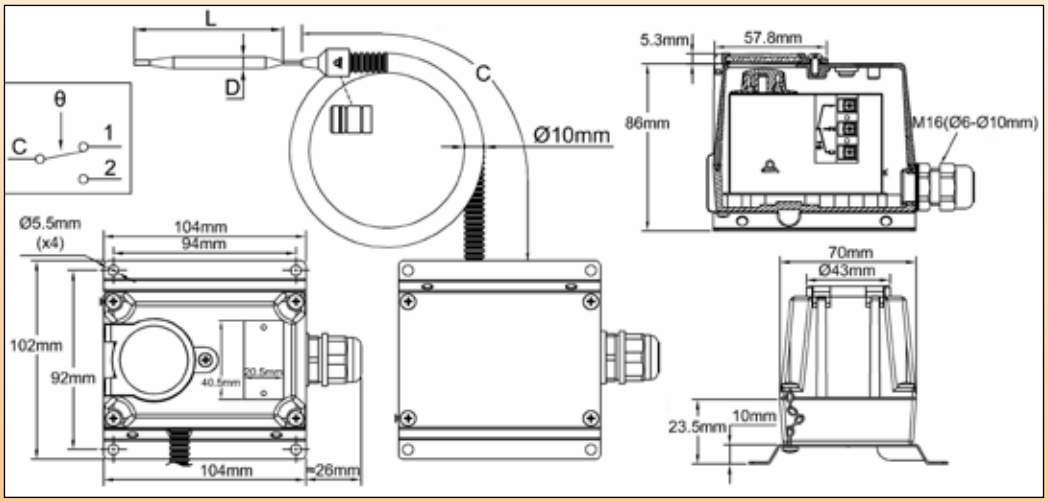
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Remote	+760 / -25	**Y1I Thermostat KR, KU**





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment under window cap is convenient for products that must not be frequently adjusted, allows visualizing the set point and avoid removing the cover for set point adjustment.
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob, with access after opening of a window equipped with high impact resistance glass.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
-25+25°C(-15+80°F)	Y1IKRA-25025220H	3±2°C (5.5±3.6 °F)	Y1IKUA-25025220H	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1IKRA-10015220H	3±2°C (5.5±3.6 °F)	Y1IKUA-10015220H	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1IKRA000050200H	3±2°C (5.5±3.6 °F)	Y1IKUA000050200H	2±1°C (3.6±1.8 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1IKRA000070520H	5±3°C (9±5.4°F)	Y1IKUA000070520H	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1IKRA000070120H	5±3°C (9±5.4°F)	Y1IKUA000070120H	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1IKRA020090500H	5±3°C (9±5.4°F)	Y1IKUA020090500H	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1IKRA020090100H	5±3°C (9±5.4°F)	Y1IKUA020090100H	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1IKRA010150500H	5±3°C (9±5.4°F)	Y1IKUA010150500H	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1IKRA010150100H	5±3°C (9±5.4°F)	Y1IKUA010150100H	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1IKRA080200010H	10±4°C (18±7°F)	Y1IKUA080200010H	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1IKRA050300010H	10±4°C (18±7°F)	Y1IKUA050300010H	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1IKRA010450700H	20±6°C (36±11°F)	Y1IKUA010450700H	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1IKRA010450900H	20±6°C (36±11°F)	Y1IKUA010450900H	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1IKRA060500700H	20±6°C (36±11°F)	Y1IKUA060500700H	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1IKRA060500900H	20±6°C (36±11°F)	Y1IKUA060500900H	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1IKRA180600700H	20±6°C (36±11°F)	Y1IKUA180600700H	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1IKRA180600900H	20±6°C (36±11°F)	Y1IKUA180600900H	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1IKRA280700700H	20±6°C (36±11°F)	Y1IKUA280700700H	12±4°C (22±7 °F)	1500	3	300	760°C (1400°F)

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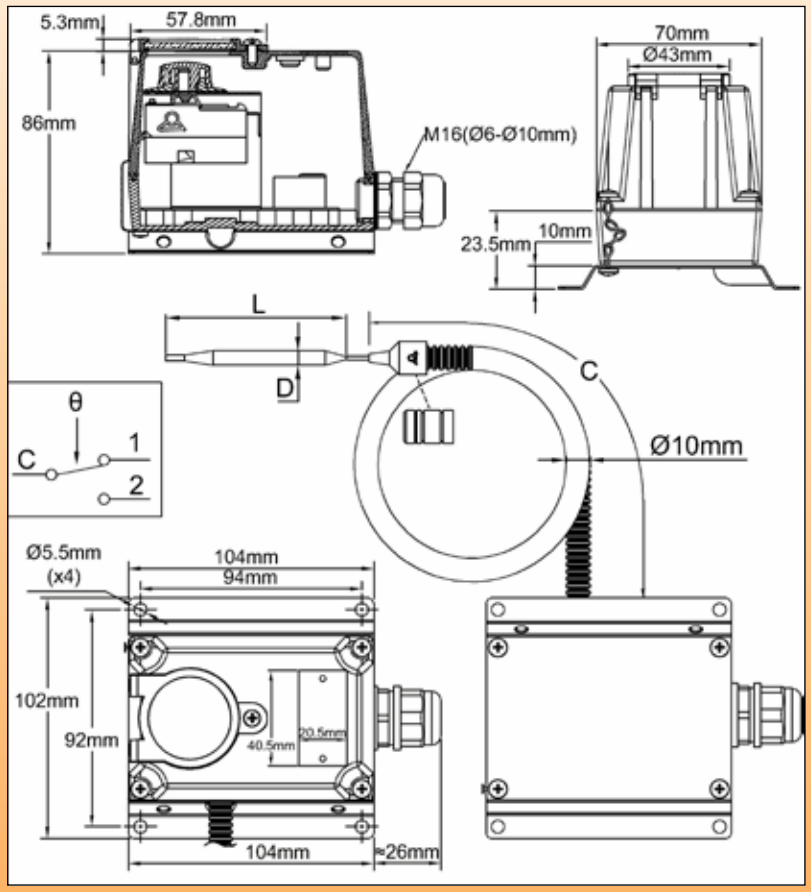
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Remote	+300 / -35	Y1I Thermostat 8G





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment under window is convenient for products that must not be frequently adjusted, allows to visualize the set point and avoid to remove the cover for set point adjustment
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob with access by window equipped with high impact polycarbonate glass.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Closeon temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-35+35°C (-30+95°F)	Y1I8GB-35035AO6H	3±2°C (5.5±3.6 °F)	1500	6	98	55°C (130°F)
-10+40°C (15-105°F)	Y1I8GB-10040AO6H	3±2°C (5.5±3.6 °F)	1500	6	120	60°C (140°F)
4-40°C (40-105°F)	Y1I8GB004040AO6H	3±2°C (5.5±3.6 °F)	1500	6	140	60°C (140°F)
30-90°C (85-195°F)	Y1I8GB030090AO6H	4±3°C (7±5.5 °F)	1500	6	87	120°C (250°F)
30-110°C (85-230°F)	Y1I8GB030110AO6H	5±3°C (9±5.5 °F)	1500	6	83	150°C (300°F)
50-200°C (120-390°F)	Y1I8GB050200AO6H	8±5°C (14.5±9 °F)	1500	6	59	250°C (480°F)
50-300°C (120-570°F)	Y1I8GB050300AO3H	10±5°C (18±9 °F)	1500	3	165	350°C (660°F)

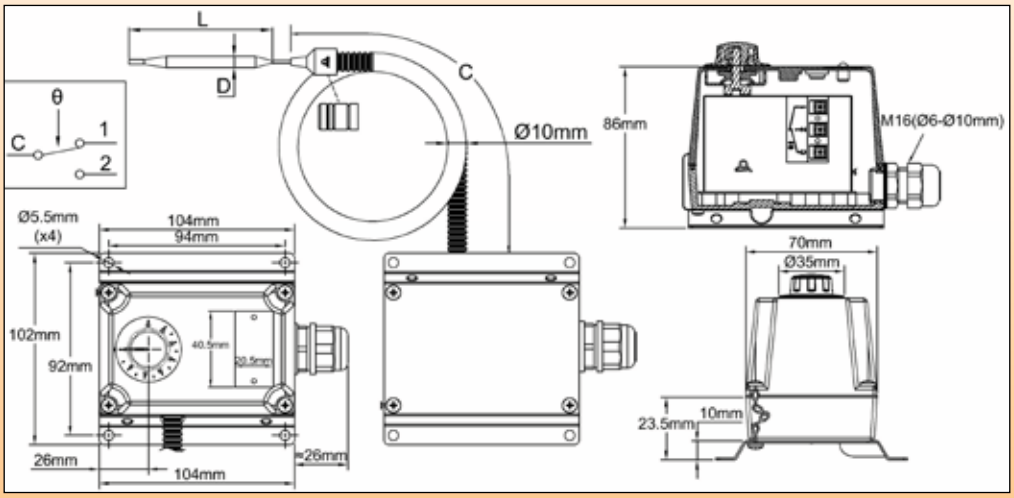
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Remote	+760 / -25	Y1J Thermostat KR, KU





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Internal adjustment under window cap is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions. very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: -25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
There are no electrical wires between the cover and the thermostat mounted on the bottom of the enclosure. The knob is attached to the cover, and has a coupler for its connection to the thermostat.
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
-25+25°C(-15+80°F)	Y1JKRA-25025220G	3±2°C (5.5±3.6 °F)	Y1JKUA-25025220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1JKRA-10015220G	3±2°C (5.5±3.6 °F)	Y1JKUA-10015220G	2±1°C (3.6±1.8 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1JKRA000050200G	3±2°C (5.5±3.6 °F)	Y1JKUA000050200G	2±1°C (3.6±1.8 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1JKRA000070520G	5±3°C (9±5.4°F)	Y1JKUA000070520G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1JKRA000070120G	5±3°C (9±5.4°F)	Y1JKUA000070120G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1JKRA020090500G	5±3°C (9±5.4°F)	Y1JKUA020090500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1JKRA020090100G	5±3°C (9±5.4°F)	Y1JKUA020090100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1JKRA010150500G	5±3°C (9±5.4°F)	Y1JKUA010150500G	3±2°C (5.5±3.6 °F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1JKRA010150100G	5±3°C (9±5.4°F)	Y1JKUA010150100G	3±2°C (5.5±3.6 °F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1JKRA080200010G	10±4°C (18±7°F)	Y1JKUA080200010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1JKRA050300010G	10±4°C (18±7°F)	Y1JKUA050300010G	7±3°C (12.5±5.4 °F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1JKRA010450700G	20±6°C (36±11°F)	Y1JKUA010450700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1JKRA010450900G	20±6°C (36±11°F)	Y1JKUA010450900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1JKRA060500700G	20±6°C (36±11°F)	Y1JKUA060500700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1JKRA060500900G	20±6°C (36±11°F)	Y1JKUA060500900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1JKRA180600700G	20±6°C (36±11°F)	Y1JKUA180600700G	12±4°C (22±7 °F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1JKRA180600900G	20±6°C (36±11°F)	Y1JKUA180600900G	12±4°C (22±7 °F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1JKRA280700700G	20±6°C (36±11°F)	Y1JKUA280700700G	12±4°C (22±7 °F)	1500	3	300	760°C (1400°F)

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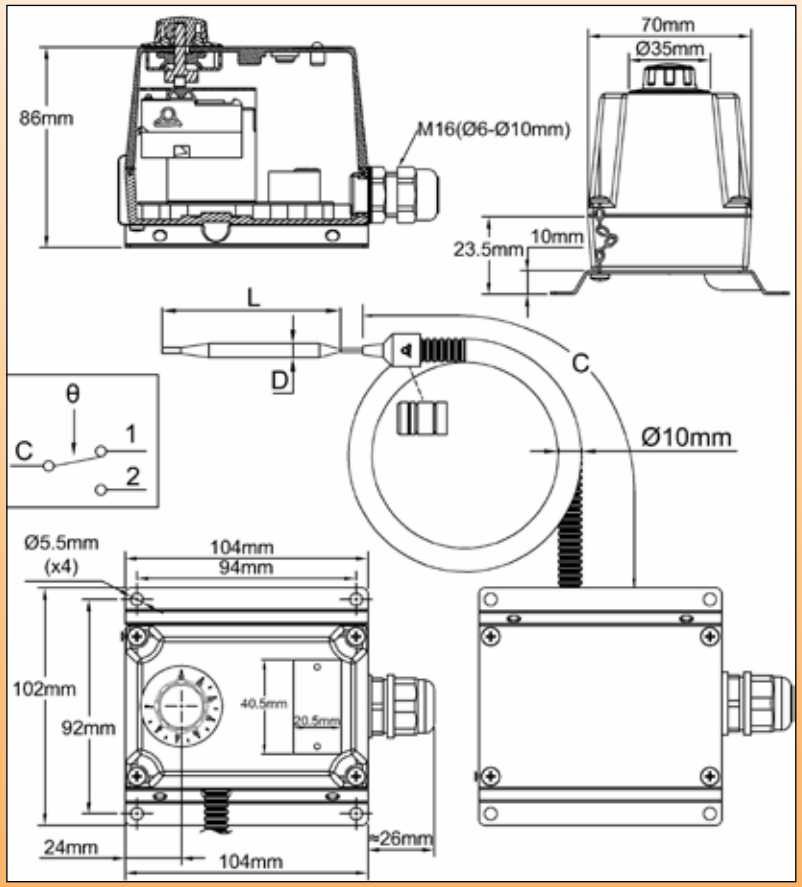
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Remote	+300 / -35	Y1J Thermostat 8G





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
Knob external adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Remark: The thermostat , its wiring and knob are attached to the cover
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-35+35°C (-30+95°F)	Y1J8GB-35035AO6G	3±2°C (5.5±3.6 °F)	1500	6	98	55°C (130°F)
-10+40°C (15-105°F)	Y1J8GB-10040AO6G	3±2°C (5.5±3.6 °F)	1500	6	120	60°C (140°F)
4-40°C (40-105°F)	Y1J8GB004040AO6G	3±2°C (5.5±3.6 °F)	1500	6	140	60°C (140°F)
30-90°C (85-195°F)	Y1J8GB030090AO6G	4±3°C (7±5.5 °F)	1500	6	87	120°C (250°F)
30-110°C (85-230°F)	Y1J8GB030110AO6G	5±3°C (9±5.5 °F)	1500	6	83	150°C (300°F)
50-200°C (120-390°F)	Y1J8GB050200AO6G	8±5°C (14.5±9 °F)	1500	6	59	250°C (480°F)
50-300°C (120-570°F)	Y1J8GB050300AO3G	10±5°C (18±9 °F)	1500	3	165	350°C (660°F)

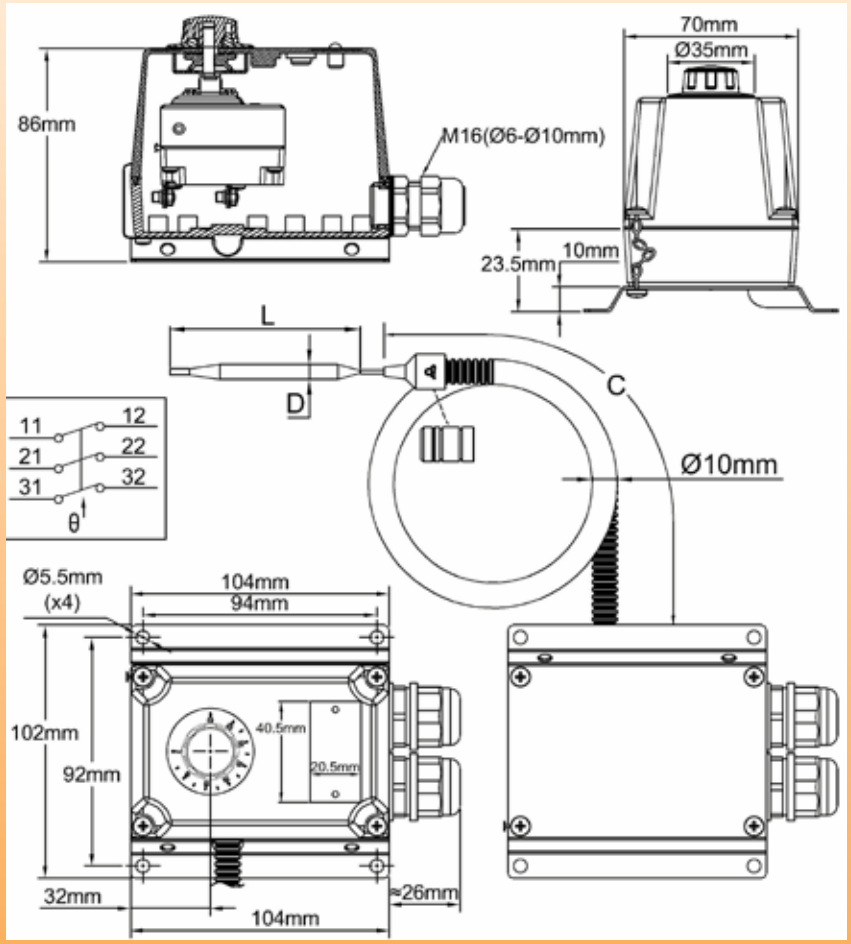
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	3 poles	Remote	+300 / -35	Y1J Thermostat 8C





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Remark: The thermostat , its wiring and knob are attached to the cover
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles , open on temperature rise (3PNC)
Electrical rating: 3x16(4)A 250V, 3x10(1)A 400V, alt.
- Electrical life >**100.000 cycles.**
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-35+35°C (-30+95°F)	Y1J8CB-35035AO6G	3±2°C (5.5±3.6 °F)	1500	6	98	55°C (130°F)
-10+40°C (15-105°F)	Y1J8CB-10040AO6G	3±2°C (5.5±3.6 °F)	1500	6	120	60°C (140°F)
4-40°C (40-105°F)	Y1J8CB004040AO6G	3±2°C (5.5±3.6 °F)	1500	6	140	60°C (140°F)
30-90°C (85-195°F)	Y1J8CB030090AO6G	4±3°C (7±5.5 °F)	1500	6	87	120°C (250°F)
30-110°C (85-230°F)	Y1J8CB030110AO6G	5±3°C (9±5.5 °F)	1500	6	83	150°C (300°F)
50-200°C (120-390°F)	Y1J8CB050200AO6G	8±5°C (14.5±9 °F)	1500	6	59	250°C (480°F)
50-300°C (120-570°F)	Y1J8CB050300AO3G	10±5°C (18±9 °F)	1500	3	165	350°C (660°F)

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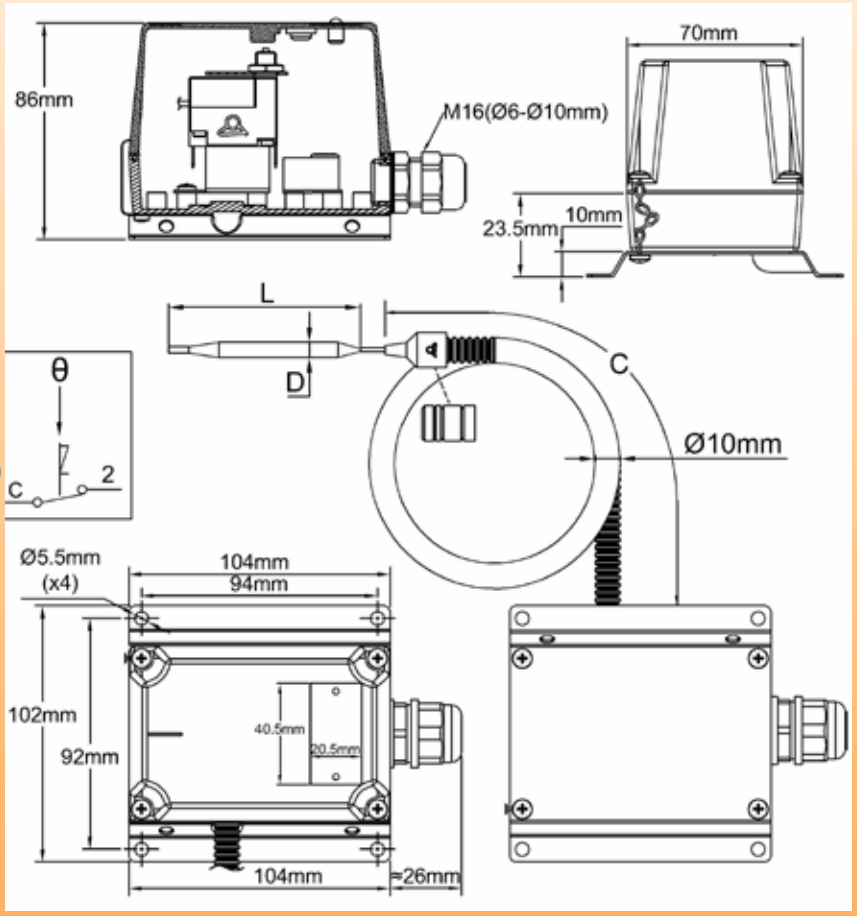
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Inside, sealed setting	Single pole	Remote	+320 / +30	Y1K Limiter 8L





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as high limit safety.
- Sealed temperature set point
- Internal access is convenient for products that must not be frequently reset.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: 80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F).Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: Single pole, open on rise (SPNC)
Electrical rating: 16A res. 250/400VAC
- Electrical life >6.000 cycles.

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1K8L0080105AO6G	80±8°C (176±15°F)	52°C (126°F)	1500	6	77	105°C (221°F)
Y1K8L0090115AO6G	90±8°C (194±15°F)	60°C (140°F)	1500	6	77	115°C (239°F)
Y1K8L0110135AO6G	110±8°C (230±15°F)	75°C (167°F)	1500	6	77	135°C (275°F)
Y1K8L0130155AO6G	130±8°C (266±15°F)	80°C (176°F)	1500	6	74	155°C (311°F)
Y1K8L0150175AO6G	150±8°C (302±15°F)	95°C (203°F)	1500	6	74	175°C (347°F)
Y1K8L0175200AO4G	175±8°C (347±15°F)	115°C (239°F)	1500	4	95	200°C (392°F)
Y1K8L0220245AO4G	220±11°C (428±20°F)	140°C (284°F)	1500	4	90	245°C (473°F)
Y1K8L0270295AO4G	270±13°C (518±23°F)	160°C (320°F)	1500	4	85	295°C (563°F)
Y1K8L0300325AO4G	300±15°C (572±27°F)	160°C (320°F)	1500	4	82	325°C (617°F)

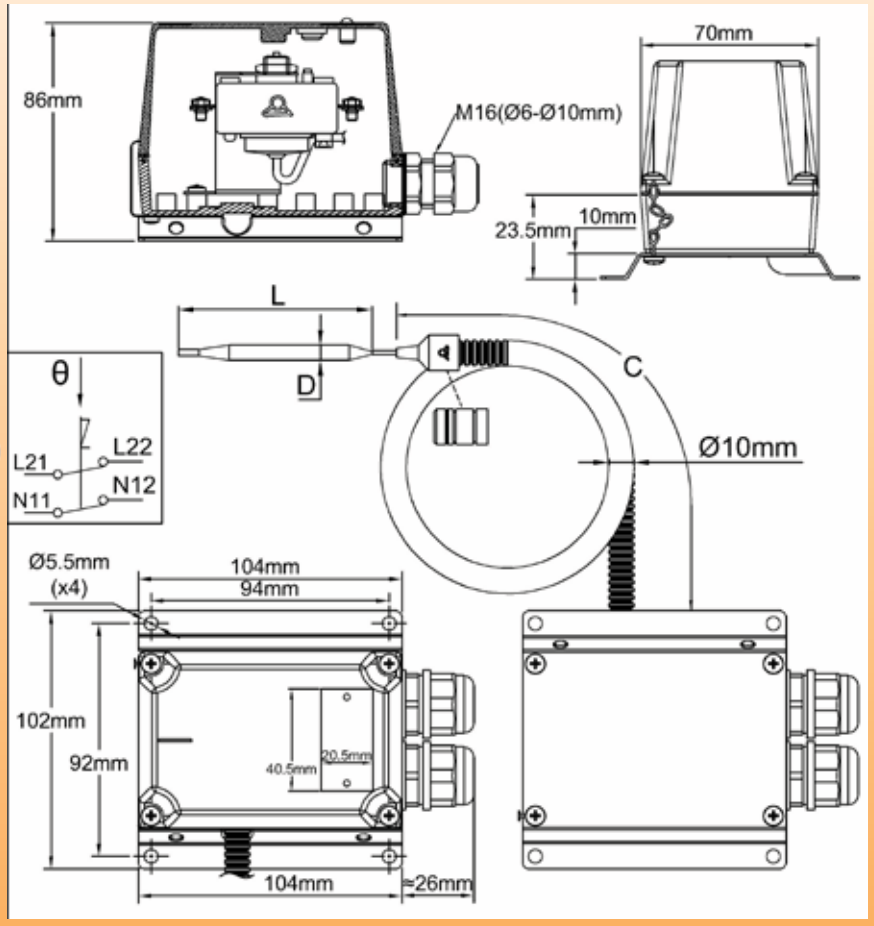
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Inside, sealed setting	Double pole	Remote	+170 +60	Y1K Limiter 8X





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety, when 2 phases must be cut**
- **Sealed temperature set point**
- **Internal access is convenient for products that must not be frequently reset.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: **fail safe** manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: On thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: double pole, open on rise (DPNC)
Electrical rating: 20A res. 250VAC
- Electrical life >**1.000 cycles.**

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1K8X0060090CI6G	60±5°C (140±9°F)	20	900	6	50	90°C (194°F)
Y1K8X0070100CI6G	70±5°C (158±9°F)	30	900	6	50	100°C (212°F)
Y1K8X0080110CI6G	80±5°C (176±9°F)	40	900	6	50	110°C (230°F)
Y1K8X0090120CI6G	90±5°C (194±9°F)	50	900	6	50	120°C (248°F)
Y1K8X0110140CI6G	110±5°C (230±9°F)	70	900	6	50	140°C (284°F)
Y1K8X0130160CI6G	130±6°C (266±11°F)	90	900	6	60*	160°C (320°F)
Y1K8X0150180CI6G	150±7°C (302±13°F)	110	900	6	60*	180°C (356°F)
Y1K8X0170200CI6G	170±7°C (338±13°F)	130	900	6	60*	200°C (392°F)

* Cylindrical bulb

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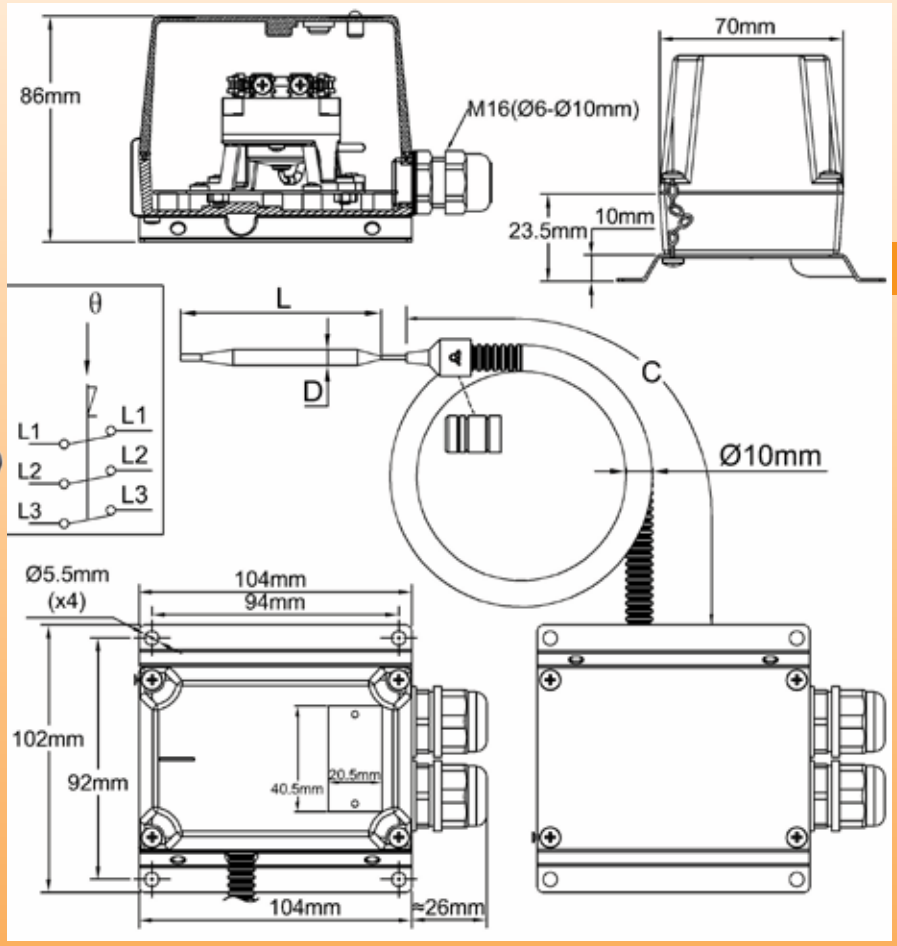
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Internal, sealed setting	3 poles	Remote	-+170 +60	Y1K Limiter 82





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **3 pole high limit safety**
- **Sealed temperature set point**
- **Internal access is convenient for products that must not be frequently reset.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles, open on rise (3PNC)
Electrical rating: 3 x 16A 250VAC, 3 x 10A 400VAC (**10.000 cycles**) 3 x 25A 250VAC, 3 x 16A 400VAC (**300 cycles**)
Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1K820060090CI6G	60±5°C (140±9°F)	20	900	6	50	90°C (194°F)
Y1K820070100CI6G	70±5°C (158±9°F)	30	900	6	50	100°C (212°F)
Y1K820080110CI6G	80±5°C (176±9°F)	40	900	6	50	110°C (230°F)
Y1K820090120CI6G	90±5°C (194±9°F)	50	900	6	50	120°C (248°F)
Y1K820110140CI6G	110±5°C (230±9°F)	70	900	6	50	140°C (284°F)
Y1K820130160CI6G	130±6°C (266±11°F)	90	900	6	60*	160°C (320°F)
Y1K820150180CI6G	150±7°C (302±13°F)	110	900	6	60*	180°C (356°F)
Y1K820170200CI6G	170±7°C (338±13°F)	130	900	6	60*	200°C (392°F)

* Cylindrical bulb

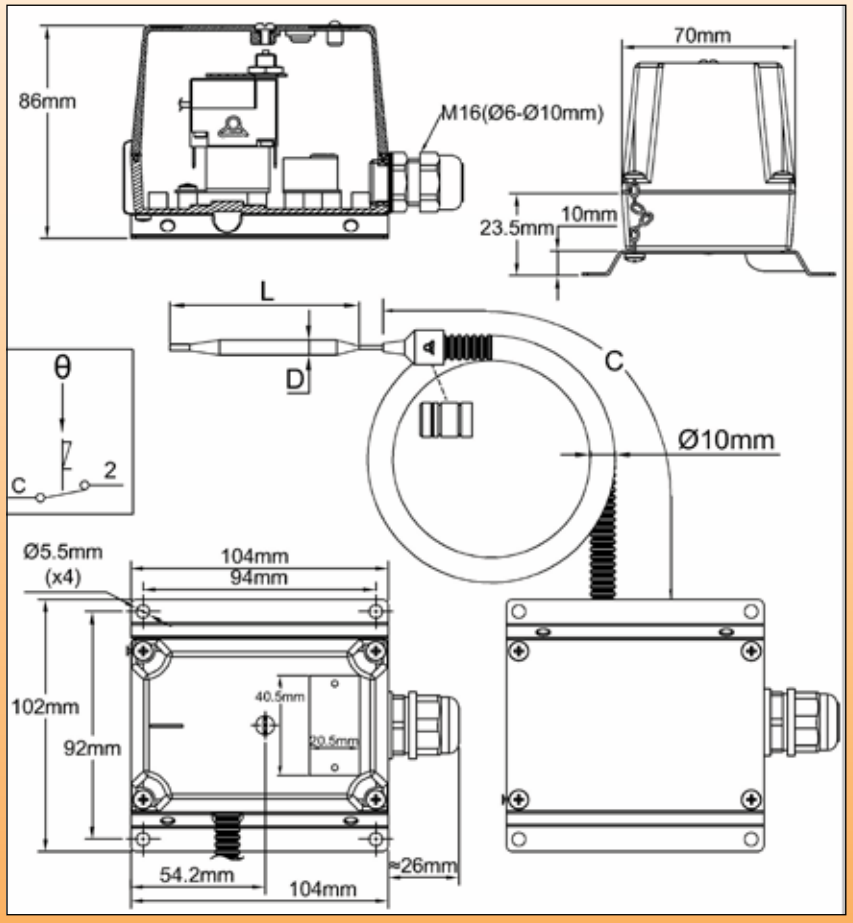
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	Single pole	Remote	+320 / +30	Y1L Limiter 8L





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety.**
- **Sealed temperature set point**
- **M4 Screw cap access is convenient for reset without need to open the enclosure.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F).Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: **fail safe** manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: Single pole, open on rise (SPNC)
Electrical rating: 16A res. 250/400VAC
- Electrical life >6.000 cycles.

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1L8L0080105AO6G	80±8°C (176±15°F)	52°C (126°F)	1500	6	77	105°C (221°F)
Y1L8L0090115AO6G	90±8°C (194±15°F)	60°C (140°F)	1500	6	77	115°C (239°F)
Y1L8L0110135AO6G	110±8°C (230±15°F)	75°C (167°F)	1500	6	77	135°C (275°F)
Y1L8L0130155AO6G	130±8°C (266±15°F)	80°C (176°F)	1500	6	74	155°C (311°F)
Y1L8L0150175AO6G	150±8°C (302±15°F)	95°C (203°F)	1500	6	74	175°C (347°F)
Y1L8L0175200AO4G	175±8°C (347±15°F)	115°C (239°F)	1500	4	95	200°C (392°F)
Y1L8L0220245AO4G	220±11°C (428±20°F)	140°C (284°F)	1500	4	90	245°C (473°F)
Y1L8L0270295AO4G	270±13°C (518±23°F)	160°C (320°F)	1500	4	85	295°C (563°F)
Y1L8L0300325AO4G	300±15°C (572±27°F)	160°C (320°F)	1500	4	82	325°C (617°F)

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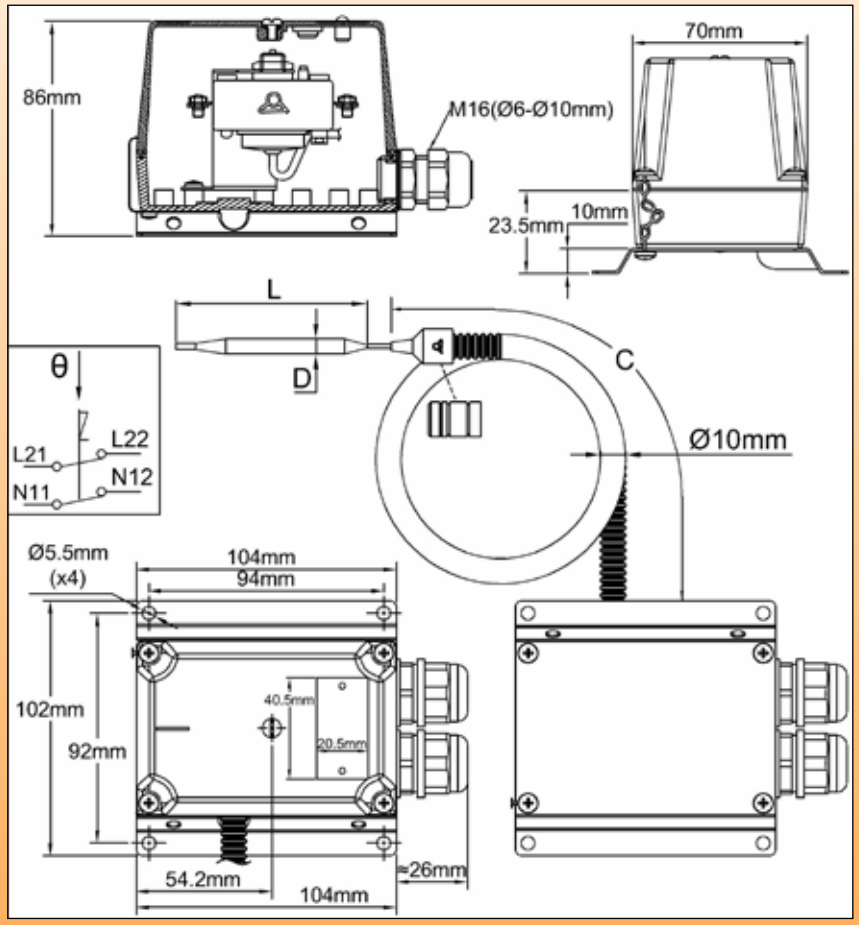
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	Double pole	Remote	+170 / +60	Y1L Limiter 8X





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as high limit safety, when 2 poles must be cut
- Sealed temperature set point
- M4 Screw cap access is convenient for reset without need to open the enclosure.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: 60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: On thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: double pole, open on rise (DPNC)
Electrical rating: 20A res. 250VAC
- Electrical life >1.000 cycles.

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1L8X0060090CI6G	60±5°C (140±9°F)	20	900	6	50	90°C (194°F)
Y1L8X0070100CI6G	70±5°C (158±9°F)	30	900	6	50	100°C (212°F)
Y1L8X0080110CI6G	80±5°C (176±9°F)	40	900	6	50	110°C (230°F)
Y1L8X0090120CI6G	90±5°C (194±9°F)	50	900	6	50	120°C (248°F)
Y1L8X0110140CI6G	110±5°C (230±9°F)	70	900	6	50	140°C (284°F)
Y1L8X0130160CI6G	130±6°C (266±11°F)	90	900	6	60*	160°C (320°F)
Y1L8X0150180CI6G	150±7°C (302±13°F)	110	900	6	60*	180°C (356°F)
Y1L8X0170200CI6G	170±7°C (338±13°F)	130	900	6	60*	200°C (392°F)

* Cylindrical bulb

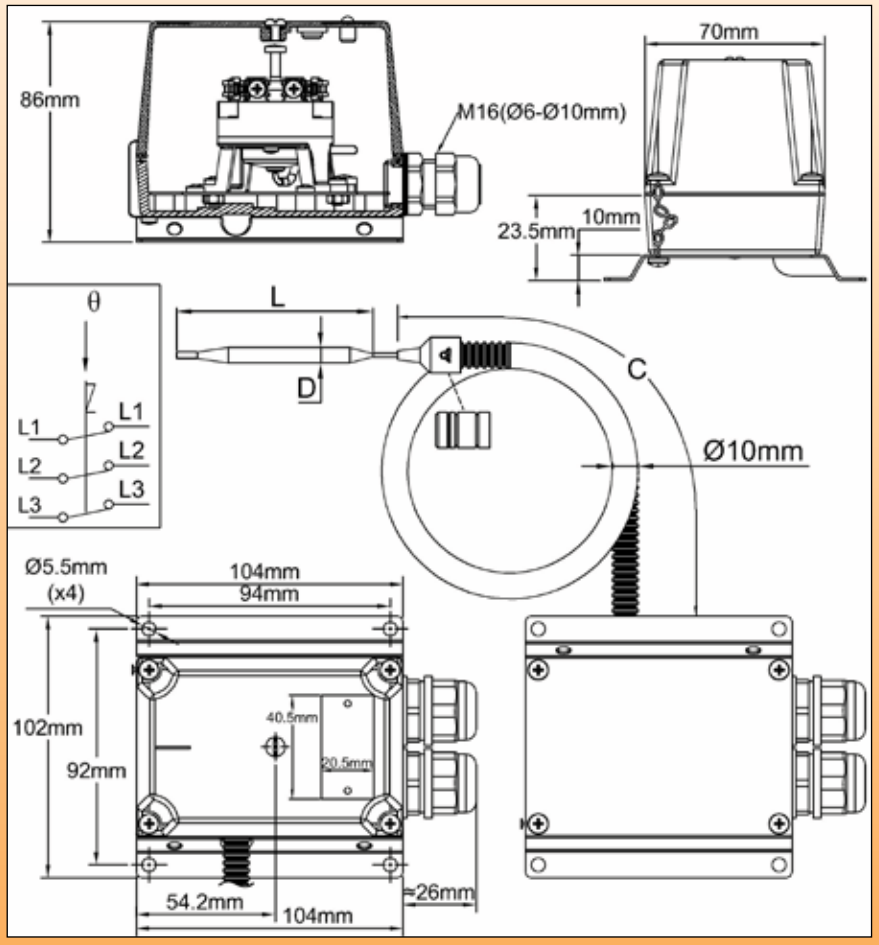
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	3 poles	Remote	+170 / +60	Y1L Limiter 82





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **3 pole high limit safety**
- **Sealed temperature set point**
- **M4 Screw cap access is convenient for reset without need to open the enclosure.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles, open on rise (3PNC)
Electrical rating: 3 x 16A 250VAC, 3 x 10A 400VAC (10.000 cycles) 3 x 25A 250VAC, 3 x 16A 400VAC (300 cycles)
Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Capillary length (mm)	Bulb diameter (mm)	Bulb length (mm)	Max temperature on bulb °C (°F)
Y1L820060090CI6G	60±5°C (140±9°F)	20	900	6	50	90°C (194°F)
Y1L820070100CI6G	70±5°C (158±9°F)	30	900	6	50	100°C (212°F)
Y1L820080110CI6G	80±5°C (176±9°F)	40	900	6	50	110°C (230°F)
Y1L820090120CI6G	90±5°C (194±9°F)	50	900	6	50	120°C (248°F)
Y1L820110140CI6G	110±5°C (230±9°F)	70	900	6	50	140°C (284°F)
Y1L820130160CI6G	130±6°C (266±11°F)	90	900	6	60*	160°C (320°F)
Y1L820150180CI6G	150±7°C (302±13°F)	110	900	6	60*	180°C (356°F)
Y1L820170200CI6G	170±7°C (338±13°F)	130	900	6	60*	200°C (392°F)

* Cylindrical bulb

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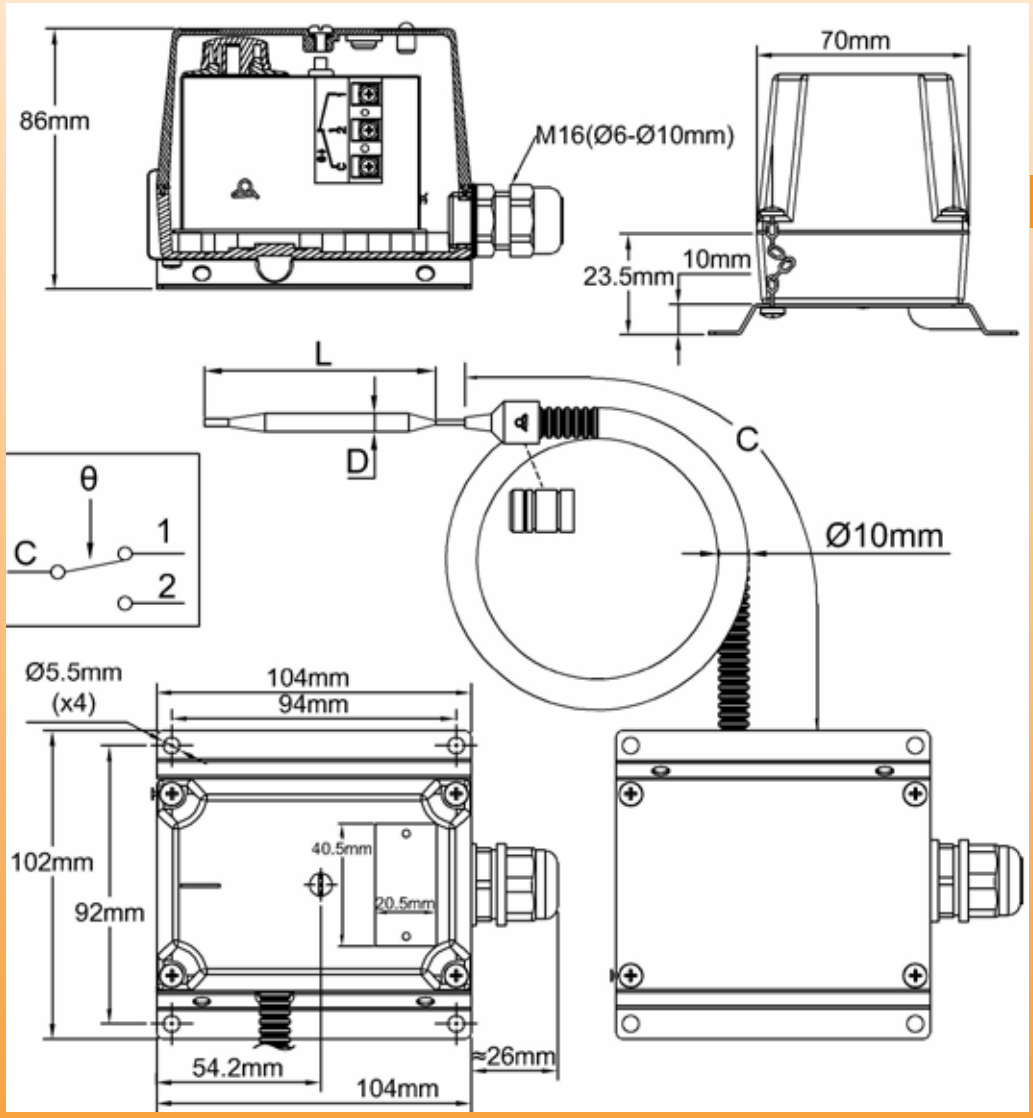
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range°C	Model
Manual reset	Internal	Screwed cap	Single pole	Remote	+760 / -25	**Y1M** Adjustable limiter **KX**





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as high limit safety.
- Changeover contact for switch off remote signaling
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.
- Exist with adjustable set point or with fixed and sealed setting without access for user
- Internal adjustment is convenient for products that must not be frequently adjusted.

Withstand very low ambient temperatures
Long electrical and mechanical life model

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: -25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F), or fixed setting between -25 and +760°C (-15+1400°F)
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Fixed sealed setting model does not have knob.
Action: High limit with manual reset
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >100.000 cycles.
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

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Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-25+25°C(-15+80°F)	Y1MKXA-25025220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1MKXA-10015220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1MKXA000050200G	6°C (11 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1MKXA000070520G	15°C (27°F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1MKXA000070120G	15°C (27°F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1MKXA020090500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1MKXA020090100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1MKXA010150500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1MKXA010150100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1MKXA080200010G	30°C (54°F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1MKXA050300010G	30°C (54°F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1MKXA010450700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1MKXA010450900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1MKXA060500700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1MKXA060500900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1MKXA180600700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1MKXA180600900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1MKXA280700700G	60°C (108°F)	1500	3	300	760°C (1400°F)
Fixed setting between -25°C and +15°C (-15+60°F)	Y1MKXF000***220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
Fixed setting between 15°C and +30°C (60+86°F)	Y1MKXF000***200G	6°C (11 °F)	1500	6.4	152	60°C (140°F)
Fixed setting between +30°C and +50°C (+86°F+122°F)	Y1MKXF000***520G	15°C (27°F)	1500	4.8	130	160°C (320°F)
Fixed setting between +30°C and +50°C (+86°F+122°F)	Y1MKXF000***120G	15°C (27°F)	3000	4.8	130	160°C (320°F)
Fixed setting between +50°C and +140°C (+122°F+284°F)	Y1MKXF000***500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
Fixed setting between +50°C and +140°C (+122°F+284°F)	Y1MKXF000***100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
Fixed setting between +140°C and +300°C (+284°F+572°F)	Y1MKXF000***010G	30°C (54°F)	1500	4	100	320°C (610°F)
Fixed setting between +300°C and +650°C (+572°F+1200°F)	Y1MKXF000***700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
Fixed setting between +300°C and +650°C (+572°F+1200°F)	Y1MKXF000***900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
Fixed setting between +650°C and +740°C (+1200°F+1364°F)	Y1MKXF000***800G	60°C (108°F)	1500	3	300	760°C (1400°F)

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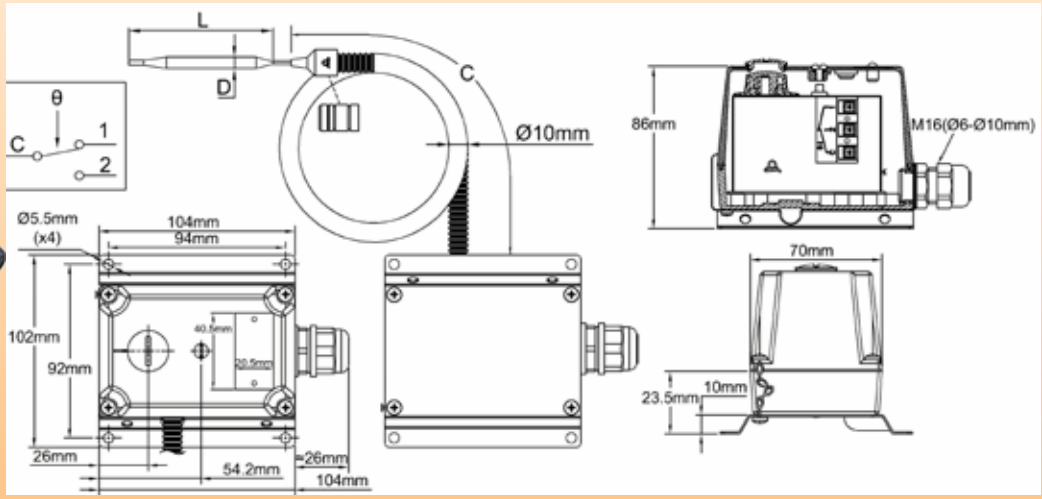
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap	Screwed cap	Single pole	Remote	+760 / -25	Y1N Adjustable limiter KX





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety.**
- **Changeover contact for switch off remote signaling**
- **Internal adjustment under screwed cap is convenient for products that must be occasionally adjusted.**
- **Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.**
- *Withstand very low ambient temperatures*
- *Long electrical and mechanical life model*

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: High limit with manual reset
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**100.000 cycles.**
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-25+25°C(-15+80°F)	Y1NKXA-25025220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1NKXA-10015220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1NKXA000050200G	6°C (11 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1NKXA000070520G	15°C (27°F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1NKXA000070120G	15°C (27°F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1NKXA020090500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1NKXA020090100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1NKXA010150500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1NKXA010150100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1NKXA080200010G	30°C (54°F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1NKXA050300010G	30°C (54°F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1NKXA010450700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1NKXA010450900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1NKXA060500700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1NKXA060500900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1NKXA180600700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1NKXA180600900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1NKXA280700800G	60°C (108°F)	1500	3	300	760°C (1400°F)

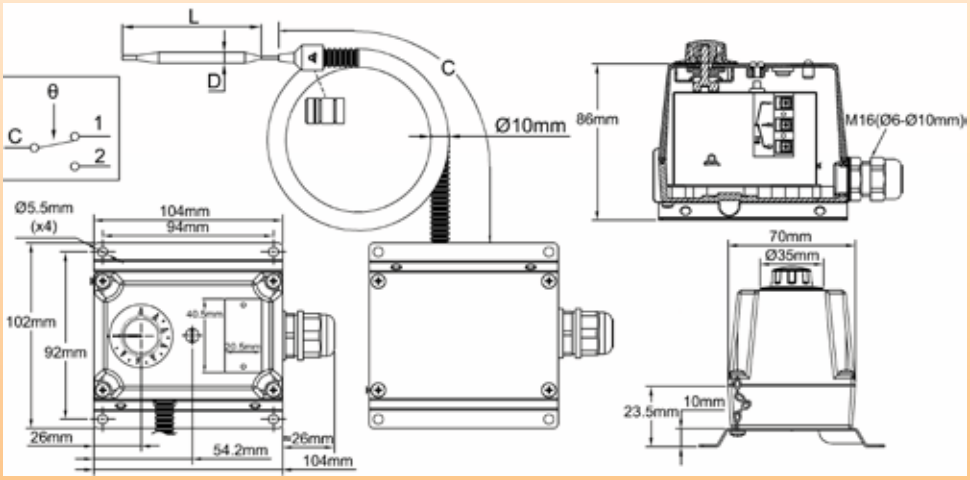
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The Y1 range of thermostats with IP65 enclosures

Bulb and capillary thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	External knob	Screwed cap	Single pole	Remote	+760 / -25	Y1O Adjustable limiter KX





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety.**
- **Internal adjustment under window cap is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.**
- **Changeover contact for switch off remote signaling**
- **Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.**
- *Withstand very low ambient temperatures*
- *Long electrical and mechanical life model*

Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-25+25°C (-15+80°F), -10+15°C (15-60°F), 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F), or fixed setting between -25 and +760°C (-15+1400°F)**
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: High limit with manual reset
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**100.000 cycles.**
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Capillary length (C, mm)	Bulb diameter (D, mm)	Bulb length (E, mm)	Max. temperature on bulb °C (°F)
-25+25°C(-15+80°F)	Y1OKXA-25025220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
-10+15°C(15-60°F)	Y1OKXA-10015220G	6°C (11 °F)	1500	6.4	152	50°C (120°F)
0-50°C (32-120°F)	Y1OKXA000050200G	6°C (11 °F)	1500	6.4	152	60°C (140°F)
0-70°C (32-160°F)	Y1OKXA000070520G	15°C (27°F)	1500	4.8	130	160°C (320°F)
0-70°C (32-160°F)	Y1OKXA000070120G	15°C (27°F)	3000	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1OKXA020090500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
20-90°C (70-195°F)	Y1OKXA020090100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1OKXA010150500G	15°C (27°F)	1500	4.8	130	160°C (320°F)
10-150°C (50-300°F)	Y1OKXA010150100G	15°C (27°F)	3000	4.8	130	160°C (320°F)
80-200°C (175-390°F)	Y1OKXA080200010G	30°C (54°F)	1500	4	100	320°C (610°F)
50-300°C (120-570°F)	Y1OKXA050300010G	30°C (54°F)	1500	4	100	320°C (610°F)
10-450°C (50-840°F)	Y1OKXA010450700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1OKXA010450900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1OKXA060500700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1OKXA060500900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1OKXA180600700G	60°C (108°F)	1500	4.8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1OKXA180600900G	60°C (108°F)	3000	4.8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1OKXA280700700G	60°C (108°F)	1500	3	300	760°C (1400°F)

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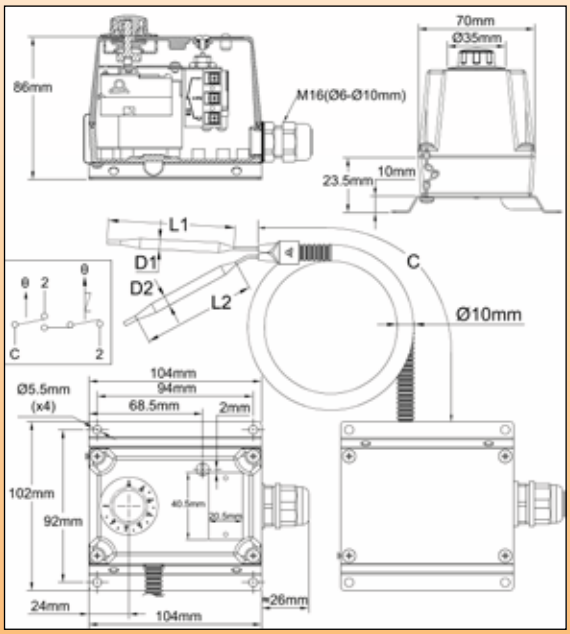
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The Y1 range of thermostats with IP65 enclosures

Combined bulb and capillary thermostats (Liquid expansion measurement)

Type	Control Adjustment	Reset access	Contact	Measurement	Range °C	Model
Control + reset	External knob	Screwed cap	Single pole	Remote	+320 / +30	**Y1P** Combined Thermostat **8G+8L**





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
This product combines a control thermostat with temperature printed knob and a fixed setting manual reset thermostat
- Knob external adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Fixed setting manual reset access under screwed cap allows resetting without need to remove the cover.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Control thermostat set point adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Control thermostat temperature adjustment: Set point adjustable by temperature printed external knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Manual reset: sealed fixed setting, reset accessby M4 screwed cap.
Manual reset calibration values:
80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F). Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)
Action: temperature control thermostat + high limit manual reset thermostat.
Sensing elements: Two liquid expansion bulb and capillary. The capillaries are protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contacts: SPDT on the control thermostat and open on temperature rise on manual reset
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (Control thermostat only , C-2 6A(0.6) 250VAC)
- Electrical life >100.000 cycles for control thermostat, 600 cycles for manual reset thermostat

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Manual reset standard calibration °C (°F)*	References	Control Differential °C (°F)	Capillaries length (C, mm)	Control Bulb diameter (D, mm)	Control Bulb length (E, mm)	Manual reset Bulb diameter (F, mm)	Manual reset bulb length (G, mm)	Max. temperature on bulbs °C (°F)
-35+35°C (-30+95°F)	50±5°C (122±9°F)	Y1P8GB-35035AO6G	3±2°C (5.5±3.6 °F)	1500	6	98	6	77	55°C (130°F)
-10+40°C (15-105°F)	50±5°C (122±9°F)	Y1P8GB-10040AO6G	3±2°C (5.5±3.6 °F)	1500	6	120	6	77	60°C (140°F)
4-40°C (40-105°F)	50±5°C (122±9°F)	Y1P8GB004040AO6G	3±2°C (5.5±3.6 °F)	1500	6	140	6	77	60°C (140°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y1P8GB030090AO6G	4±3°C (7±5.5 °F)	1500	6	87	6	77	120°C (250°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y1P8GB030110AO6G	5±3°C (9±5.5 °F)	1500	6	83	6	74	150°C (300°F)
50-200°C (120-390°F)	220±11°C (428±20°F)	Y1P8GB050200AO6G	8±5°C (14.5±9 °F)	1500	6	59	4	90	245°C (473°F)
50-300°C (120-570°F)	300±15°C (572±27°F)	Y1P8GB050300AO3G	10±5°C (18±9 °F)	1500	3	165	4	82	325°C (617°F)

* Other adjustment ranges, consult us for references

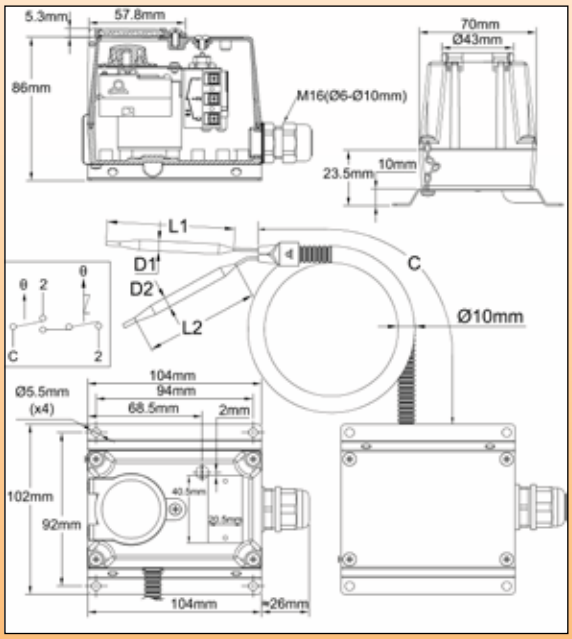
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The Y1 range of thermostats with IP65 enclosures

Combined bulb and capillary thermostats (Liquid expansion measurement)

Type	Control Adjustment	Reset access	Contact	Measurement	Range °C	Model
Control + reset	Window	Screwed cap	Single pole	Remote	+320 +30	Y1Q Combined Thermostat 8G+8L





Applications:
Remote control in usual industrial application and environment, not hazardous areas.
This product combines a control thermostat with temperature printed knob and a fixed setting manual reset thermostat
Internal adjustment under window is convenient for products that must not be frequently adjusted, allows to visualize the set point and avoid to remove the cover for set point adjustment. Fixed setting manual reset access under screwed cap allows resetting without need to remove the cover.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Control thermostat set point adjustment ranges: **-35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Control thermostat temperature adjustment: Set point adjustable by temperature printed **internal knob with access by window equipped with high impact polycarbonate glass.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Manual reset: sealed fixed setting, reset access by M4 screwed cap.
Manual reset calibration values:
80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F).Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)
Action: temperature control thermostat + high limit manual reset thermostat.
Sensing elements: Two liquid expansion bulb and capillary. The capillaries are protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: Wall mounting, by 4 holes for screws dia. 4 to 5 mm, 94 x 92 mm distance
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contacts: SPDT on the control thermostat and open on temperature rise on manual reset
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Closeon temperature rise contact (Control thermostat only , C-2 6A(0.6) 250VAC)
- Electrical life >**100.000 cycles for control thermostat, 600 cycles for manual reset thermostat**

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Manual reset standard calibration °C (°F)*	References	Control Differential °C (°F)	Capillaries length (C, mm)	Control Bulb diameter (D, mm)	Control Bulb length (E, mm)	Manual reset Bulb diameter (F, mm)	Manual reset bulb length (G, mm)	Max. temperature on bulbs °C (°F)
-35+35°C (-30+95°F)	50±5°C (122±9°F)	Y1Q8GB-35035AO6H	3±2°C (5.5±3.6 °F)	1500	6	98	6	77	55°C (130°F)
-10+40°C (15-105°F)	50±5°C (122±9°F)	Y1Q8GB-10040AO6H	3±2°C (5.5±3.6 °F)	1500	6	120	6	77	60°C (140°F)
4-40°C (40-105°F)	50±5°C (122±9°F)	Y1Q8GB004040AO6H	3±2°C (5.5±3.6 °F)	1500	6	140	6	77	60°C (140°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y1Q8GB030090AO6H	4±3°C (7±5.5 °F)	1500	6	87	6	77	120°C (250°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y1Q8GB030110AO6H	5±3°C (9±5.5 °F)	1500	6	83	6	74	150°C (300°F)
50-200°C (120-390°F)	220±11°C (428±20°F)	Y1Q8GB050200AO6H	8±5°C (14.5±9 °F)	1500	6	59	4	90	245°C (473°F)
50-300°C (120-570°F)	300±15°C (572±27°F)	Y1Q8GB050300AO3H	10±5°C (18±9 °F)	1500	3	165	4	82	325°C (617°F)

* Other adjustment ranges, consult us for references

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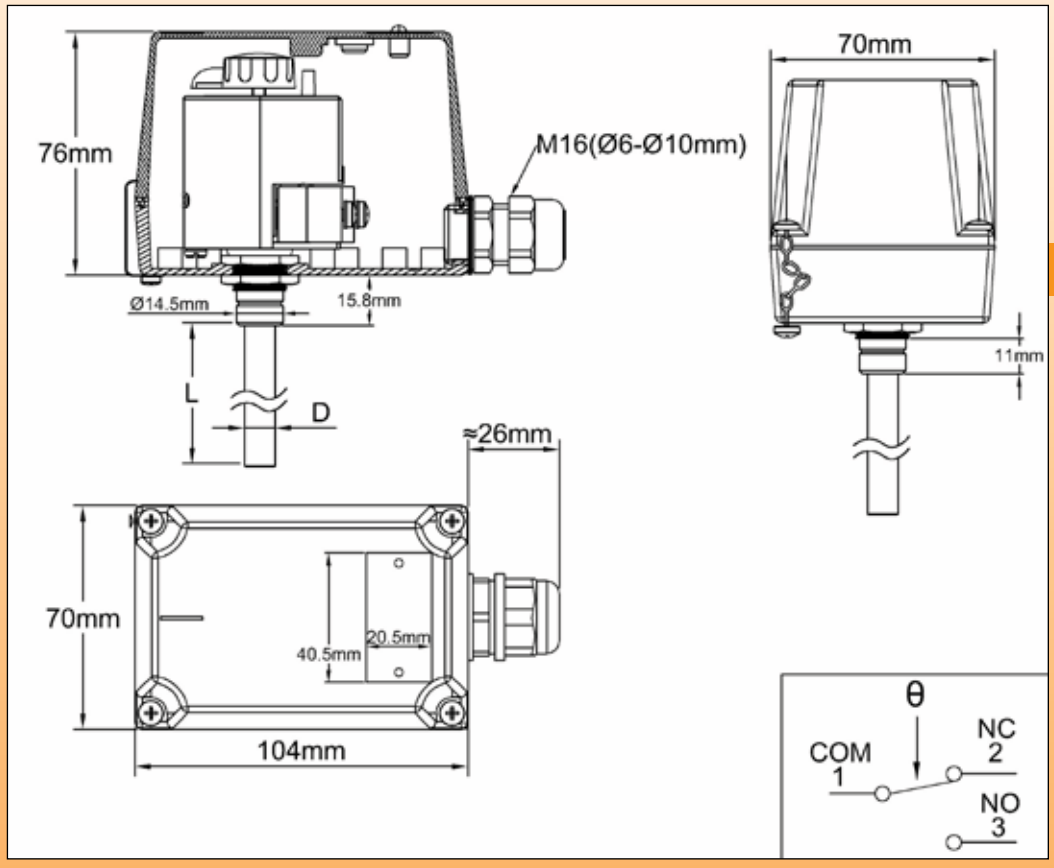
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Rod	+150 / 0	Y1R Thermostat SR, SU





Applications:
These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Short response time
- Sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76 mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-122°F), 10-60 °C (50-140°F), 30-90°C (86-194°F), 0-100°C (32-212°F), 40-140°C (104-284°F), 0-150°C (32-302°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: temperature control.
Sensing element: Bimetal rod, stainless steel-Invar.An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Differential value °C (°F)	Reference with reduced differential	Differential value °C (°F)	Maximum temperature on rod °C (°F)
0-50°C (32-122°F)	450	Y1RSRA000050045C	3±1.5°C (5.4±2.7°F)	Y1RSUA000050045C	1.5±1°C(2.7±1.8°F)	70°C (158°F)
10-60 °C (50-140°F)	450	Y1RSRA010060045C	3±1.5°C (5.4±2.7°F)	Y1RSUA010060045C	1.5±1°C(2.7±1.8°F)	80°C (176°F)
30-90°C (86-194°F)	380	Y1RSRA030090038C	4±2°C (7.2±3.6°F)	Y1RSUA030090038C	2±1°C (3.6±1.8°F)	110°C (230°F)
0-100°C (32-212°F)	230	Y1RSRA000100023C	6±3°C (10.8±5.4°F)	Y1RSUA000100023C	3±1.5°C (5.4±2.7°F)	130°C (266°F)
40-140°C (104-284°F)	230	Y1RSRA040140023C	6±3°C (10.8±5.4°F)	Y1RSUA040140023C	3±1.5°C (5.4±2.7°F)	170°C (338°F)
0-150°C (32-302°F)	170	Y1RSRA000150017C	8±4°C (14.4±7.2°F)	Y1RSUA000150017C	4±2°C (7.2±3.6°F)	180°C (356°F)

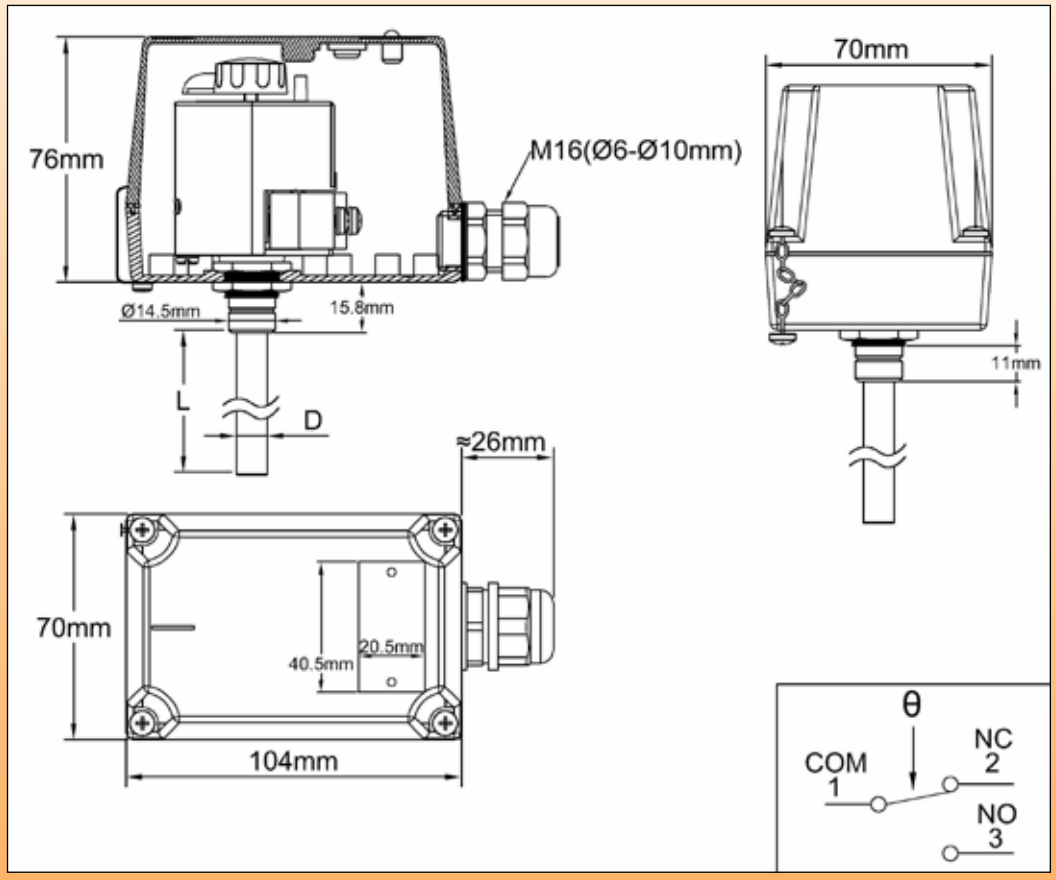
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Rod	+400 / 0	Y1R Thermostat VR, VU





Applications:
These bimetal rod thermostats with neutral zone can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Short response time
- Sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76 mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-100°C (32-212°F), 0-200 °C (32-392°F), 0-300°C (32-572°F), 0-400°C (32-752°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions.
Action: Temperature control with anticipation action: when temperature rises near the set point first cycles start under the set point and rise closer and closer.
Sensing element: Bimetal rod, stainless steel-Invar. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Differential value °C (°F)	Reference with reduced differential	Differential value °C (°F)	Maximum temperature on rod °C (°F)
0-100°C (32-212°F)	300	Y1RVRA000100030C	6±3°C (10.8±5.4°F)	Y1RVUA000100030C	3±1.5°C (5.4±2.7°F)	130°C (266°F)
0-100°C (32-212°F)	450	Y1RVRA000100045C	6±3°C (10.8±5.4°F)	Y1RVUA000100045C	3±1.5°C (5.4±2.7°F)	130°C (266°F)
0-200°C (32-392°F)	300	Y1RVRA000200030C	12±6°C (21.6±10.8°F)	Y1RVUA000200030C	6±3°C (10.8±5.4°F)	230°C (446°F)
0-300°C (32-572°F)	300	Y1RVRA000300030C	18±9°C (32.4±16.2°F)	Y1RVUA000300030C	9±4.5°C (16.2±8.1°F)	350°C (662°F)
0-400°C (32-752°F)	450	Y1RVRA000400045C	24±12°C (43.2±21.6°F)	Y1RVUA000400045C	12±6°C (21.6±10.8°F)	450°C (842°F)

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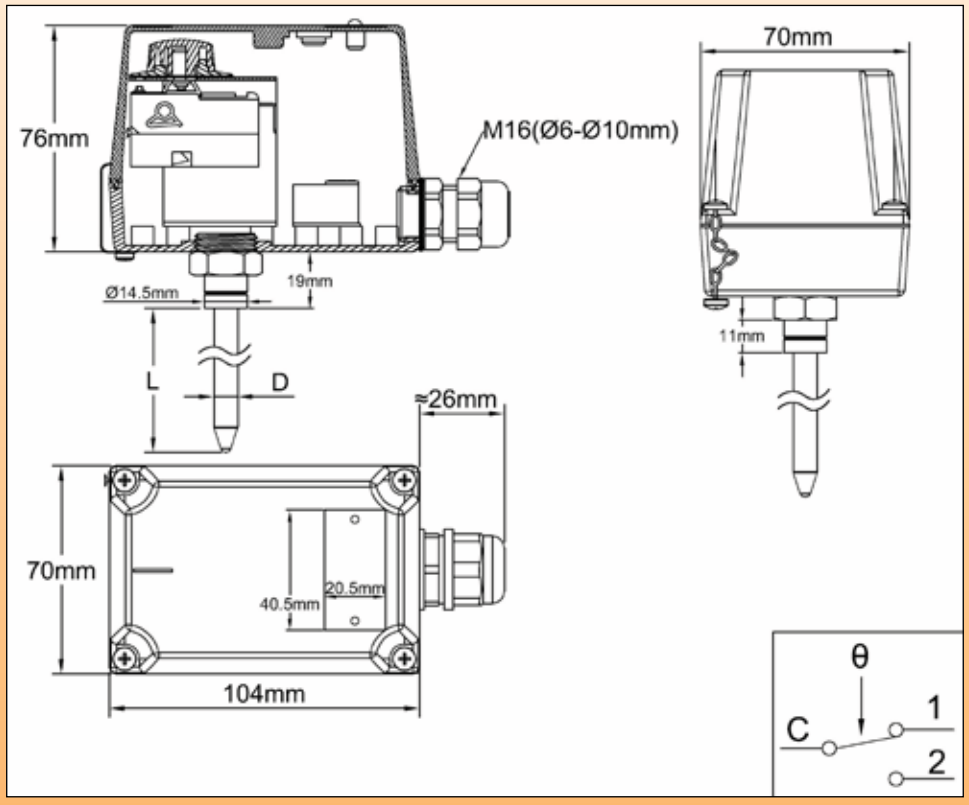
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Rod	+300 / +4	Y1R Thermostat 8G





Applications:
These liquid expansion rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Insensibility to strong vibrations

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Closeon temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
4-40°C (40-105°F)	Y1R8GB004040023C	3±2°C (5.5±3.6 °F)	230	10	140	60°C (140°F)
4-40°C (40-105°F)	Y1R8GB004040030C	3±2°C (5.5±3.6 °F)	300	10	140	60°C (140°F)
30-90°C (85-195°F)	Y1R8GB030090011C	4±3°C (7±5.5 °F)	110	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1R8GB030090023C	4±3°C (7±5.5 °F)	230	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1R8GB030090030C	4±3°C (7±5.5 °F)	300	10	87	120°C (250°F)
30-110°C (85-230°F)	Y1R8GB030110011C	5±3°C (9±5.5 °F)	110	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1R8GB030110023C	5±3°C (9±5.5 °F)	230	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1R8GB030110030C	5±3°C (9±5.5 °F)	300	10	83	150°C (300°F)
50-200°C (120-390°F)	Y1R8GB050200023C	8±5°C (14.5±9 °F)	230	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1R8GB050200030C	8±5°C (14.5±9 °F)	300	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1R8GB050200045C	8±5°C (14.5±9 °F)	450	10	59	250°C (480°F)
50-300°C (120-570°F)	Y1R8GB050300823C	10±5°C (18±9 °F)	230	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1R8GB050300830C	10±5°C (18±9 °F)	300	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1R8GB050300845C	10±5°C (18±9 °F)	450	8	165	350°C (660°F)

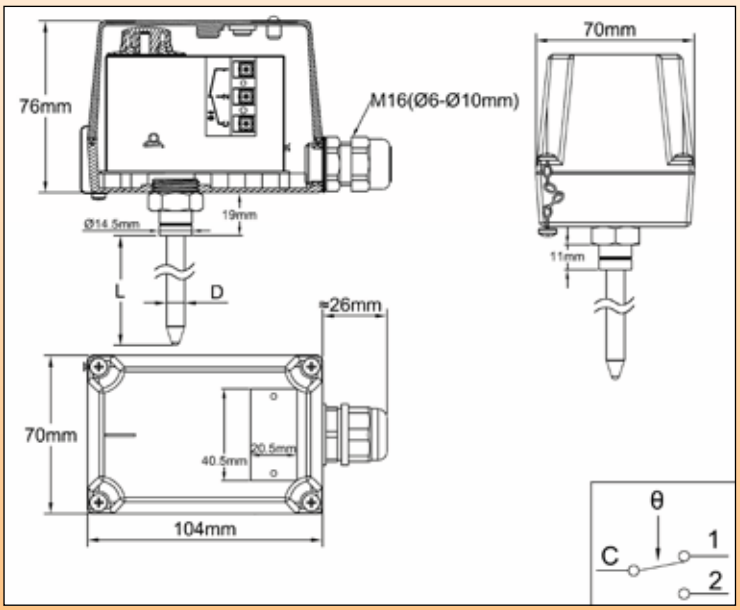
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Rod	+760 / 0	**Y1R Thermostat KR, KU**





Applications:
These liquid expansion rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Insensibility to strong vibrations

Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating: Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Minimum Storage temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
0-50°C (32-120°F)	Y1RKRA000050023C	3±2°C (5.5±3.6 °F)	Y1RKUA000050023C	2±1°C (3.6±1.8 °F)	230	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1RKRA000050030C	3±2°C (5.5±3.6 °F)	Y1RKUA000050030C	2±1°C (3.6±1.8 °F)	300	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1RKRA000050045C	3±2°C (5.5±3.6 °F)	Y1RKUA000050045C	2±1°C (3.6±1.8 °F)	450	10	152	60°C (140°F)
0-70°C (32-160°F)	Y1RKRA000070823C	5±3°C (9±5.4°F)	Y1RKUA000070823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1RKRA000070830C	5±3°C (9±5.4°F)	Y1RKUA000070830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1RKRA000070845C	5±3°C (9±5.4°F)	Y1RKUA000070845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1RKRA020090823C	5±3°C (9±5.4°F)	Y1RKUA020090823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1RKRA020090830C	5±3°C (9±5.4°F)	Y1RKUA020090830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1RKRA020090845C	5±3°C (9±5.4°F)	Y1RKUA020090845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1RKRA010150823C	5±3°C (9±5.4°F)	Y1RKUA010150823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1RKRA010150830C	5±3°C (9±5.4°F)	Y1RKUA010150830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1RKRA010150845C	5±3°C (9±5.4°F)	Y1RKUA010150845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
80-200°C (175-390°F)	Y1RKRA080200823C	10±4°C (18±7°F)	Y1RKUA080200823C	7±3°C (12.5±5.4 °F)	230	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1RKRA080200830C	10±4°C (18±7°F)	Y1RKUA080200830C	7±3°C (12.5±5.4 °F)	300	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1RKRA080200845C	10±4°C (18±7°F)	Y1RKUA080200845C	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1RKRA050300830C	10±4°C (18±7°F)	Y1RKUA050300830C	7±3°C (12.5±5.4 °F)	300*	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1RKRA050300845C	10±4°C (18±7°F)	Y1RKUA050300845C	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
10-450°C (50-840°F)	Y1RKRA010450830C	20±6°C (36±11°F)	Y1RKUA010450830C	12±4°C (22±7 °F)	300*	8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1RKRA010450845C	20±6°C (36±11°F)	Y1RKUA010450845C	12±4°C (22±7 °F)	450	8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1RKRA060500845C	20±6°C (36±11°F)	Y1RKUA060500845C	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1RKRA180600845C	20±6°C (36±11°F)	Y1RKUA180600845C	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1RKRA280700645C	20±6°C (36±11°F)	Y1RKUA280700645C	12±4°C (22±7 °F)	450*	6	300	760°C (1400°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

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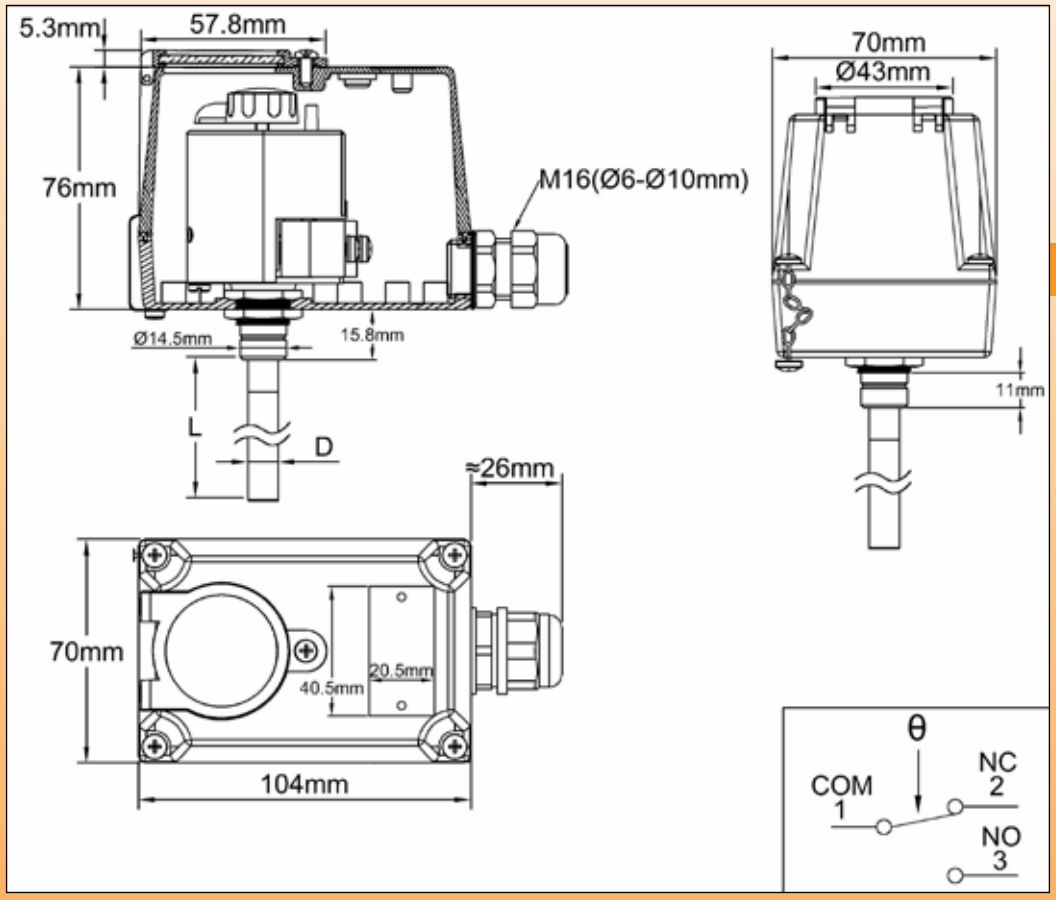
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Rod	+150 / 0	Y1S Thermostat SR, SU





Applications:
These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
-Short response time
-Sensibility to strong vibrations
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76 mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-122°F), 10-60 °C (50-140°F), 30-90°C (86-194°F), 0-100°C (32-212°F), 40-140°C (104-284°F), 0-150°C (32-302°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: temperature control.
Sensing element: Bimetal rod, stainless steel-Invar.An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Differential value °C (°F)	Reference with reduced differential	Differential value °C (°F)	Maximum temperature on rod °C (°F)
0-50°C (32-122°F)	450	Y1SSRA000050045D	3±1.5°C (5.4±2.7°F)	Y1SSUA000050045D	1.5±1°C(2.7±1.8°F)	70°C (158°F)
10-60 °C (50-140°F)	450	Y1SSRA010060045D	3±1.5°C (5.4±2.7°F)	Y1SSUA010060045D	1.5±1°C(2.7±1.8°F)	80°C (176°F)
30-90°C (86-194°F)	380	Y1SSRA030090038D	4±2°C (7.2±3.6°F)	Y1SSUA030090038D	2±1°C (3.6±1.8°F)	110°C (230°F)
0-100°C (32-212°F)	230	Y1SSRA000100023D	6±3°C (10.8±5.4°F)	Y1SSUA000100023D	3±1.5°C (5.4±2.7°F)	130°C (266°F)
40-140°C (104-284°F)	230	Y1SSRA040140023D	6±3°C (10.8±5.4°F)	Y1SSUA040140023D	3±1.5°C (5.4±2.7°F)	170°C (338°F)
0-150°C (32-302°F)	170	Y1SSRA000150017D	8±4°C (14.4±7.2°F)	Y1SSUA000150017D	4±2°C (7.2±3.6°F)	180°C (356°F)

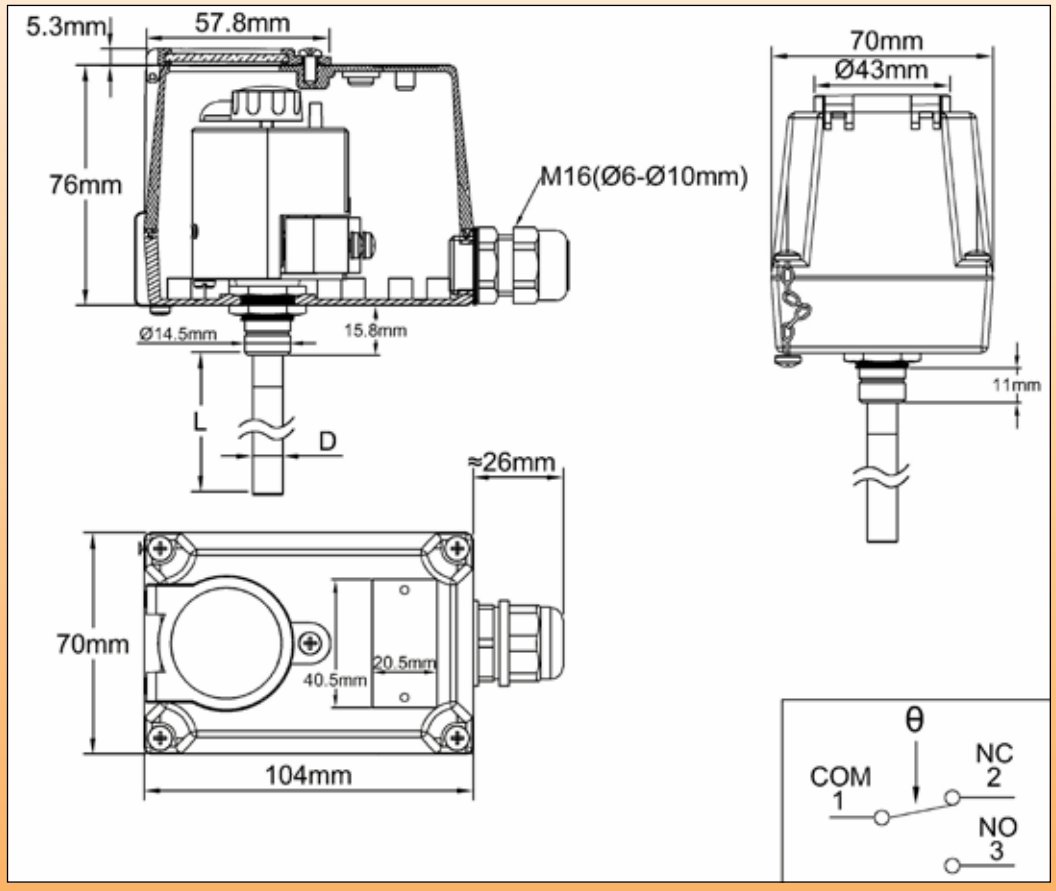
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Rod	+400 / 0	**Y1S Thermostat VR, VU**





Applications:
These bimetal rod thermostats with neutral zone can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
- Short response time
- Sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76 mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-100°C (32-212°F), 0-200 °C (32-392°F), 0-300°C (32-572°F), 0-400°C (32-752°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions.
Action: Temperature control with anticipation action: when temperature rises near the set point first cycles start under the set point and rise closer and closer.
Sensing element: Bimetal rod, stainless steel-Invar. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential*	Differential value °C (°F)	Reference with reduced differential*	Differential value °C (°F)	Maximum temperature on rod °C (°F)
0-100°C (32-212°F)	300	Y1SVRA000100030D	6±3°C (10.8±5.4°F)	Y1SVUA000100030D	3±1.5°C (5.4±2.7°F)	130°C (266°F)
0-100°C (32-212°F)	450	Y1SVRA000100045D	6±3°C (10.8±5.4°F)	Y1SVUA000100045D	3±1.5°C (5.4±2.7°F)	130°C (266°F)
0-200°C (32-392°F)	300	Y1SVRA000200030D	12±6°C (21.6±10.8°F)	Y1SVUA000200030D	6±3°C (10.8±5.4°F)	230°C (446°F)
0-300°C (32-572°F)	300	Y1SVRA000300030D	18±9°C (32.4±16.2°F)	Y1SVUA000300030D	9±4.5°C (16.2±8.1°F)	350°C (662°F)
0-400°C (32-752°F)	450	Y1SVRA000400045D	24±12°C (43.2±21.6°F)	Y1SVUA000400045D	12±6°C (21.6±10.8°F)	450°C (842°F)

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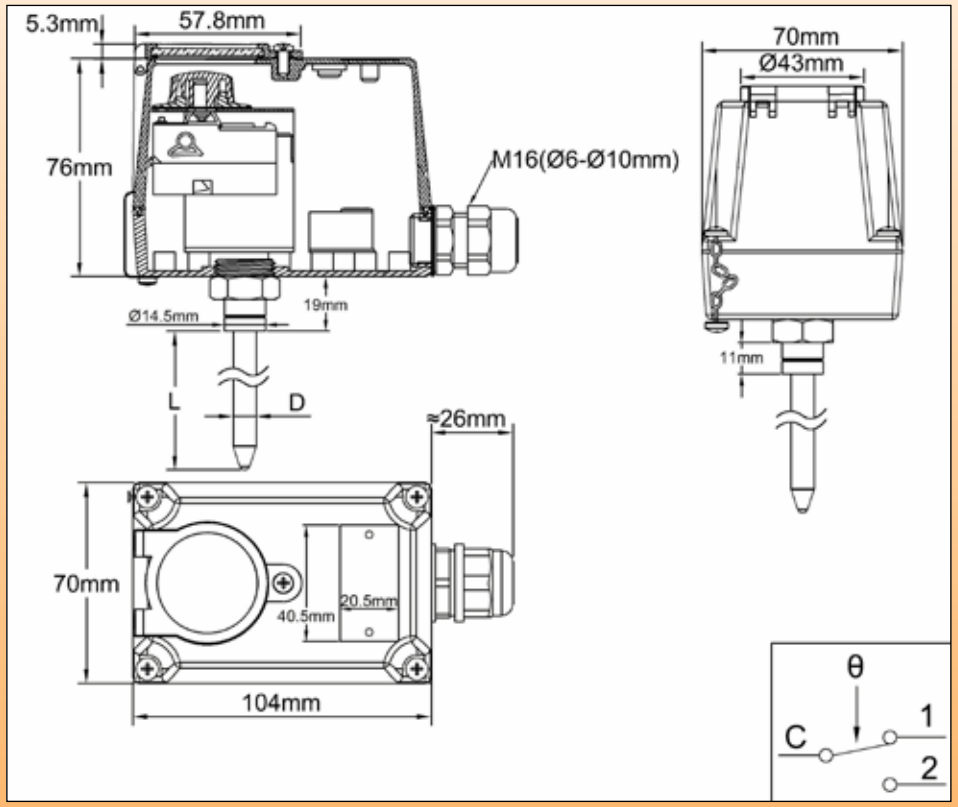
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Rod	+300 / +4	Y1S Thermostat 8G





Applications:
These **liquid expansion** rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
- Insensibility to strong vibrations
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob with window access.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquids immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
4-40°C (40-105°F)	Y1S8GB004040023D	3±2°C (5.5±3.6 °F)	230	10	140	60°C (140°F)
4-40°C (40-105°F)	Y1S8GB004040030D	3±2°C (5.5±3.6 °F)	300	10	140	60°C (140°F)
30-90°C (85-195°F)	Y1S8GB030090011D	4±3°C (7±5.5 °F)	110	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1S8GB030090023D	4±3°C (7±5.5 °F)	230	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1S8GB030090030D	4±3°C (7±5.5 °F)	300	10	87	120°C (250°F)
30-110°C (85-230°F)	Y1S8GB030110011D	5±3°C (9±5.5 °F)	110	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1S8GB030110023D	5±3°C (9±5.5 °F)	230	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1S8GB030110030D	5±3°C (9±5.5 °F)	300	10	83	150°C (300°F)
50-200°C (120-390°F)	Y1S8GB050200023D	8±5°C (14.5±9 °F)	230	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1S8GB050200030D	8±5°C (14.5±9 °F)	300	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1S8GB050200045D	8±5°C (14.5±9 °F)	450	10	59	250°C (480°F)
50-300°C (120-570°F)	Y1S8GB050300823D	10±5°C (18±9 °F)	230	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1S8GB050300830D	10±5°C (18±9 °F)	300	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1S8GB050300845D	10±5°C (18±9 °F)	450	8	165	350°C (660°F)

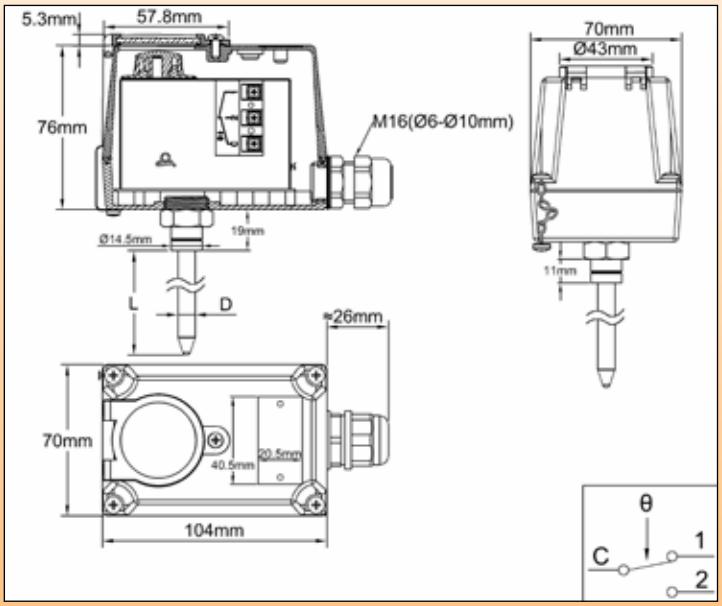
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Rod	+760 / 0	Y1S Thermostat KR, KU





Applications:
These **liquid expansion** rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
- Insensibility to strong vibrations
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating: Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Minimum Storage temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
0-50°C (32-120°F)	Y1SKRA000050023D	3±2°C (5.5±3.6 °F)	Y1SKUA000050023D	2±1°C (3.6±1.8 °F)	230	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1SKRA000050030D	3±2°C (5.5±3.6 °F)	Y1SKUA000050030D	2±1°C (3.6±1.8 °F)	300	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1SKRA000050045D	3±2°C (5.5±3.6 °F)	Y1SKUA000050045D	2±1°C (3.6±1.8 °F)	450	10	152	60°C (140°F)
0-70°C (32-160°F)	Y1SKRA000070823D	5±3°C (9±5.4°F)	Y1SKUA000070823D	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1SKRA000070830D	5±3°C (9±5.4°F)	Y1SKUA000070830D	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1SKRA000070845D	5±3°C (9±5.4°F)	Y1SKUA000070845D	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1SKRA020090823D	5±3°C (9±5.4°F)	Y1SKUA020090823D	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1SKRA020090830D	5±3°C (9±5.4°F)	Y1SKUA020090830D	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1SKRA020090845D	5±3°C (9±5.4°F)	Y1SKUA020090845D	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1SKRA010150823D	5±3°C (9±5.4°F)	Y1SKUA010150823D	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1SKRA010150830D	5±3°C (9±5.4°F)	Y1SKUA010150830D	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1SKRA010150845D	5±3°C (9±5.4°F)	Y1SKUA010150845D	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
80-200°C (175-390°F)	Y1SKRA080200823D	10±4°C (18±7°F)	Y1SKUA080200823D	7±3°C (12.5±5.4 °F)	230	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1SKRA080200830D	10±4°C (18±7°F)	Y1SKUA080200830D	7±3°C (12.5±5.4 °F)	300	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1SKRA080200845D	10±4°C (18±7°F)	Y1SKUA080200845D	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1SKRA050300830D	10±4°C (18±7°F)	Y1SKUA050300830D	7±3°C (12.5±5.4 °F)	300*	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1SKRA050300845D	10±4°C (18±7°F)	Y1SKUA050300845D	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
10-450°C (50-840°F)	Y1SKRA010450830D	20±6°C (36±11°F)	Y1SKUA010450830D	12±4°C (22±7 °F)	300*	8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1SKRA010450845D	20±6°C (36±11°F)	Y1SKUA010450845D	12±4°C (22±7 °F)	450	8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1SKRA060500845D	20±6°C (36±11°F)	Y1SKUA060500845D	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1SKRA180600845D	20±6°C (36±11°F)	Y1SKUA180600845D	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1SKRA280700645D	20±6°C (36±11°F)	Y1SKUA280700645D	12±4°C (22±7 °F)	450*	6	300	760°C (1400°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

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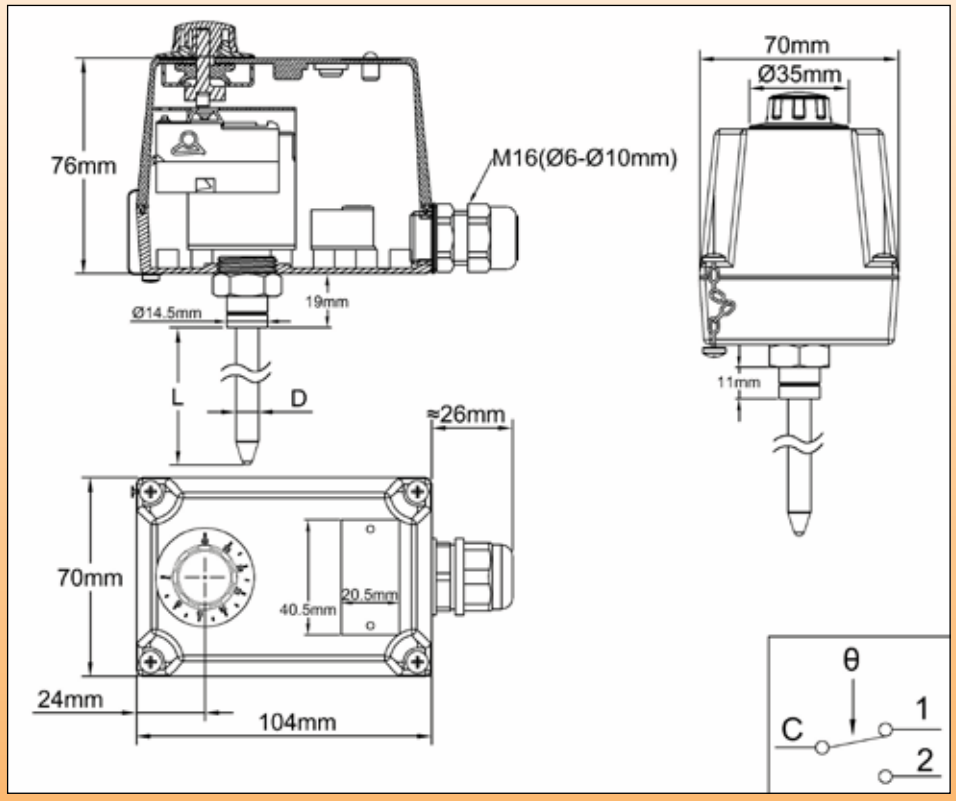
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Rod	+300 / +4	Y1T Thermostat 8G





Applications:
These **liquid expansion** rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Insensibility to strong vibrations
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
4-40°C (40-105°F)	Y1T8GB004040023C	3±2°C (5.5±3.6 °F)	230	10	140	60°C (140°F)
4-40°C (40-105°F)	Y1T8GB004040030C	3±2°C (5.5±3.6 °F)	300	10	140	60°C (140°F)
30-90°C (85-195°F)	Y1T8GB030090011C	4±3°C (7±5.5 °F)	110	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1T8GB030090023C	4±3°C (7±5.5 °F)	230	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1T8GB030090030C	4±3°C (7±5.5 °F)	300	10	87	120°C (250°F)
30-110°C (85-230°F)	Y1T8GB030110011C	5±3°C (9±5.5 °F)	110	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1T8GB030110023C	5±3°C (9±5.5 °F)	230	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1T8GB030110030C	5±3°C (9±5.5 °F)	300	10	83	150°C (300°F)
50-200°C (120-390°F)	Y1T8GB050200023C	8±5°C (14.5±9 °F)	230	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1T8GB050200030C	8±5°C (14.5±9 °F)	300	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1T8GB050200045C	8±5°C (14.5±9 °F)	450	10	59	250°C (480°F)
50-300°C (120-570°F)	Y1T8GB050300823C	10±5°C (18±9 °F)	230	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1T8GB050300830C	10±5°C (18±9 °F)	300	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1T8GB050300845C	10±5°C (18±9 °F)	450	8	165	350°C (660°F)

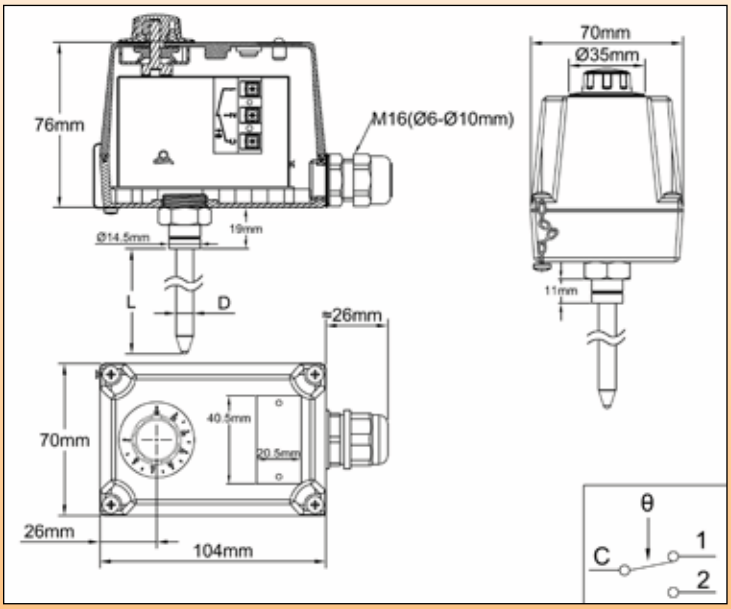
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Rod	+760 / 0	Y1T Thermostat KR, KU





Applications:
These **liquid expansion** rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Insensibility to strong vibrations
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 70 x 76mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: temperature control.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating: Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Minimum Storage temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)				
0-50°C (32-120°F)	Y1TKRA000050023C	3±2°C (5.5±3.6 °F)	Y1TKUA000050023C	2±1°C (3.6±1.8 °F)	230	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1TKRA000050030C	3±2°C (5.5±3.6 °F)	Y1TKUA000050030C	2±1°C (3.6±1.8 °F)	300	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1TKRA000050045C	3±2°C (5.5±3.6 °F)	Y1TKUA000050045C	2±1°C (3.6±1.8 °F)	450	10	152	60°C (140°F)
0-70°C (32-160°F)	Y1TKRA000070823C	5±3°C (9±5.4°F)	Y1TKUA000070823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1TKRA000070830C	5±3°C (9±5.4°F)	Y1TKUA000070830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1TKRA000070845C	5±3°C (9±5.4°F)	Y1TKUA000070845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1TKRA020090823C	5±3°C (9±5.4°F)	Y1TKUA020090823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1TKRA020090830C	5±3°C (9±5.4°F)	Y1TKUA020090830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1TKRA020090845C	5±3°C (9±5.4°F)	Y1TKUA020090845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1TKRA010150823C	5±3°C (9±5.4°F)	Y1TKUA010150823C	3±2°C (5.5±3.6 °F)	230	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1TKRA010150830C	5±3°C (9±5.4°F)	Y1TKUA010150830C	3±2°C (5.5±3.6 °F)	300	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1TKRA010150845C	5±3°C (9±5.4°F)	Y1TKUA010150845C	3±2°C (5.5±3.6 °F)	450	8	120	160°C (320°F)
80-200°C (175-390°F)	Y1TKRA080200823C	10±4°C (18±7°F)	Y1TKUA080200823C	7±3°C (12.5±5.4 °F)	230	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1TKRA080200830C	10±4°C (18±7°F)	Y1TKUA080200830C	7±3°C (12.5±5.4 °F)	300	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1TKRA080200845C	10±4°C (18±7°F)	Y1TKUA080200845C	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1TKRA050300830C	10±4°C (18±7°F)	Y1TKUA050300830C	7±3°C (12.5±5.4 °F)	300*	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1TKRA050300845C	10±4°C (18±7°F)	Y1TKUA050300845C	7±3°C (12.5±5.4 °F)	450	8	100	320°C (610°F)
10-450°C (50-840°F)	Y1TKRA010450830C	20±6°C (36±11°F)	Y1TKUA010450830C	12±4°C (22±7 °F)	300*	8	120	760°C (1400°F)
10-450°C (50-840°F)	Y1TKRA010450845C	20±6°C (36±11°F)	Y1TKUA010450845C	12±4°C (22±7 °F)	450	8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1TKRA060500845C	20±6°C (36±11°F)	Y1TKUA060500845C	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1TKRA180600845C	20±6°C (36±11°F)	Y1TKUA180600845C	12±4°C (22±7 °F)	450*	8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1TKRA280700645C	20±6°C (36±11°F)	Y1TKUA280700645C	12±4°C (22±7 °F)	450*	6	300	760°C (1400°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

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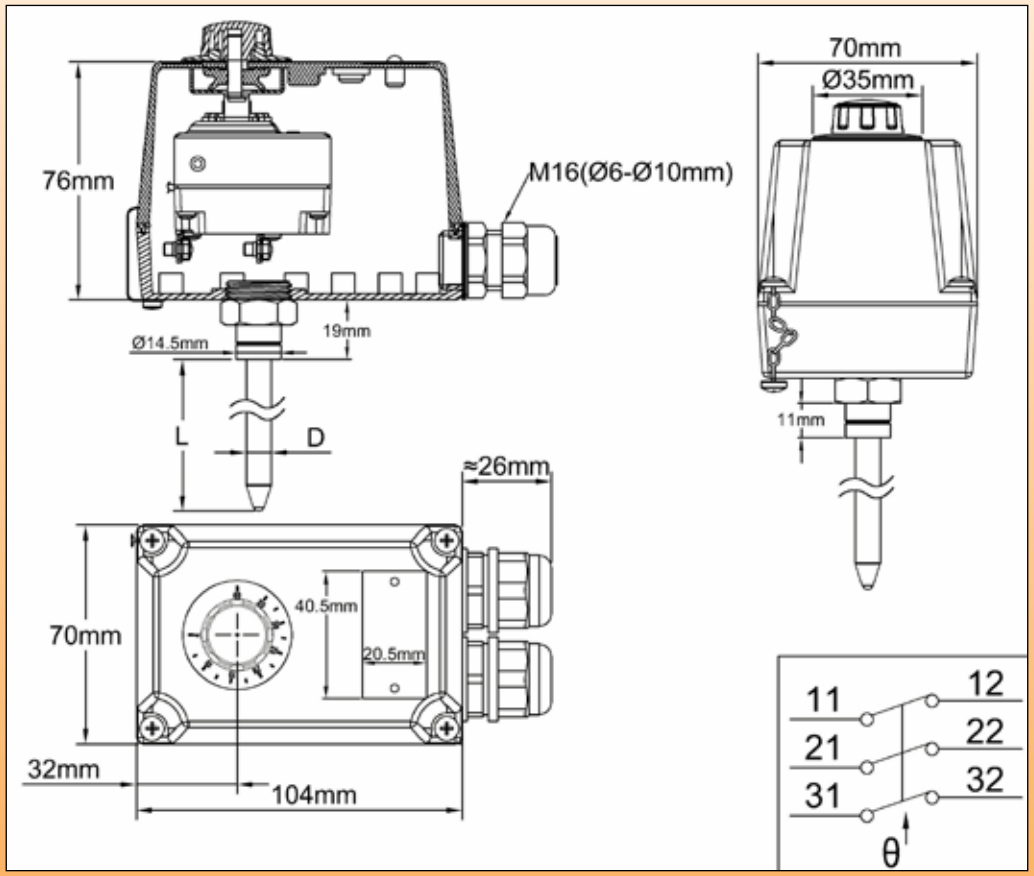
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	3 poles	Rod	+300 / +4	Y1T Thermostat 8C





Applications:
Remote control in usual industrial application and environment, when it is requested to control **a 3 poles** circuit (No suitable for hazardous areas)
External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **-4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).**
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Remark: The thermostat , its wiring and knob are attached to the cover
Action: temperature control.
Sensing element: Liquid expansion bulb and capillary. The capillary is protected by a stainless steel corrugated pipe terminated by a silicone tip. A plastic cap plug provided as standard accessory allows locking the flexible metal conduit inside a pocket (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles , open on temperature rise (3PNC)
Electrical rating: 3x16(4)A 250V, 3x10(1)A 400V, alt.
- Electrical life >**100.000 cycles.**
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
4-40°C (40-105°F)	Y1T8CB004040023C	3±2°C (5.5±3.6 °F)	230	10	140	60°C (140°F)
4-40°C (40-105°F)	Y1T8CB004040030C	3±2°C (5.5±3.6 °F)	300	10	140	60°C (140°F)
30-90°C (85-195°F)	Y1T8CB030090011C	4±3°C (7±5.5 °F)	110	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1T8CB030090023C	4±3°C (7±5.5 °F)	230	10	87	120°C (250°F)
30-90°C (85-195°F)	Y1T8CB030090030C	4±3°C (7±5.5 °F)	300	10	87	120°C (250°F)
30-110°C (85-230°F)	Y1T8CB030110011C	5±3°C (9±5.5 °F)	110	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1T8CB030110023C	5±3°C (9±5.5 °F)	230	10	83	150°C (300°F)
30-110°C (85-230°F)	Y1T8CB030110030C	5±3°C (9±5.5 °F)	300	10	83	150°C (300°F)
50-200°C (120-390°F)	Y1T8CB050200023C	8±5°C (14.5±9 °F)	230	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1T8CB050200030C	8±5°C (14.5±9 °F)	300	10	59	250°C (480°F)
50-200°C (120-390°F)	Y1T8CB050200045C	8±5°C (14.5±9 °F)	450	10	59	250°C (480°F)
50-300°C (120-570°F)	Y1T8CB050300823C	10±5°C (18±9 °F)	230	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1T8CB050300830C	10±5°C (18±9 °F)	300	8	165	350°C (660°F)
50-300°C (120-570°F)	Y1T8CB050300845C	10±5°C (18±9 °F)	450	8	165	350°C (660°F)

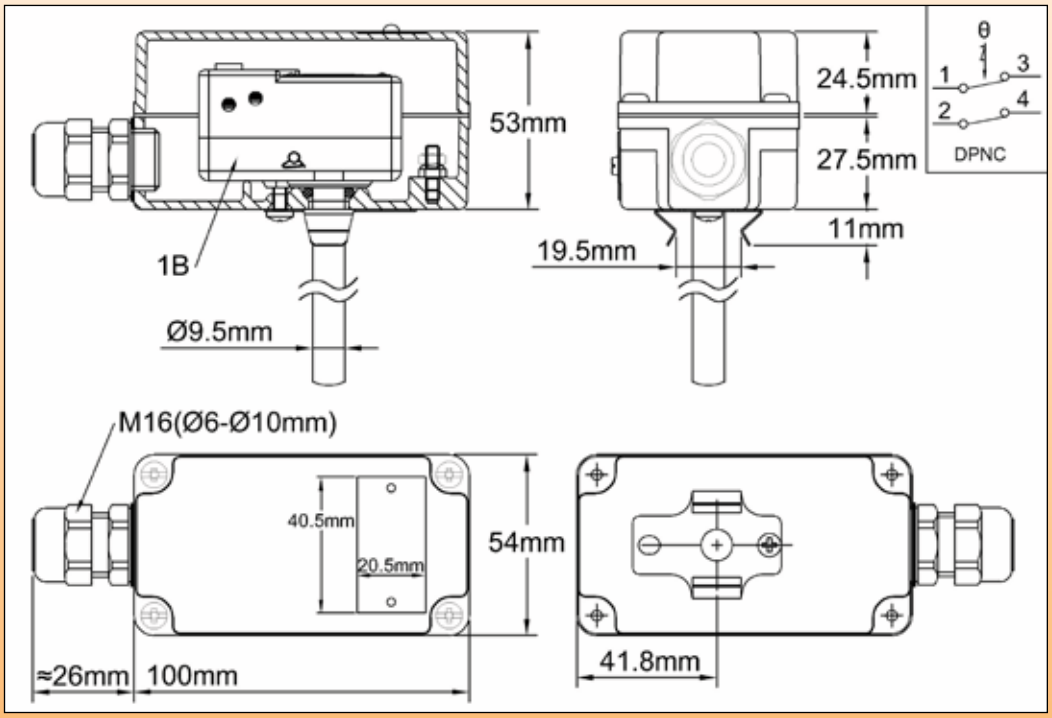
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Rod	+165 / -10	**Y1U Thermostat 1R, 1U**





Applications:
These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Small footprint enclosure
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Short response time
- Low sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 100 x 53 x 54mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 10+130°C (+14+264°F), +15+95 °C (+59+203°F), +25+165°C (+77+329°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: temperature control.
Sensing element: Bimetal rod, stainless steel-Invar. A clip under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Standard differential:15A (4)A 250V/400VAC. Res.
- Reduced differential:4(1A) 250VACt. Res.

Electrical life >100.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Differential value °C (°F)	Reference with reduced differential	Differential value °C (°F)	Max. temperature on rod °C (°F)
-10+130°C (+14+264°F)	200	Y1U1RA-10130B20L	15±5°C (27±9°F)	Y1U1UA-10130B20L	3±1.5°C (5.4±2.7°F)	180°C (356°F)
+15+95 °C (+59+203°F)	200	Y1U1RA015095B20L	15±5°C (27±9°F)	Y1U1UA015095B20L	3±1.5°C (5.4±2.7°F)	145°C (293°F)
+15+95 °C (+59+203°F)	300	Y1U1RA015095B30L	10±3°C (18±5.4°F)	Y1U1UA015095B30L	2±1°C (3.6±1.8°F)	145°C (293°F)
+25+165°C (+77+329°F)	200	Y1U1RA025165B20L	15±5°C (27±9°F)	Y1U1UA025165B20L	3±1.5°C (5.4±2.7°F)	215°C (419°F)

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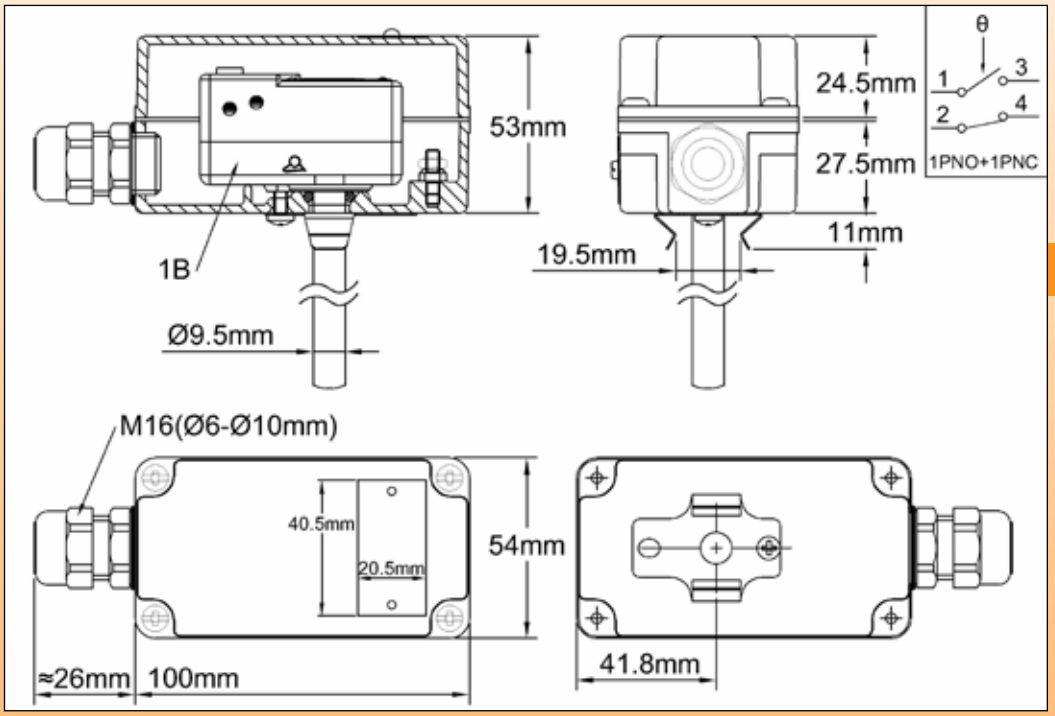
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The Y1 range of thermostats with IP65 enclosures

Rod thermostats (bimetal expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Double pole	Rod	+165 / -10	Y1U Thermostat 1B, 1C





Applications:
These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Small footprint enclosure
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Short response time
- Low sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 100 x 53 x 54mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 10+130°C (+14+264°F), +15+95 °C (+59+203°F), +25+165°C (+77+329°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: temperature control.
Sensing element: Bimetal rod, stainless steel-Invar. A clip under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: DPNC
Electrical rating:
- Standard differential: 15A (4)A 250V/400VAC. Res.
- Reduced differential: 4(1A) 250VACt. Res.

Electrical life >100.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Differential value °C (°F)	Reference with reduced differential	Differential value °C (°F)	Max. temperature on rod °C (°F)
-10+130°C (+14+264°F)	200	Y1U1BA-10130B20L	15±5°C (27±9°F)	Y1U1CA-10130B20L	3±1.5°C (5.4±2.7°F)	180°C (356°F)
+15+95 °C (+59+203°F)	200	Y1U1BA015095B20L	15±5°C (27±9°F)	Y1U1CA015095B20L	3±1.5°C (5.4±2.7°F)	145°C (293°F)
+15+95 °C (+59+203°F)	300	Y1U1BA015095B30L	10±3°C (18±5.4°F)	Y1U1CA015095B30L	2±1°C (3.6±1.8°F)	145°C (293°F)
+25+165°C (+77+329°F)	200	Y1U1BA025165B20L	15±5°C (27±9°F)	Y1U1CA025165B20L	3±1.5°C (5.4±2.7°F)	215°C (419°F)

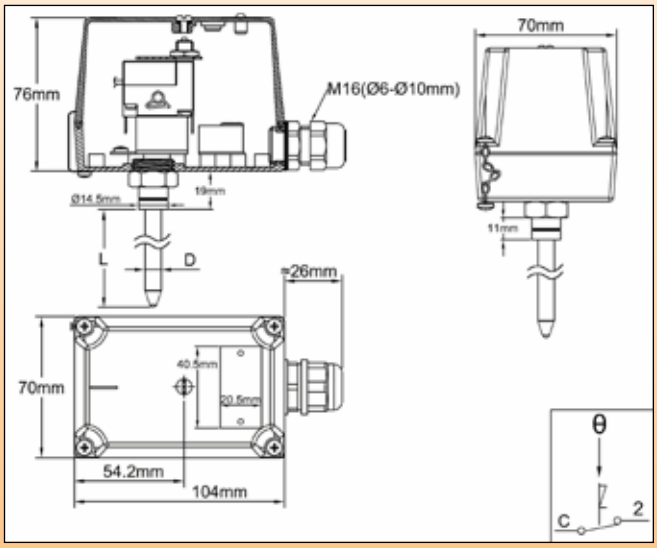
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The Y1 range of thermostats with IP65 enclosures

High limit Rod thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	Single pole	Rod	+320 / +30	Y1V Limiter 8L





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety.**
- **Sealed temperature set point**
- **M4 Screw cap access is convenient for resetwithout need to open the enclosure.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F).Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: Single pole, open on rise (SPNC)
Electrical rating: 16A res. 250/400VAC
- Electrical life >**6.000 cycles.**

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
Y1V8L0080105811C	80±8°C (176±15°F)	52°C (126°F)	110	8	77	105°C (221°F)
Y1V8L0080105823C	80±8°C (176±15°F)	52°C (126°F)	230	8	77	105°C (221°F)
Y1V8L0080105830C	80±8°C (176±15°F)	52°C (126°F)	300	8	77	105°C (221°F)
Y1V8L0090115811C	90±8°C (194±15°F)	60°C (140°F)	110	8	77	115°C (239°F)
Y1V8L0090115823C	90±8°C (194±15°F)	60°C (140°F)	230	8	77	115°C (239°F)
Y1V8L0090115830C	90±8°C (194±15°F)	60°C (140°F)	300	8	77	115°C (239°F)
Y1V8L0110135811C	110±8°C (230±15°F)	75°C (167°F)	110	8	77	135°C (275°F)
Y1V8L0110135823C	110±8°C (230±15°F)	75°C (167°F)	230	8	77	135°C (275°F)
Y1V8L0110135830C	110±8°C (230±15°F)	75°C (167°F)	300	8	77	135°C (275°F)
Y1V8L0130155811C	130±8°C (266±15°F)	80°C (176°F)	110	8	74	155°C (311°F)
Y1V8L0130155823C	130±8°C (266±15°F)	80°C (176°F)	230	8	74	155°C (311°F)
Y1V8L0130155830C	130±8°C (266±15°F)	80°C (176°F)	300	8	74	155°C (311°F)
Y1V8L0150175811C	150±8°C (302±15°F)	95°C (203°F)	110	8	74	175°C (347°F)
Y1V8L0150175823C	150±8°C (302±15°F)	95°C (203°F)	230	8	74	175°C (347°F)
Y1V8L0150175830C	150±8°C (302±15°F)	95°C (203°F)	300	8	74	175°C (347°F)
Y1V8L0175200823C	175±8°C (347±15°F)	115°C (239°F)	230*	8	95	200°C (392°F)
Y1V8L0175200830C	175±8°C (347±15°F)	115°C (239°F)	300	8	95	200°C (392°F)
Y1V8L0175200845C	175±8°C (347±15°F)	115°C (239°F)	450	8	95	200°C (392°F)
Y1V8L0220245823C	220±11°C (428±20°F)	140°C (284°F)	230*	8	90	245°C (473°F)
Y1V8L0220245830C	220±11°C (428±20°F)	140°C (284°F)	300	8	90	245°C (473°F)
Y1V8L0220245845C	220±11°C (428±20°F)	140°C (284°F)	450	8	90	245°C (473°F)
Y1V8L0270295823C	270±13°C (518±23°F)	160°C (320°F)	230*	8	85	295°C (563°F)
Y1V8L0270295830C	270±13°C (518±23°F)	160°C (320°F)	300	8	85	295°C (563°F)
Y1V8L0270295845C	270±13°C (518±23°F)	160°C (320°F)	450	8	85	295°C (563°F)
Y1V8L0300325823C	300±15°C (572±27°F)	160°C (320°F)	230*	8	82	325°C (617°F)
Y1V8L0300325830C	300±15°C (572±27°F)	160°C (320°F)	300	8	82	325°C (617°F)
Y1V8L0300325845C	300±15°C (572±27°F)	160°C (320°F)	450	8	82	325°C (617°F)

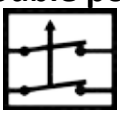
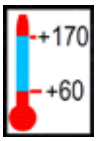
* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

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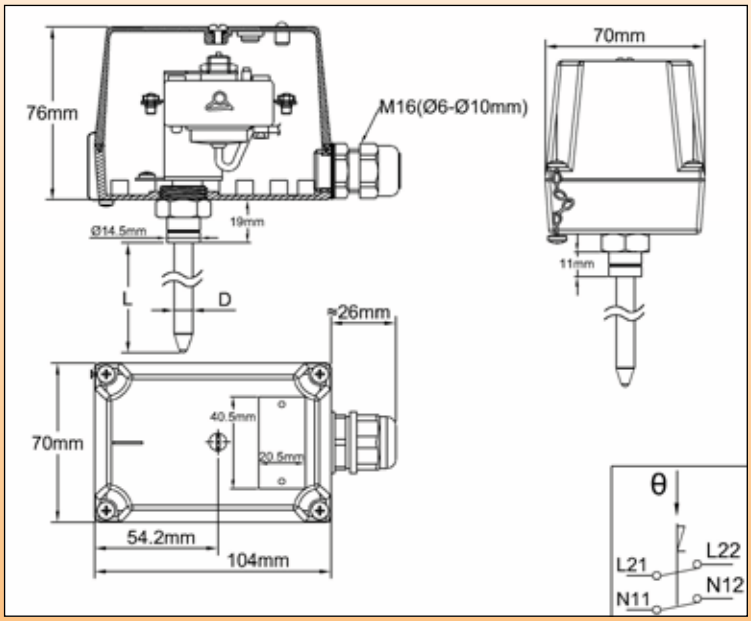
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The Y1 range of thermostats with IP65 enclosures

High limit rod thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset 	Screwed cap, sealed setting 	Double pole 	Rod 		**Y1V** Limiter **8X**





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety, when 2 poles must be cut**
- **Sealed temperature set point**
- **M4 Screw cap access is convenient for reset without need to open the enclosure.**

Standard electrical and mechanical life model

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: **fail safe** manual reset high temperature limit.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: On thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: double pole, open on rise (DPNC)
Electrical rating: 20A res. 250VAC
- Electrical life >**1.000 cycles.**

Minimum Storage temperature: -35°C (-30°F)

Main references

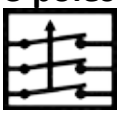
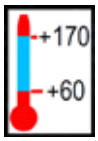
Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
Y1V8X0060090811C	60±5°C (140±9°F)	20	110	8	50	90°C (194°F)
Y1V8X0060090823C	60±5°C (140±9°F)	20	230	8	50	90°C (194°F)
Y1V8X0060090830C	60±5°C (140±9°F)	20	300	8	50	90°C (194°F)
Y1V8X0070100811C	70±5°C (158±9°F)	30	110	8	50	100°C (212°F)
Y1V8X0070100823C	70±5°C (158±9°F)	30	230	8	50	100°C (212°F)
Y1V8X0070100830C	70±5°C (158±9°F)	30	300	8	50	100°C (212°F)
Y1V8X0080110811C	80±5°C (176±9°F)	40	110	8	50	110°C (230°F)
Y1V8X0080110823C	80±5°C (176±9°F)	40	230	8	50	110°C (230°F)
Y1V8X0080110830C	80±5°C (176±9°F)	40	300	8	50	110°C (230°F)
Y1V8X0090120811C	90±5°C (194±9°F)	50	110	8	50	120°C (248°F)
Y1V8X0090120823C	90±5°C (194±9°F)	50	230	8	50	120°C (248°F)
Y1V8X0090120830C	90±5°C (194±9°F)	50	300	8	50	120°C (248°F)
Y1V8X0110140811C	110±5°C (230±9°F)	70	110	8	50	140°C (284°F)
Y1V8X0110140823C	110±5°C (230±9°F)	70	230	8	50	140°C (284°F)
Y1V8X0110140830C	110±5°C (230±9°F)	70	300	8	50	140°C (284°F)
Y1V8X0130160811C	130±6°C (266±11°F)	90	110	8	60	160°C (320°F)
Y1V8X0130160823C	130±6°C (266±11°F)	90	230	8	60	160°C (320°F)
Y1V8X0130160830C	130±6°C (266±11°F)	90	300	8	60	160°C (320°F)
Y1V8X0150180823C	150±7°C (302±13°F)	110	230*	8	60	180°C (356°F)
Y1V8X0150180830C	150±7°C (302±13°F)	110	300	8	60	180°C (356°F)
Y1V8X0150180845C	150±7°C (302±13°F)	110	450	8	60	180°C (356°F)
Y1V8X0170200823C	170±7°C (338±13°F)	130	230*	8	60	200°C (392°F)
Y1V8X0170200830C	170±7°C (338±13°F)	130	300	8	60	200°C (392°F)
Y1V8X0170200845C	170±7°C (338±13°F)	130	450	8	60	200°C (392°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 900 mm

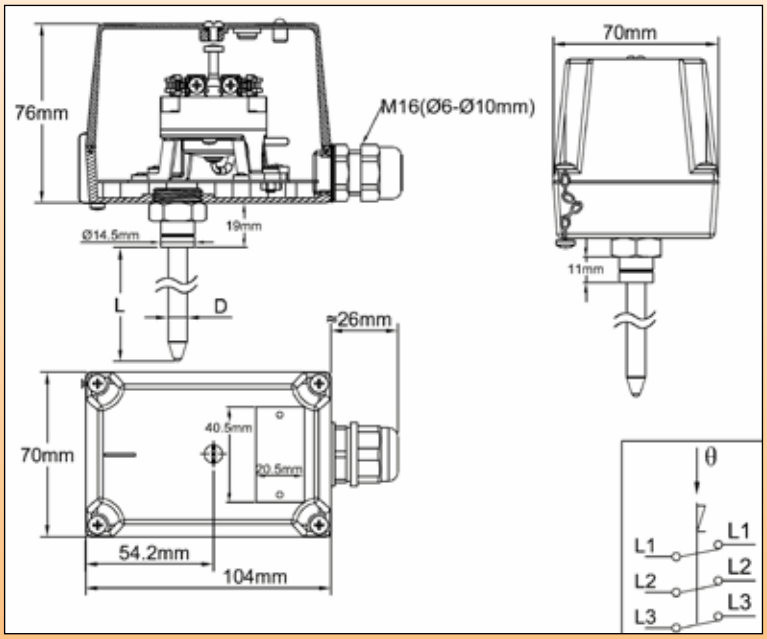
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The Y1 range of thermostats with IP65 enclosures

High limit rod thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset 	Screwed cap, sealed setting 	3 poles 	Rod 		**Y1V** Limiter **82**





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **3 pole high limit safety**
- **Sealed temperature set point**
- **M4 Screw cap access is convenient for reset without need to open the enclosure.**

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F)**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles, open on rise (3PNC)
Electrical rating: 3 x 16A 250VAC, 3 x 10A 400VAC (**10.000 cycles**), 3 x 25A 250VAC, 3 x 16A 400VAC (**300 cycles**)
Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration temperature °C (°F)	Minimum resettable temperature °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
Y1V820060090811C	60±5°C (140±9°F)	20	110	8	50	90°C (194°F)
Y1V820060090823C	60±5°C (140±9°F)	20	230	8	50	90°C (194°F)
Y1V820060090830C	60±5°C (140±9°F)	20	300	8	50	90°C (194°F)
Y1V820070100811C	70±5°C (158±9°F)	30	110	8	50	100°C (212°F)
Y1V820070100823C	70±5°C (158±9°F)	30	230	8	50	100°C (212°F)
Y1V820070100830C	70±5°C (158±9°F)	30	300	8	50	100°C (212°F)
Y1V820080110811C	80±5°C (176±9°F)	40	110	8	50	110°C (230°F)
Y1V820080110823C	80±5°C (176±9°F)	40	230	8	50	110°C (230°F)
Y1V820080110830C	80±5°C (176±9°F)	40	300	8	50	110°C (230°F)
Y1V820090120811C	90±5°C (194±9°F)	50	110	8	50	120°C (248°F)
Y1V820090120823C	90±5°C (194±9°F)	50	230	8	50	120°C (248°F)
Y1V820090120830C	90±5°C (194±9°F)	50	300	8	50	120°C (248°F)
Y1V820110140811C	110±5°C (230±9°F)	70	110	8	50	140°C (284°F)
Y1V820110140823C	110±5°C (230±9°F)	70	230	8	50	140°C (284°F)
Y1V820110140830C	110±5°C (230±9°F)	70	300	8	50	140°C (284°F)
Y1V820130160811C	130±6°C (266±11°F)	90	110	8	60	160°C (320°F)
Y1V820130160823C	130±6°C (266±11°F)	90	230	8	60	160°C (320°F)
Y1V820130160830C	130±6°C (266±11°F)	90	300	8	60	160°C (320°F)
Y1V820150180823C	150±7°C (302±13°F)	110	230*	8	60	180°C (356°F)
Y1V820150180830C	150±7°C (302±13°F)	110	300	8	60	180°C (356°F)
Y1V820150180845C	150±7°C (302±13°F)	110	450	8	60	180°C (356°F)
Y1V820170200823C	170±7°C (338±13°F)	130	230*	8	60	200°C (392°F)
Y1V820170200830C	170±7°C (338±13°F)	130	300	8	60	200°C (392°F)
Y1V820170200845C	170±7°C (338±13°F)	130	450	8	60	200°C (392°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 900 mm

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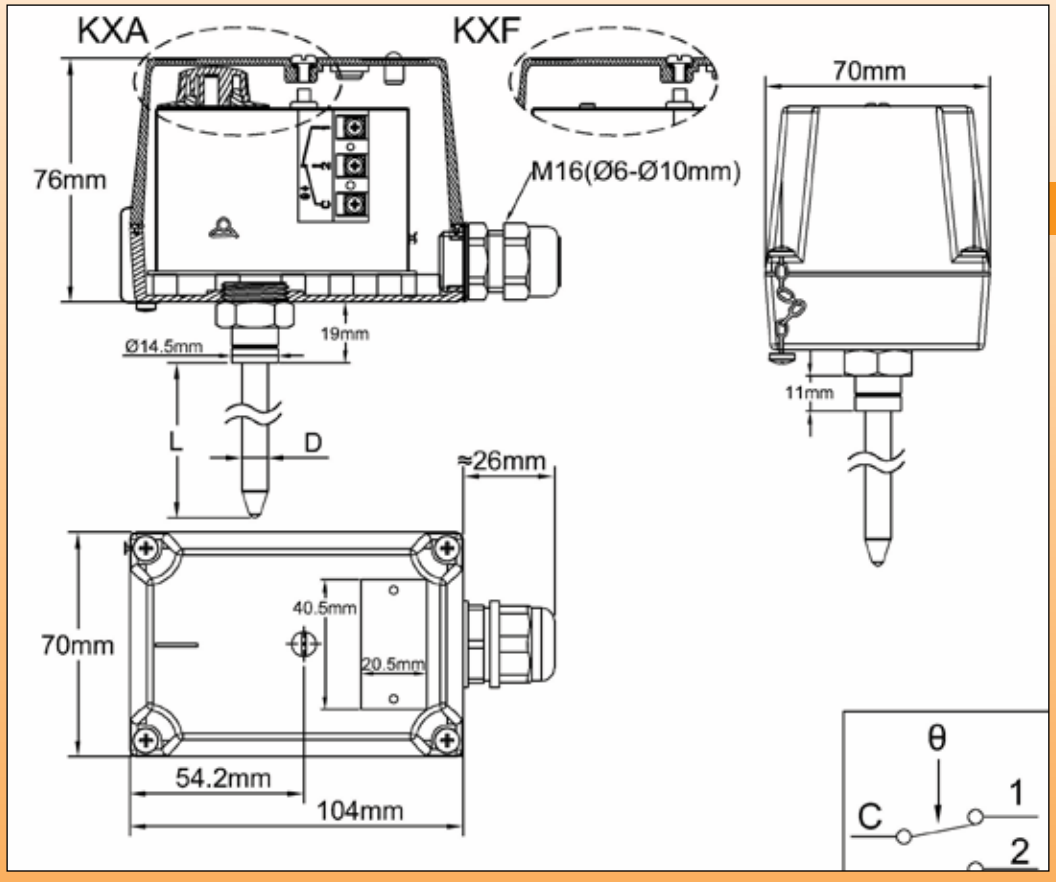
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The Y1 range of thermostats with IP65 enclosures

Adjustable high limit rod thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Internal	Screwed cap	Single pole	Rod	+760 / 0	**Y1W** Adjustable limiter **KXA, KXF**





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as high limit safety.
- Changeover contact for switch off remote signaling
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.
- Exist with adjustable set point or with fixed and sealed setting without access for user
- Internal adjustment is convenient for products that must not be frequently adjusted.

Withstand very low ambient temperatures
Long electrical and mechanical life model

Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F), or fixed setting between 0 and +760°C (+32+1400°F)
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Fixed sealed setting model does not have knob.
Action: High limit with manual reset
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >100.000 cycles.
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Main references

Temperature range °C (°F)	References	Minimum manual reset differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
0-50°C (32-120°F)	Y1WKXA000050023C	6°C (11 °F)	230	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1WKXA000050030C	6°C (11 °F)	300	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1WKXA000050045C	6°C (11 °F)	450	10	152	60°C (140°F)
0-70°C (32-160°F)	Y1WKXA000070823C	15°C (27°F)	230	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1WKXA000705830C	15°C (27°F)	300	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1WKXA000705845C	15°C (27°F)	450	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1WKXA020090823C	15°C (27°F)	230	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1WKXA020090830C	15°C (27°F)	300	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1WKXA020090845C	15°C (27°F)	450	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1WKXA010150823C	15°C (27°F)	230	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1WKXA010150830C	15°C (27°F)	300	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1WKXA010150845C	15°C (27°F)	450	8	120	160°C (320°F)
80-200°C (175-390°F)	Y1WKXA080200823C	30°C (54°F)	230	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1WKXA080200830C	30°C (54°F)	300	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1WKXA080200845C	30°C (54°F)	450	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1WKXA050300830C	30°C (54°F)	300*	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1WKXA050300845C	30°C (54°F)	450	8	100	320°C (610°F)
10-450°C (50-840°F)	Y1WKXA010450845C	60°C (108°F)	450*	8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1WKXA060500845C	60°C (108°F)	450*	8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1WKXA180600845C	60°C (108°F)	450*	8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1WKXA280700645C	60°C (108°F)	450*	6	300	760°C (1400°F)
Fixed setting between 0°C and +30°C (+32+86°F)	Y1WKXF022***023C	6°C (11 °F)	230	10	152	60°C (140°F)
Fixed setting between 0°C and +30°C (+32+86°F)	Y1WKXF022***030C	6°C (11 °F)	300	10	152	60°C (140°F)
Fixed setting between 0°C and +30°C (+32+86°F)	Y1WKXF022***045C	6°C (11 °F)	450	10	152	60°C (140°F)
Fixed setting between +30°C and +140°C (+86°F+284°F)	Y1WKXF050***823C	15°C (27°F)	230	8	120	160°C (320°F)
Fixed setting between +30°C and +140°C (+86°F+284°F)	Y1WKXF050***830C	15°C (27°F)	300	8	120	160°C (320°F)
Fixed setting between +30°C and +140°C (+86°F+284°F)	Y1WKXF050***845C	15°C (27°F)	450	8	120	160°C (320°F)
Fixed setting between +140°C and +300°C (+284°F+572°F)	Y1WKXF001***823C	30°C (54°F)	230	8	100	320°C (610°F)
Fixed setting between +140°C and +300°C (+284°F+572°F)	Y1WKXF001***830C	30°C (54°F)	300	8	100	320°C (610°F)
Fixed setting between +140°C and +300°C (+284°F+572°F)	Y1WKXF001***845C	30°C (54°F)	450	8	100	320°C (610°F)
Fixed setting between +300°C and +650°C (+572°F+1200°F)	Y1WKXF070***845C	60°C (108°F)	450*	8	120	760°C (1400°F)
Fixed setting between +650°Cand +740°C (+1200°F+1364°F)	Y1WKXF080***645C	60°C (108°F)	450*	6	300	760°C (1400°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

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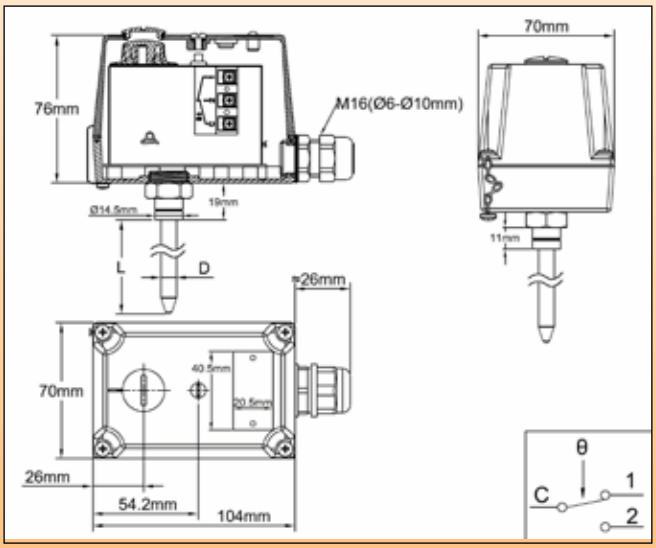
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The Y1 range of thermostats with IP65 enclosures

Adjustable high limit rod thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap	Screwed cap	Single pole	Rod	+760 / 0	**Y1X** Adjustable limiter **KX**





Applications:
- Remote control in usual industrial application and environment, not hazardous areas, for use as **high limit safety.**
- **Changeover contact for switch off remote signaling**
- **Internal adjustment under screwed cap is convenient for products that must be occasionally adjusted.**
- **Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.**

Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Set point adjustment ranges: **0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 10-150°C (50-300°F), 80-200°C (175-390°F), 50-300°C (120-570°F), 10-450°C (50-840°F), 60-500°C (140-930°F), 180-600°C (360-1110°F), 280-700°C (540-1290°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: High limit with manual reset
Sensing element: Liquid expansion rod. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**100.000 cycles.**
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Main references

Temperature range °C (°F)	References	Minimum manual reset differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
0-50°C (32-120°F)	Y1XKXA000050023C	6°C (11 °F)	230	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1XKXA000050030C	6°C (11 °F)	300	10	152	60°C (140°F)
0-50°C (32-120°F)	Y1XKXA000050045C	6°C (11 °F)	450	10	152	60°C (140°F)
0-70°C (32-160°F)	Y1XKXA000070823C	15°C (27°F)	230	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1XKXA0000705830C	15°C (27°F)	300	8	120	160°C (320°F)
0-70°C (32-160°F)	Y1XKXA0000705845C	15°C (27°F)	450	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1XKXA020090823C	15°C (27°F)	230	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1XKXA020090830C	15°C (27°F)	300	8	120	160°C (320°F)
20-90°C (70-195°F)	Y1XKXA020090845C	15°C (27°F)	450	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1XKXA010150823C	15°C (27°F)	230	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1XKXA010150830C	15°C (27°F)	300	8	120	160°C (320°F)
10-150°C (50-300°F)	Y1XKXA010150845C	15°C (27°F)	450	8	120	160°C (320°F)
80-200°C (175-390°F)	Y1XKXA080200823C	30°C (54°F)	230	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1XKXA080200830C	30°C (54°F)	300	8	100	320°C (610°F)
80-200°C (175-390°F)	Y1XKXA080200845C	30°C (54°F)	450	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1XKXA050300830C	30°C (54°F)	300*	8	100	320°C (610°F)
50-300°C (120-570°F)	Y1XKXA05030045C	30°C (54°F)	450	8	100	320°C (610°F)
10-450°C (50-840°F)	Y1XKXA010450845C	60°C (108°F)	450*	8	120	760°C (1400°F)
60-500°C(140-930°F)	Y1XKXA060500845C	60°C (108°F)	450*	8	120	760°C (1400°F)
180-600°C (360-1110°F)	Y1XKXA180600845C	60°C (108°F)	450*	8	120	760°C (1400°F)
280-700°C (540-1290°F)	Y1XKXA280700645C	60°C (108°F)	450*	6	300	760°C (1400°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

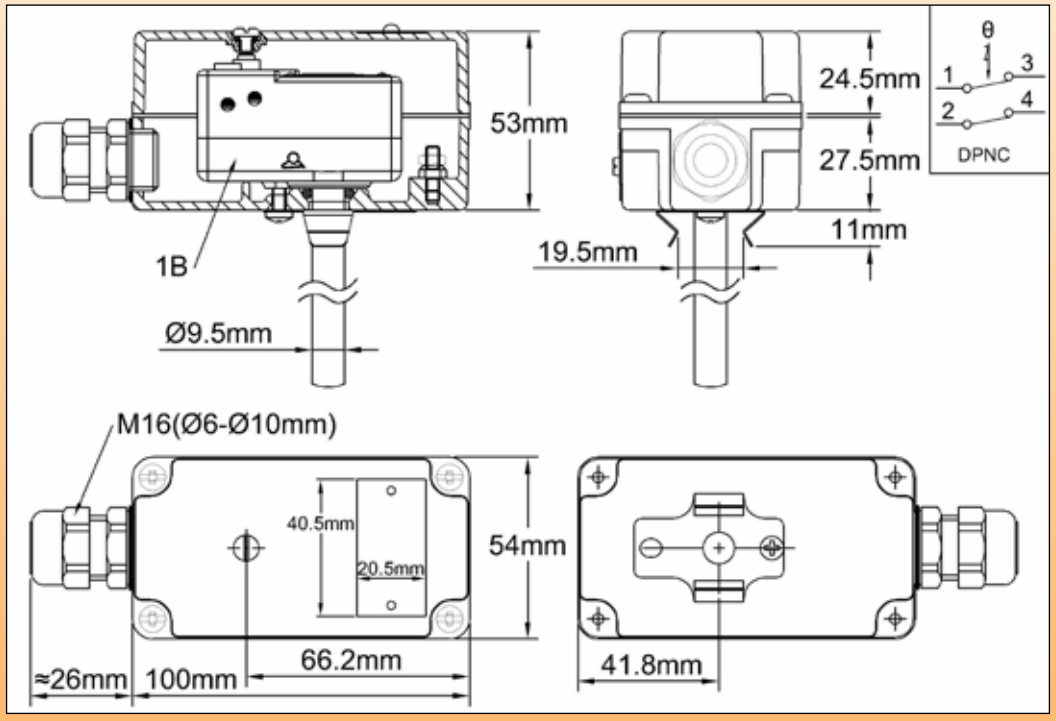
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The Y1 range of thermostats with IP65 enclosures

Adjustable high limit rod thermostats (bimetal expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Internal	Screwed cap	Single pole	Rod	+165 / -10	**Y1Y** Adjustable limiter **1X**





Applications:
- Changeover contact for switch off remote signaling

These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for for use as high limit safety.,in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
- Small footprint enclosure
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.
- Short response time
- Low sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 100 x 53 x 54mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 10+130°C (+14+264°F), +15+95 °C (+59+203°F), +25+165°C (+77+329°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: High limit with manual reset and adjustable set point
Sensing element: Bimetal rod, stainless steel-Invar. A clip under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating: 15A (4)A 250V/400VAC. Res.
Electrical life >100.000 cycles.
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Min reset differential value °C (°F)	Max. temperature on rod °C (°F)
-10+130°C (+14+264°F)	200	Y1Y1XA-10130B20L	20°C (36°F)	180°C (356°F)
+15+95 °C (+59+203°F)	200	Y1Y1XA015095B20L	20°C (36°F)	145°C (293°F)
+15+95 °C (+59+203°F)	300	Y1Y1XA015095B30L	15°C (27°F)	145°C (293°F)
+25+165°C (+77+329°F)	200	Y1X1XA025165B20L	20°C (36°F)	215°C (419°F)

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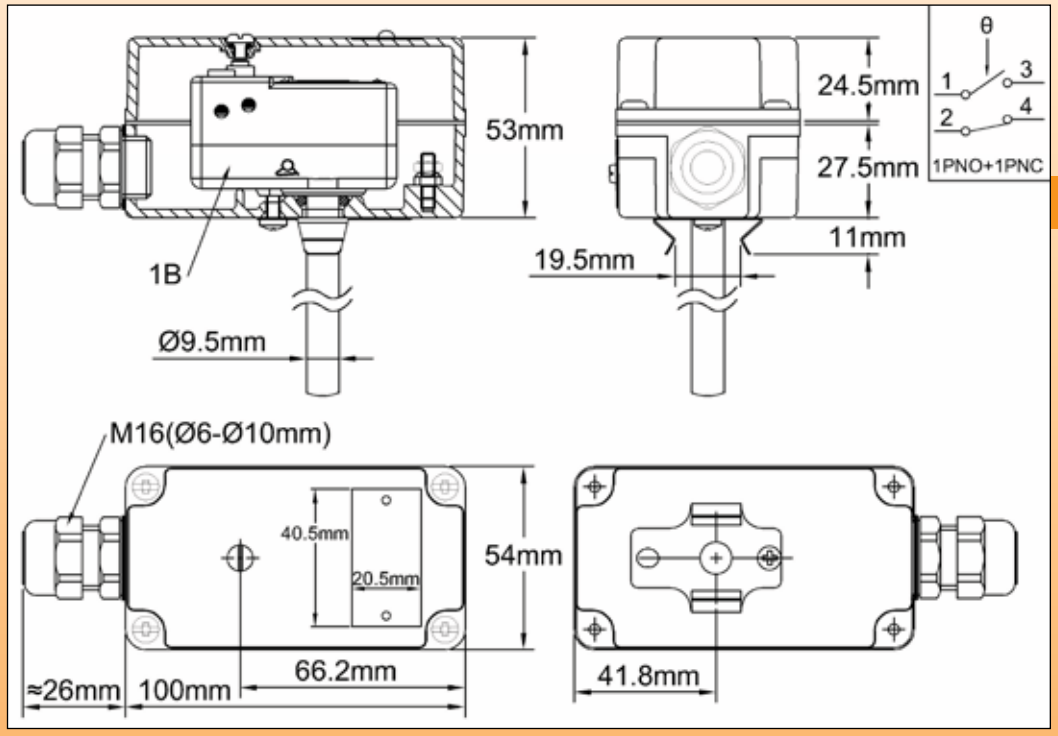
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The Y1 range of thermostats with IP65 enclosures

Adjustable high limit rod thermostats (bimetal expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Internal	Screwed cap	Double pole	Rod	+165 / -10	Y1Y Adjustable limiter 1D





Applications:
- Double pole contact for 2 phase switch off

These bimetal rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for for use as high limit safety.,in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).

- Small footprint enclosure
- Internal adjustment is convenient for products that must not be frequently adjusted.
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.
- Short response time
- Low sensibility to strong vibrations

Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 100 x 53 x 54mm. Grey RAL7032 epoxy painting
Set point adjustment ranges: 10+130°C (+14+264°F), +15+95 °C (+59+203°F), +25+165°C (+77+329°F).
Temperature adjustment: Set point adjustable by arrow style knob, on °C printed dial. Consult us for °F versions
Action: High limit with manual reset and adjustable set point
Sensing element: Bimetal rod, stainless steel-Invar. A clips under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: on thermostat screw terminals
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: on pockets for liquid immersion or flange for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: DPST, open on temperature rise
Electrical rating: 15A (4)A 250V/400VAC. Res.
Electrical life >100.000 cycles.
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Rod length (mm)	Reference with standard differential	Min reset differential value °C (°F)	Max. temperature on rod °C (°F)
-10+130°C (+14+264°F)	200	Y1Y1DA-10130B20L	20°C (36°F)	180°C (356°F)
+15+95 °C (+59+203°F)	200	Y1Y1DA015095B20L	20°C (36°F)	145°C (293°F)
+15+95 °C (+59+203°F)	300	Y1Y1DA015095B30L	15°C (27°F)	145°C (293°F)
+25+165°C (+77+329°F)	200	Y1Y1DA025165B20L	20°C (36°F)	215°C (419°F)

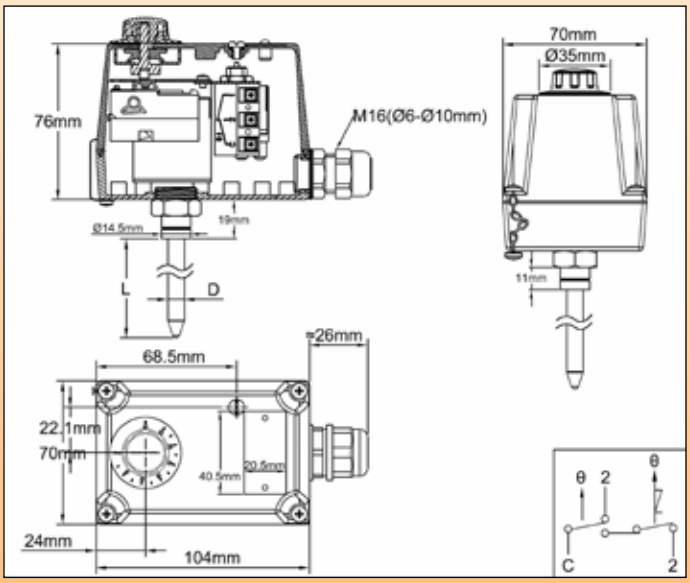
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The Y1 range of thermostats with IP65 enclosures

Combined rod thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Control + reset	External knob	Screwed cap	Single pole	Rod	+320 +30	Y1Z Combined Thermostat 8G+8L





Applications:
These liquid expansion rod thermostats can be installed inside pockets as immersion thermostats in pipelines and containers, and for monitoring temperature in air ducts, in usual industrial application and environment. (Not suitable for hazardous areas).
This product combines a control thermostat with temperature printed knob and a fixed setting manual reset thermostat
- Knob external adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Fixed setting manual reset access under screwed cap allows resetting without need to remove the cover.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK6, 104 x 102 x 86 mm. Mounted on a SUS304 stainless steel wall mounting plate. Grey RAL7032 epoxy painting
Control thermostat set point adjustment ranges: 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F).
Control thermostat temperature adjustment: Set point adjustable by temperature printed external knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Manual reset: sealed fixed setting, reset accessby M4 screwed cap.
Manual reset calibration values:
80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), 150±8°C (302±15°F), 175±8°C (347±15°F), 220±11°C (428±20°F), 270±13°C (518±23°F), 300±15°C (572±27°F).Other calibration temperature on request, between 30°C and 320°C(85°F and 610°F)
Action: temperature control thermostat + high limit manual reset thermostat.
Sensing elements: Two liquid expansion bulbs. This rod has a non-temperature sensing zone named dead zone which allows thermal insulation crossing. An increased diameter under the thermostat head allows mounting pockets or brackets (See pockets in the accessories section)
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: On pockets for liquid immersion or brackets for air ducts
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contacts: SPDT on the control thermostat and open on temperature rise on manual reset
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (Control thermostat only , C-2 6A(0.6) 250VAC)
- Electrical life >100.000 cycles for control thermostat, 6000 cycles for manual reset thermostat

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Manual reset standard calibration °C (°F) *	References	Control differential °C (°F)	Min. manual reset Differential °C (°F)	Rod length (C, mm)	Rod diameter (D, mm)	Temperature sensing length (E, mm)	Max. temperature on rod °C (°F)
4-40°C (40-105°F)	50±5°C (122±9°F)	Y1Z8GB004040023C	3±2°C (5.5±3.6 °F)	5°C (9°F)	230	10	230	60°C (140°F)
4-40°C (40-105°F)	50±5°C (122±9°F)	Y1Z8GB004040030C	3±2°C (5.5±3.6 °F)	5°C (9°F)	300	10	230	60°C (140°F)
4-40°C (40-105°F)	50±5°C (122±9°F)	Y1Z8GB004040045C	3±2°C (5.5±3.6 °F)	5°C (9°F)	450	10	230	60°C (140°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y1Z8GB030090023C	4±3°C (7±5.5 °F)	7°C (12.6°F)	230	10	160	120°C (250°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y1Z8GB030090030C	4±3°C (7±5.5 °F)	7°C (12.6°F)	300	10	160	120°C (250°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y1Z8GB030090045C	4±3°C (7±5.5 °F)	7°C (12.6°F)	450	10	160	120°C (250°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y1Z8GB030110023C	5±3°C (9±5.5 °F)	7°C (12.6°F)	230	10	160	150°C (300°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y1Z8GB030110030C	5±3°C (9±5.5 °F)	7°C (12.6°F)	300	10	160	150°C (300°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y1Z8GB030110045C	5±3°C (9±5.5 °F)	7°C (12.6°F)	450	10	160	150°C (300°F)
50-200°C (120-390°F)	220±11°C (428±20°F)	Y1Z8GB050200023C	8±5°C (14.5±9 °F)	13°C (23.4°F)	230	10	120	245°C (473°F)
50-200°C (120-390°F)	220±11°C (428±20°F)	Y1Z8GB050200030C	8±5°C (14.5±9 °F)	13°C (23.4°F)	300	10	120	245°C (473°F)
50-200°C (120-390°F)	220±11°C (428±20°F)	Y1Z8GB050200045C	8±5°C (14.5±9 °F)	13°C (23.4°F)	450	10	120	245°C (473°F)
50-300°C (120-570°F)	300±15°C (572±27°F)	Y1Z8GB050300030C	10±5°C (18±9 °F)	15°C (27°F)	300	10	200	325°C (617°F)
50-300°C (120-570°F)	300±15°C (572±27°F)	Y1Z8GB050300045C	10±5°C (18±9 °F)	15°C (27°F)	450	10	200	325°C (617°F)

* Other manual reset calibration values on request. Ask for references
On request: other rod length up to 1500 mm

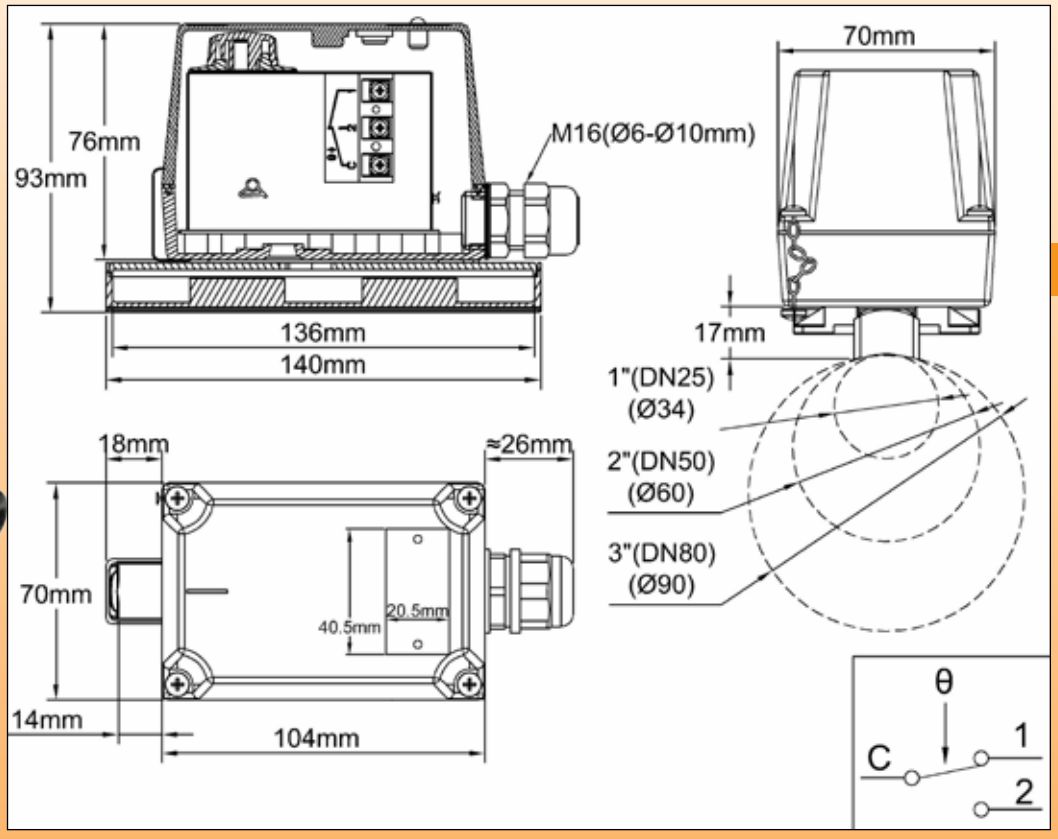
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Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Pipe mounting	-+120 / 0	Y10 Thermostat KR, KU





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
Internal adjustment is convenient for products that must not be frequently adjusted.
- Insensibility to strong vibrations
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: **-0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 20-120°C (68-248°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable withouttool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Max. temperature on tube °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
0-50°C (32-120°F)	Y10KRA000050200T	3±2°C (5.5±3.6 °F)	Y10KUA000050200T	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y10KRA000070500T	5±3°C (9±5.4°F)	Y10KUA000070500T	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-90°C (70-195°F)	Y10KRA020090500T	5±3°C (9±5.4°F)	Y10KUA020090500T	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-120°C (68-248°F)	Y10KRA020120010T	5±3°C (9±5.4°F)	Y10KUA020120010T	3±2°C (5.5±3.6 °F)	160°C (320°F)

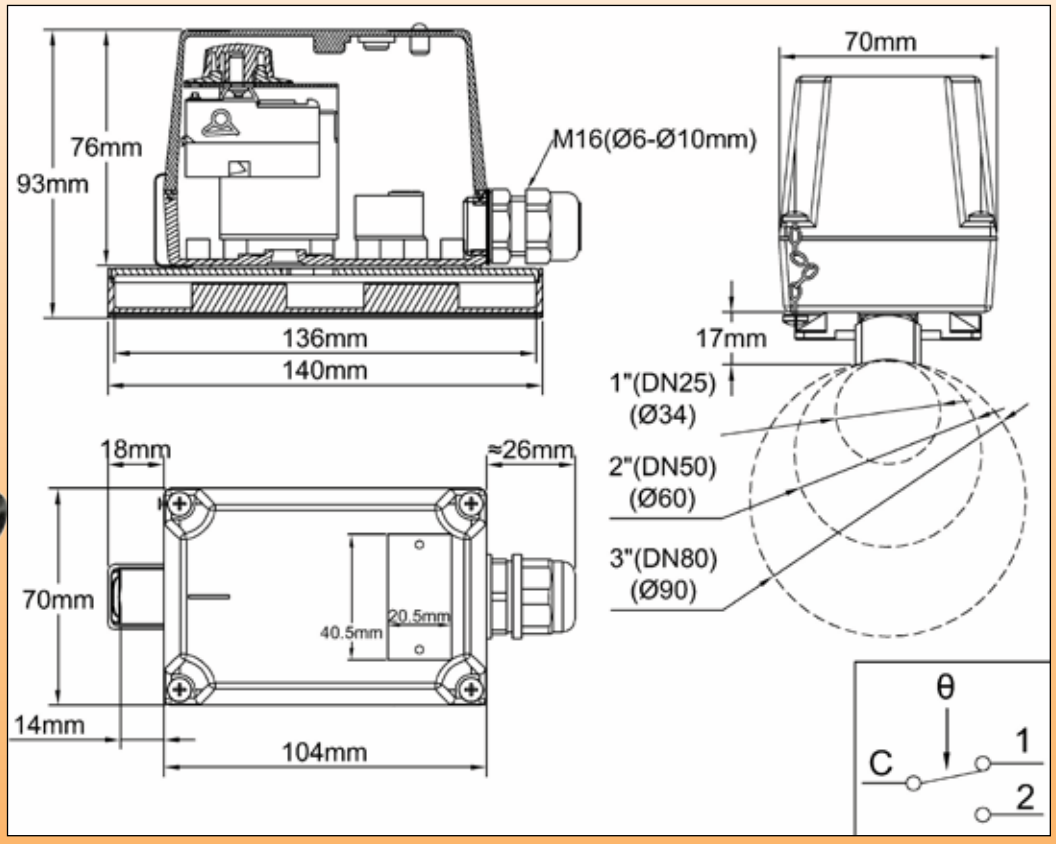
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Internal	Single pole	Pipe mounting	-4 +110	Y10 Thermostat 8G





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
Internal adjustment is convenient for products that must not be frequently adjusted.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: **-4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Max. temperature on tube °C (°F)
4-40°C (40-105°F)	Y108GB004040AA6T	3±2°C (5.5±3.6 °F)	60°C (140°F)
30-90°C (85-195°F)	Y108GB030090AA6T	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	Y108GB030110AA6T	5±3°C (9±5.5 °F)	150°C (300°F)

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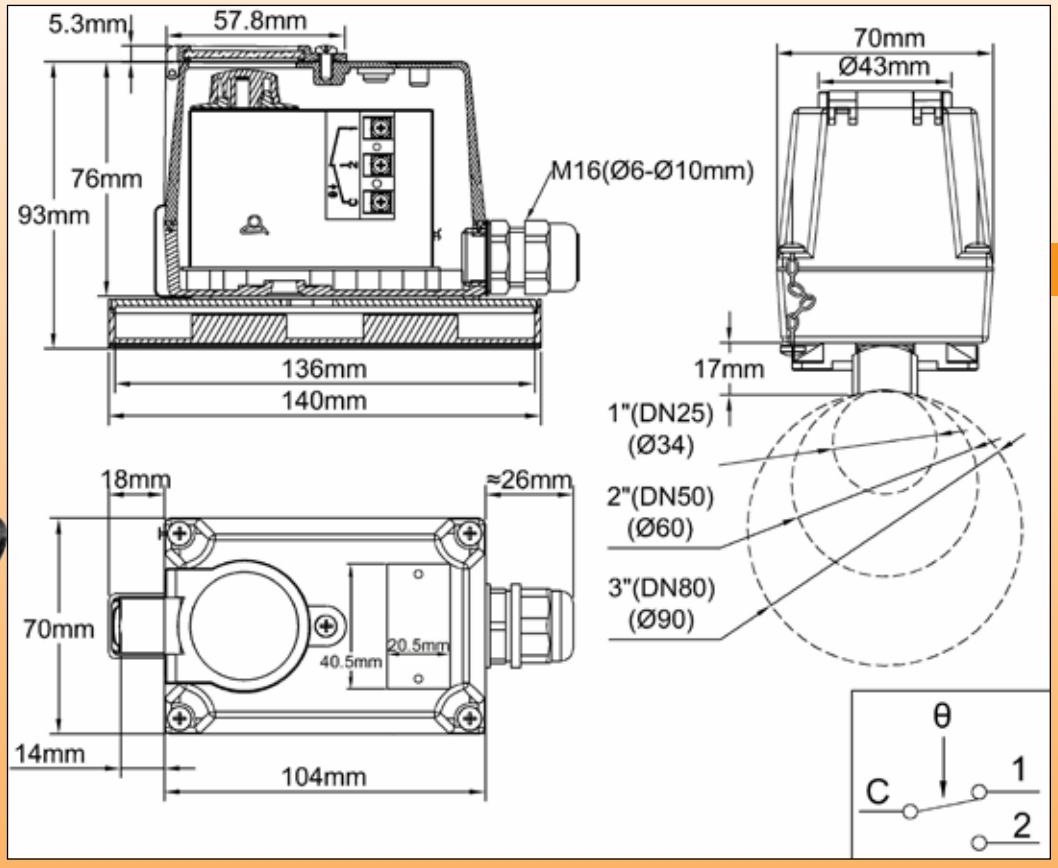
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Pipe mounting	-+120 / 0	Y11 Thermostat KR, KU





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
- Insensibility to strong vibrations
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: **-0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 20-120°C (68-248°F).**
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**500.000 cycles.**
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

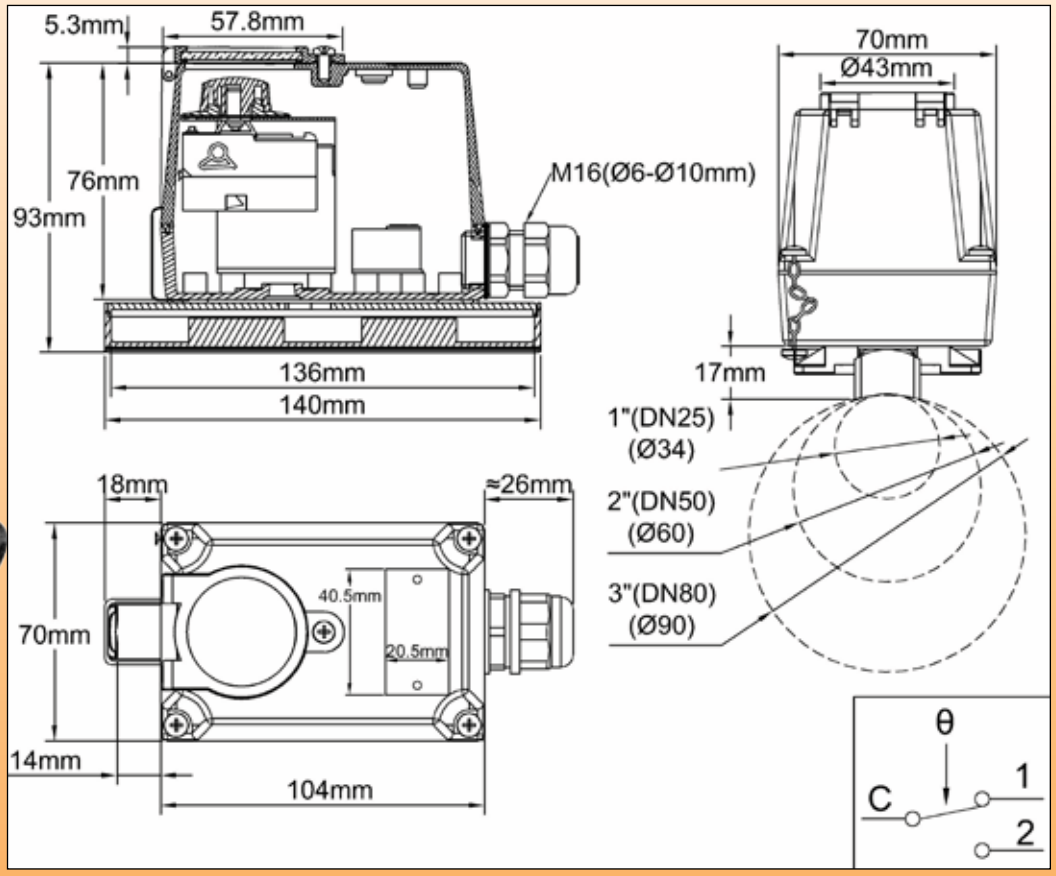
Temperature range °C (°F)	Standard differential		Reduced differential		Max. temperature on tube °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
0-50°C (32-120°F)	Y11KRA000050200U	3±2°C (5.5±3.6 °F)	Y11KUA000050200U	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y11KRA000070500U	5±3°C (9±5.4°F)	Y11KUA000070500U	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-90°C (70-195°F)	Y11KRA020090500U	5±3°C (9±5.4°F)	Y11KUA020090500U	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-120°C (68-248°F)	Y11KRA020120010U	5±3°C (9±5.4°F)	Y11KUA020120010U	3±2°C (5.5±3.6 °F)	160°C (320°F)

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Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	Window	Single pole	Pipe mounting	+110 / +4	Y11 Thermostat 8G





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
- Window adjustment is convenient for products needing occasional set point change. It allows to visualize the point without having to remove the cover
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: -4-40°C (40-105°F),30-90°C (85-195°F), 30-110°C (85-230°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob with window access.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1 ", DN25), 60 mm (2", DN50) et 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >**100.000 cycles.**
Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Max. temperature on tube °C (°F)
4-40°C (40-105°F)	Y118GB004040AA6U	3±2°C (5.5±3.6 °F)	60°C (140°F)
30-90°C (85-195°F)	Y118GB030090AA6U	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	Y118GB030110AA6U	5±3°C (9±5.5 °F)	150°C (300°F)

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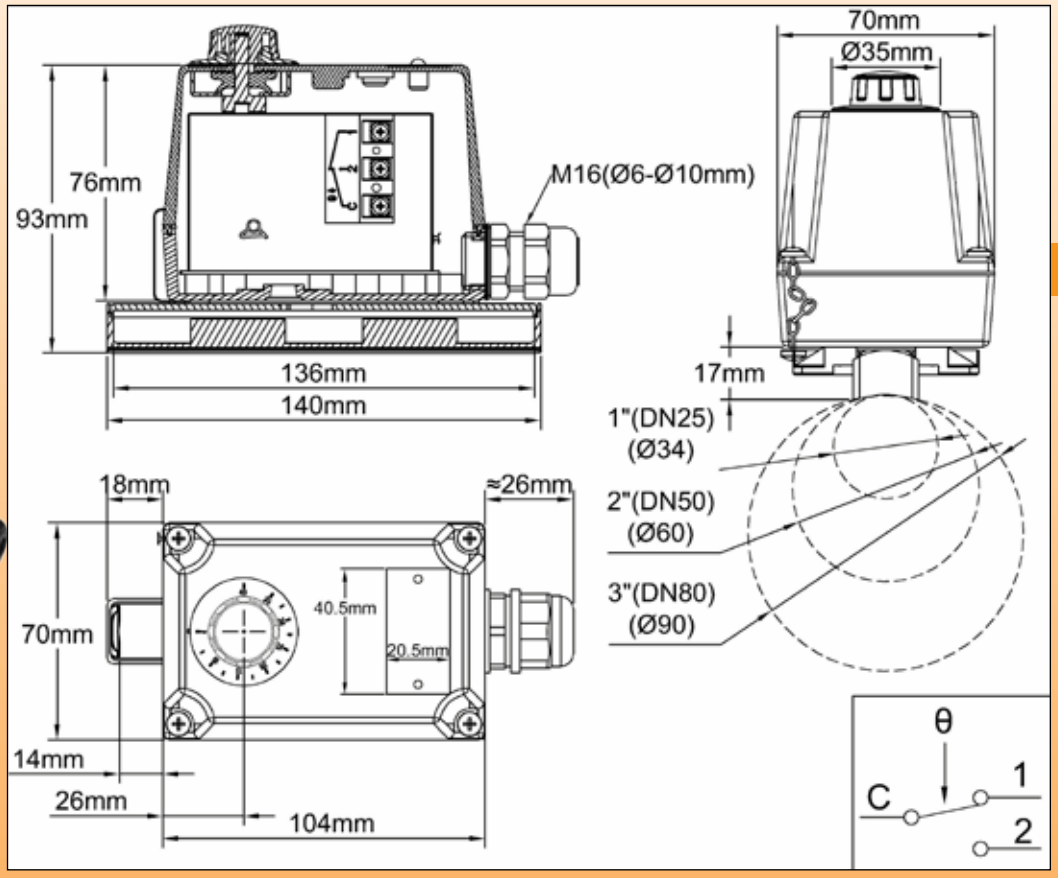
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External Knob	Single pole	Pipe mounting	-+120 / 0	Y12 Thermostat KR, KU





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
- External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Insensibility to strong vibrations

Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: -0-50°C (32-120°F), 0-70°C (32-160°F), 20-90°C (70-195°F), 20-120°C (68-248°F).
Temperature adjustment: Set point adjustable by temperature printed external knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >500.000 cycles.
Reduced differential models cannot be used in 400VAC
Storage minimum temperature: -50°C (-60°F)

Main references

Temperature range °C (°F)	Standard differential		Reduced differential		Max. temperature on tube °C (°F)
	References	Differential °C (°F)	References	Differential °C (°F)	
0-50°C (32-120°F)	Y12KRA000050200T	3±2°C (5.5±3.6 °F)	Y12KUA000050200T	2±1°C (3.6±1.8 °F)	60°C (140°F)
0-70°C (32-160°F)	Y12KRA000070500T	5±3°C (9±5.4°F)	Y12KUA000070500T	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-90°C (70-195°F)	Y12KRA020090500T	5±3°C (9±5.4°F)	Y12KUA020090500T	3±2°C (5.5±3.6 °F)	160°C (320°F)
20-120°C (68-248°F)	Y12KRA020120500T	5±3°C (9±5.4°F)	Y12KUA020120500T	3±2°C (5.5±3.6 °F)	160°C (320°F)

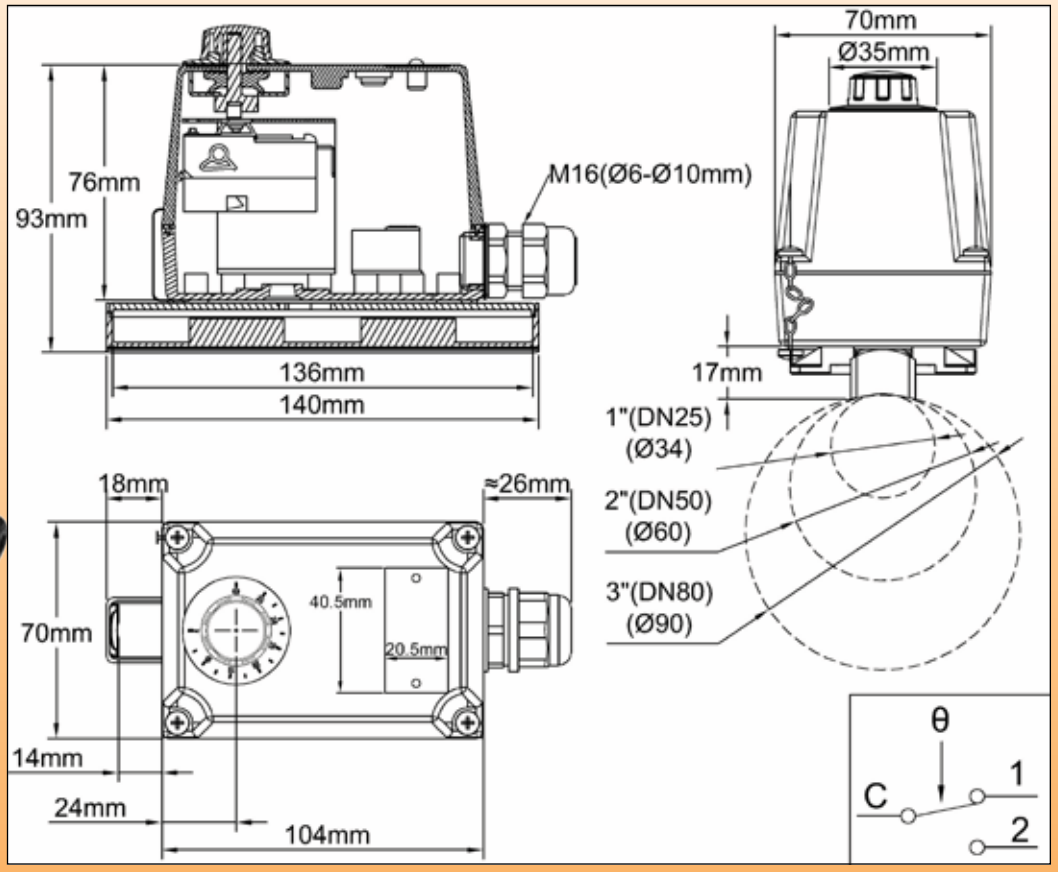
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External knob	Single pole	Pipe mounting	-+110 / +4	Y12 Thermostat 8G





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas)
- External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: -4-40°C (40-105°F),30-90°C (85-195°F), 30-110°C (85-230°F).
Temperature adjustment: Set point adjustable by temperature printed external knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.
Cannot be used in 400VAC
Minimum Storage temperature:- 35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Max. temperature on tube °C (°F)
4-40°C (40-105°F)	Y128GB004040AA6T	3±2°C (5.5±3.6 °F)	60°C (140°F)
30-90°C (85-195°F)	Y128GB030090AA6T	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	Y128GB030110AA6T	5±3°C (9±5.5 °F)	150°C (300°F)

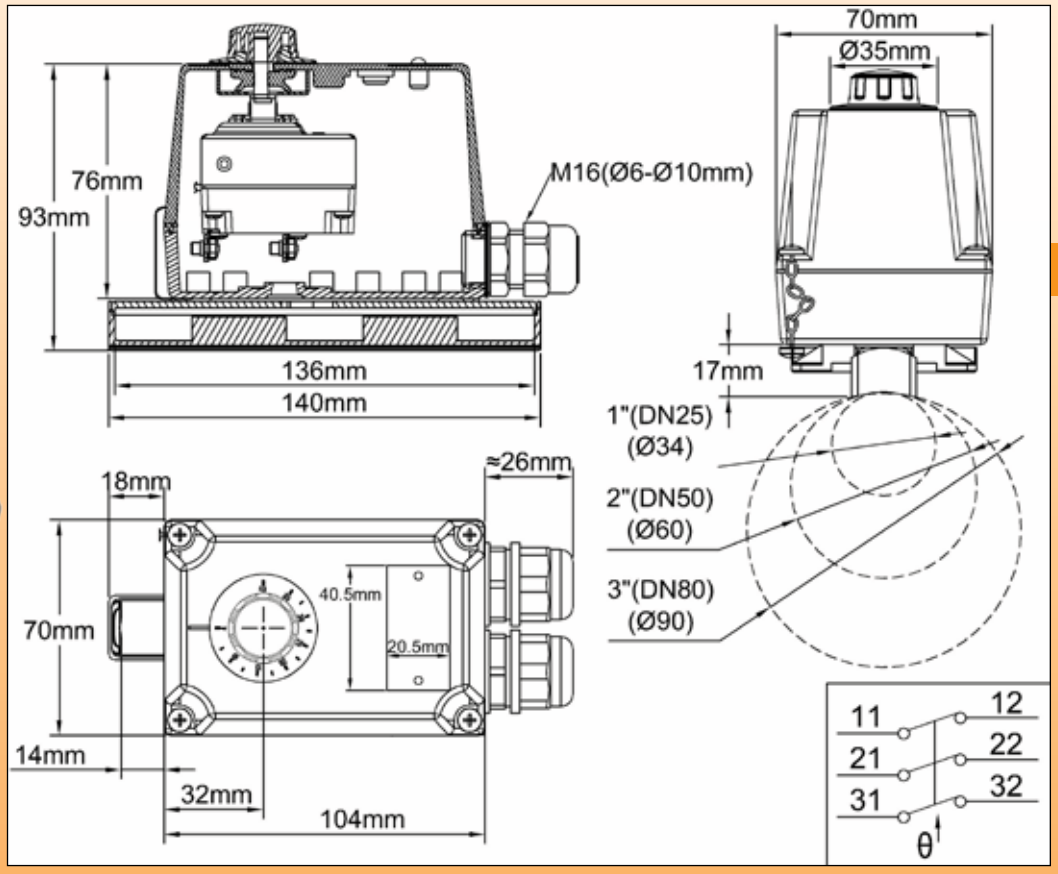
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Pipe temperature control thermostats (Liquid expansion measurement)

Type	Adjustment	Contact	Measurement	Range °C	Model
Control	External knob	3 poles	Pipe mounting	-110 +4	Y12 Thermostat 8C





Applications:
Pipe surface temperature control in usual industrial application and environment, when it is requested to control **a 3 pole** circuit
(No suitable for hazardous areas)
- External knob adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: -4-40°C (40-105°F),30-90°C (85-195°F), 30-110°C (85-230°F).
Temperature adjustment: Set point adjustable by temperature printed **external knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: Temperature control.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1 ", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles , open on temperature rise (3PNC)
Electrical rating: 3x16(4)A 250V, 3x10(1)A 400V, alt.
- Electrical life >**100.000 cycles.**
Minimum Storage temperature: -35°C (-30°F)

Main references

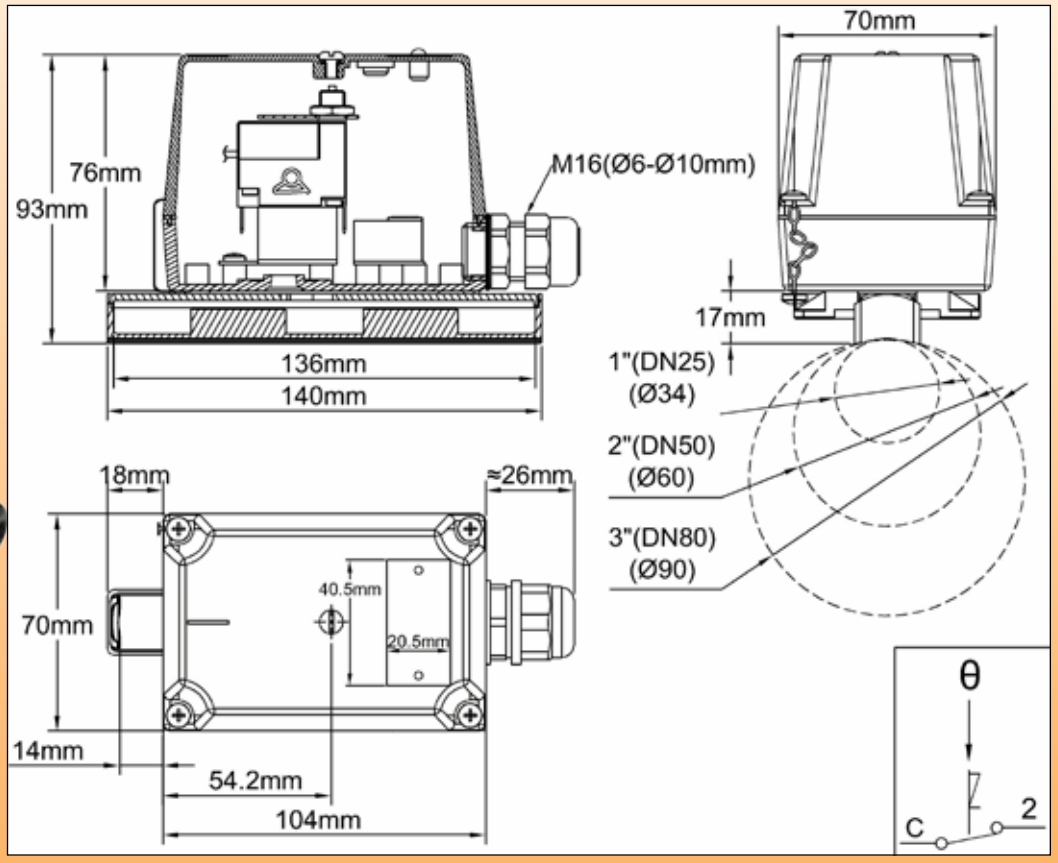
Temperature adjustment ranges °C (°F)	References	Differential °C (°F)	Max. temperature on tube °C (°F)
4-40°C (40-105°F)	Y128CB004040AO6T	3±2°C (5.5±3.6 °F)	60°C (140°F)
30-90°C (85-195°F)	Y128CB030090AO6T	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	Y128CB030110AO6T	5±3°C (9±5.5 °F)	150°C (300°F)

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Pipe temperature control thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	Single pole	Pipe mounting	+130 / +30	Y13 Limiter 8L





Applications:
Pipe surface temperature control in usual industrial application and environment, (Not suitable for hazardous areas), for use as high limit safety.
- Sealed temperature set point
- M4 Screw cap access is convenient for reset without need to open the enclosure.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point calibration value: 80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F), Other calibration temperature on request, between 30°C and 130°C(85°F and 266°F).
Temperature adjustment: fixed setting, sealed, no access to user.
Action: fail safe manual reset high temperature limit.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: Single pole, open on rise (SPNC)
Electrical rating: 16A res. 250/400VAC
- Electrical life >6.000 cycles.

Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration Temperature °C (°F)	Minimum resettable temperature °C (°F)	Max temperature on tube °C (°F)
Y138L0080105AO6T	80±8°C (176±15°F)	52°C (126°F)	105°C (221°F)
Y138L0090115AO6T	90±8°C (194±15°F)	60°C (140°F)	115°C (239°F)
Y138L0110135AO6T	110±8°C (230±15°F)	75°C (167°F)	135°C (275°F)
Y138L0130155AO6T	130±8°C (266±15°F)	80°C (176°F)	155°C (311°F)

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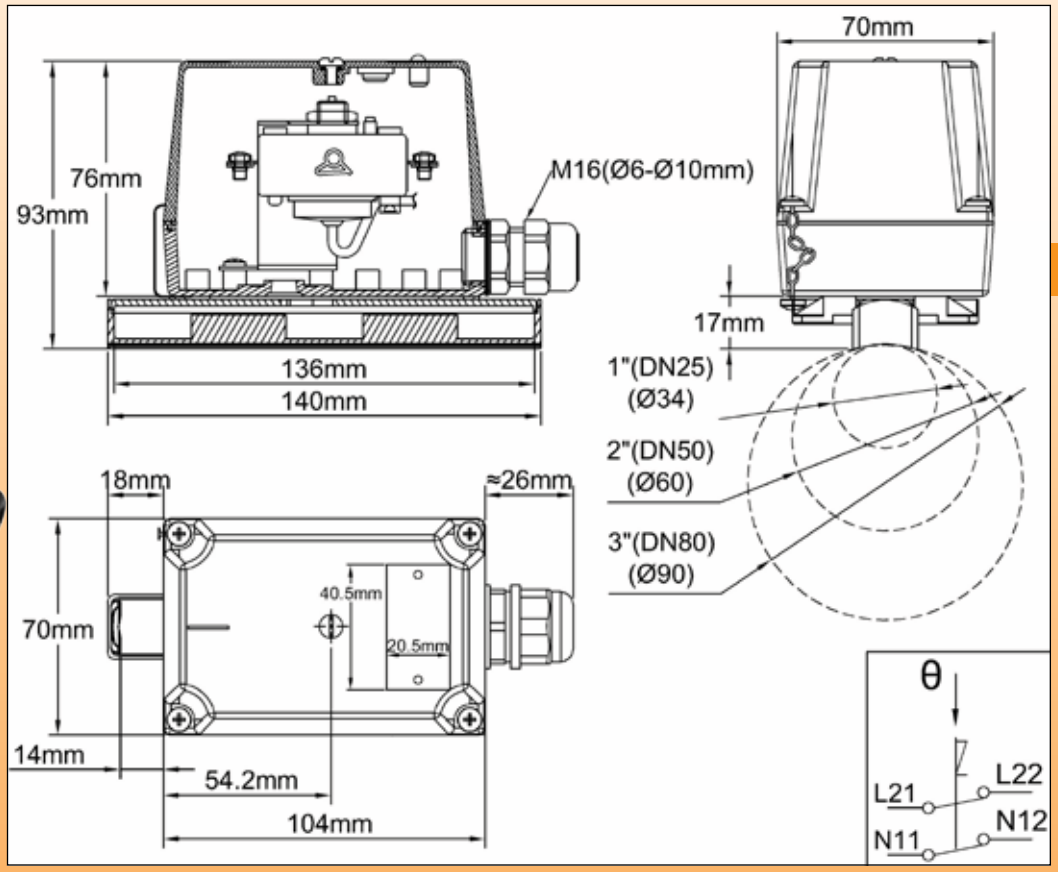
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap, sealed setting	Double pole	Pipe mounting	-+130 +60	Y13 Limiter 8X





Applications:
Pipe surface temperature control in usual industrial application and environment, for use as **high limit safety, when 2 poles must be cut** (Not suitable for hazardous areas)
- Sealed temperature set point
- M4 Screw cap access is convenient for reset without need to open the enclosure.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F),.Other calibration temperature on request, between 60°C and 130°C(140°F and 266°F).**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: **fail safe** manual reset high temperature limit.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1 ", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: double pole, open on rise (DPNC)
Electrical rating: 20A res. 250VAC
- Electrical life >**1.000 cycles.**
Minimum Storage temperature: -35°C (-30°F)

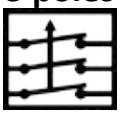
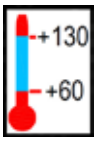
Main references

Reference	Calibration Temperature °C (°F)	Minimum resettable temperature °C (°F)	Max temperature on tube °C (°F)
Y138X0060090AE6T	60±5°C (140±9°F)	20	90°C (194°F)
Y138X0070100AE6T	70±5°C (158±9°F)	30	100°C (212°F)
Y138X0080110AE6T	80±5°C (176±9°F)	40	110°C (230°F)
Y138X0090120AE6T	90±5°C (194±9°F)	50	120°C (248°F)
Y138X0110140AE6T	110±5°C (230±9°F)	70	140°C (284°F)
Y138X0130160AE6T	130±6°C (266±11°F)	90	160°C (320°F)

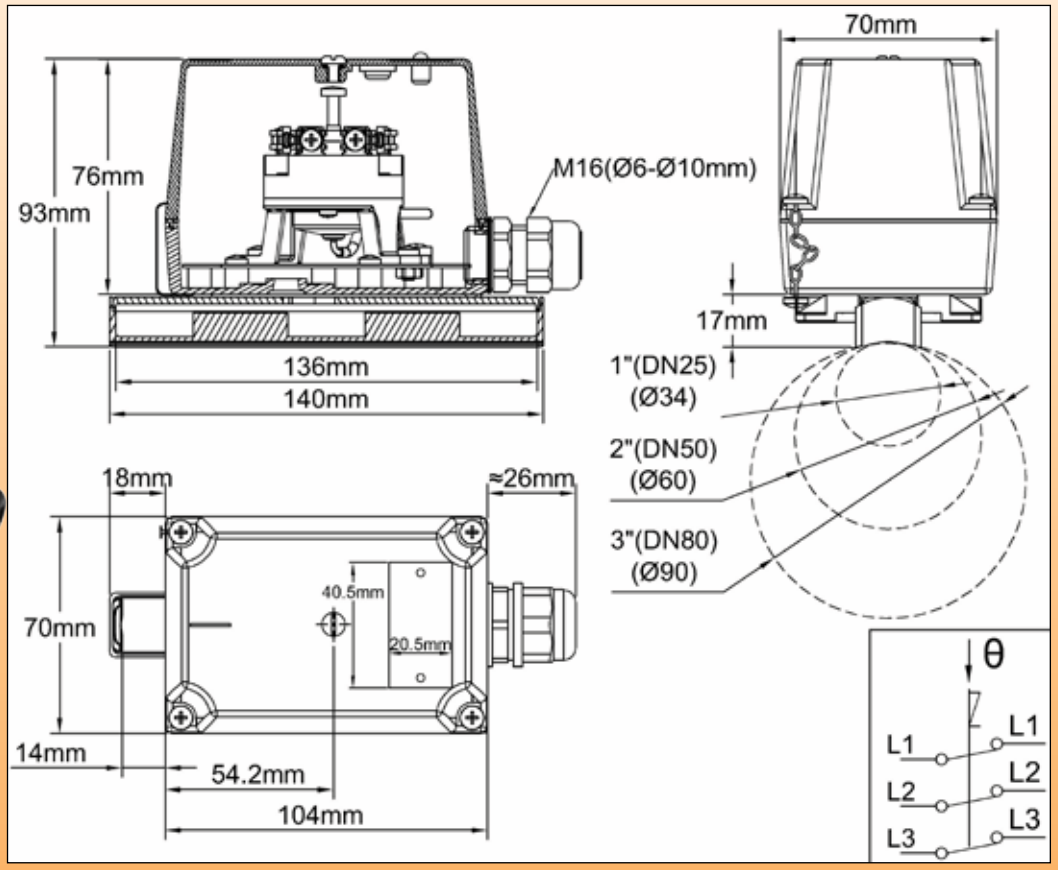
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Reset	Contact	Measurement	Range °C	Model
Manual reset 	Screwed cap, sealed setting 	3 poles 	Pipe mounting 		**Y13** Limiter **82**





Applications:
Pipe surface temperature control in usual industrial application and environment, for use as **3 pole high limit safety.** (Not suitable for hazardous areas)
- Sealed temperature set point
- M4 Screw cap access is convenient for reset without need to open the enclosure.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point calibration value: **60±5°C (140±9°F), 70±5°C (158±9°F), 80±5°C (176±9°F), 90±5°C (194±9°F), 110±5°C (230±9°F), 130±6°C (266±11°F), 150±7°C (302±13°F), 170±7°C (338±13°F). Other calibration temperature on request, between 60°C and 170°C(140°F and 338°F).**
Temperature adjustment: fixed setting, sealed, no access to user.
Action: **fail safe** manual reset high temperature limit.
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: On internal screw terminal
Cable output: Two M16 cable glands, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: 3 poles, open on rise (3PNC)
Electrical rating: 3 x 16A 250VAC, 3 x 10A 400VAC (**10.000 cycles**) 3 x 25A 250VAC, 3 x 16A 400VAC (**300 cycles**)
Minimum Storage temperature: -35°C (-30°F)

Main references

Reference	Calibration Temperature °C (°F)	Minimum resettable temperature °C (°F)	Max temperature on tube °C (°F)
Y13820060090CM6T	60±5°C (140±9°F)	20	90°C (194°F)
Y13820070100CM6T	70±5°C (158±9°F)	30	100°C (212°F)
Y13820080110CM6T	80±5°C (176±9°F)	40	110°C (230°F)
Y13820090120CM6T	90±5°C (194±9°F)	50	120°C (248°F)
Y13820110140CM6T	110±5°C (230±9°F)	70	140°C (284°F)
Y13820130160CM6T	130±6°C (266±11°F)	90	160°C (320°F)

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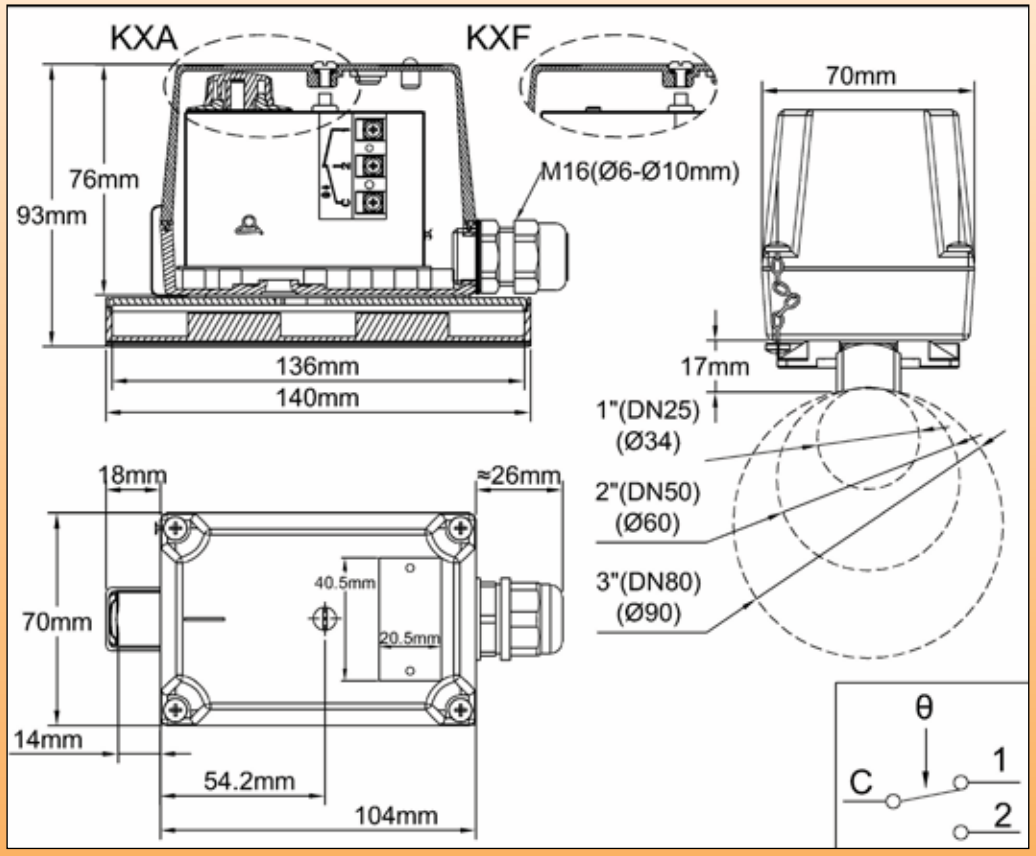
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Internal	Screwed cap	Single pole	Pipe mounting	+120 / 0	**Y14** Adjustable limiter **KXA, KXF**





Applications:
Pipe surface temperature control in usual industrial application and environment, for use as **high limit safety.** (Not suitable for hazardous areas)
- Changeover contact for switch off remote signaling
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.
- Exist with adjustable set point or with fixed and sealed setting without access for user
- Internal adjustment is convenient for products that must not be frequently adjusted.
Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-70°C (32-160°F), 20-90°C (70-195°F), 20-120°C (68-248°F).
Temperature adjustment: Set point adjustable by temperature printed **internal knob.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Fixed sealed setting model does not have knob.
Action: High limit with manual reset
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017) , nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >**100.000 cycles.**
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Main references

Temperature range °C (°F)	References	Minimum manual reset differential °C (°F)	Max. temperature on tube°C (°F)
0-70°C (32-160°F)	Y14KXA000070500T	15°C (27°F)	160°C (320°F)
20-90°C (70-195°F)	Y14KXA020090500T	15°C (27°F)	160°C (320°F)
20-120°C (68-248°F)	Y14KXA020120500T	15°C (27°F)	160°C (320°F)
Fixed setting between +30°C and +120°C (+86°F+284°F)	Y14KXF050***500T	15°C (27°F)	160°C (320°F)

* Shorter rods are not recommended, because of heat transfer to the thermostat head. Other rod lengths possible up to 1500 mm

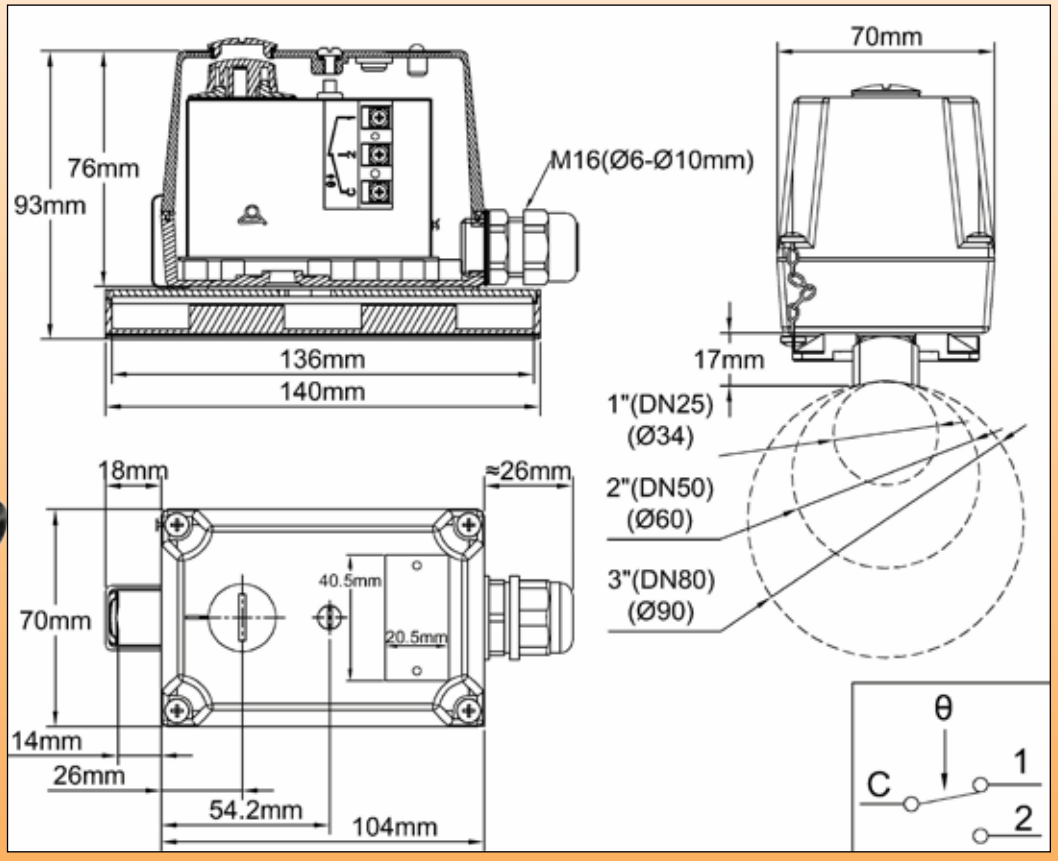
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Set point adjustment	Manual reset access	Contact	Measurement	Range °C	Model
Manual reset	Screwed cap	Screwed cap	Single pole	Pipe mounting	+120 / 0	**Y15** Adjustable limiter **KX**





Applications:
Pipe surface temperature control in usual industrial application and environmentfor use as high limit safety. (Not suitable for hazardous areas)
- Changeover contact for switch off remote signaling
- Internal adjustment under screwed cap is convenient for products that must be occasionally adjusted.
- Manual reset with internal access under M4 screwed cap allows to reset without need to open the enclosure.

Withstand very low ambient temperatures
Long electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Set point adjustment ranges: 0-70°C (32-160°F), 20-90°C (70-195°F), 20-120°C (68-248°F)
Temperature adjustment: Set point adjustable by temperature printed internal knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Action: High limit with manual reset
Sensing element: Liquid expansion bulb inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Internal, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps DIN(3017), nylon cable ties (Tie wraps upon EN50146 for applications at permanent temperature lower than 85°C) or specific stainless steel punched band (see accessories at the end of this catalog).
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contact: SPDT
Rating: 15A res. 230/400VAC, electrical life >100.000 cycles.
Storage minimum temperature: -50°C (-60°F)
Fail safe: some of these products can be made with fail safe manual reset. References on request

Main references

Temperature range °C (°F)	References	Minimum manual reset differential °C (°F)	Max. temperature on tube°C (°F)
0-70°C (32-160°F)	Y15KXA000070500T	15°C (27°F)	160°C (320°F)
20-90°C (70-195°F)	Y15KXA020090500T	15°C (27°F)	160°C (320°F)
20-120°C (68-248°F)	Y15KXA020120500T	15°C (27°F)	160°C (320°F)

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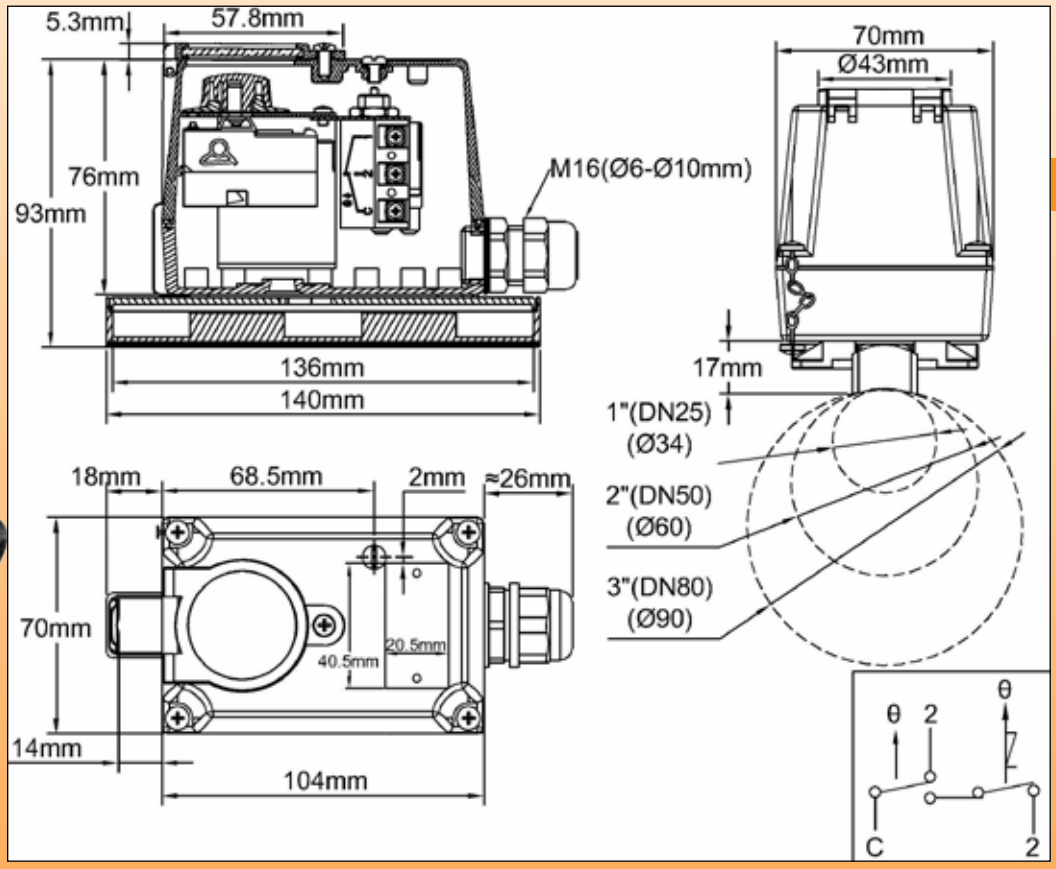
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Control Adjustment	Reset access	Contact	Measurement	Range °C	Model
Control + reset	Window	Screwed cap	Single pole	Pipe mounting	+120 / 0	**Y16** Combined Thermostat **8G+8L**





Applications:
Pipe surface temperature control in usual industrial application and environment. (Not suitable for hazardous areas)
This product combines a control thermostat with temperature printed knob and a fixed setting manual reset thermostat
Internal adjustment under window is convenient for products that must not be frequently adjusted, allows visualizing the set point and avoid removing the cover for set point adjustment. Fixed setting manual reset access under screwed cap allows resetting without need to remove the cover.
Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Control thermostat set point adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F).
Control thermostat temperature adjustment: Set point adjustable by temperature printed **internal knob with access by window equipped with high impact polycarbonate glass.** Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Manual reset: sealed fixed setting, reset accessby M4 screwed cap.
Manual reset calibration values:
80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F) .Other calibration temperature on request, between 30°C and 130°C(85°F and 266°F)
Action: temperature control thermostat + high limit manual reset thermostat.
Sensing element: Two liquid expansion bulbs inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contacts: SPDT on the control thermostat and open on temperature rise on manual reset
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (Control thermostat only , C-2 6A(0.6) 250VAC)
- Electrical life >**100.000 cycles for control thermostat, 600 cycles for manual reset thermostat**

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Manual reset standard calibration °C (°F) *	References	Control Differential °C (°F)	Max. temperature on tube °C (°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y168GB030090AA6U	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y168GB030110AA6U	5±3°C (9±5.5 °F)	150°C (300°F)

* Other possible set point values , consult us for references

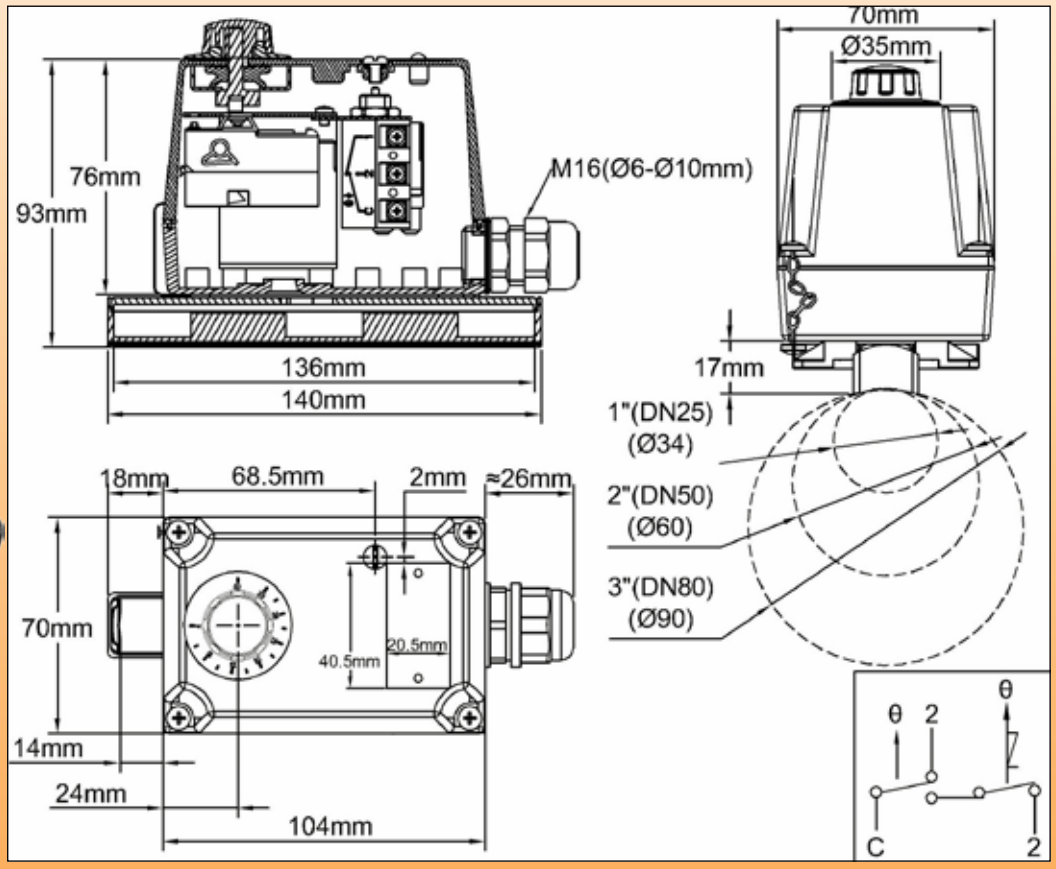
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The Y1 range of thermostats with IP65 enclosures

Pipe temperature control thermostats (Liquid expansion measurement)

Type	Control Adjustment	Reset access	Contact	Measurement	Range °C	Model
Control + reset	External knob	Screwed cap	Single pole	Pipe mounting	+120 / 0	Y17 Combined Thermostat 8G+8L





Applications:
Remote control in usual industrial application and environment,(Not suitable for hazardous areas)
This product combines a control thermostat with temperature printed knob and a fixed setting manual reset thermostat
- Knob external adjustment is convenient for products that must be frequently adjusted, but reduces IK impact resistance, and does not protect against malicious actions.
- Fixed setting manual reset access under screwed cap allows resetting without need to remove the cover.

Standard electrical and mechanical life model
Housing: Aluminum,IP65, IK10, 104 x 102 x 86 mm, with backside pipe mounting temperature sensing aluminum bracket Grey RAL7032 epoxy painting
Control thermostat set point adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F)
Control thermostat temperature adjustment: Set point adjustable by temperature printed external knob. Shipped with °C printed skirt fitted on the knob, and °F printed skirt in spare part. Printed skirt is replaceable without tool.
Manual reset: sealed fixed setting, reset accessby M4 screwed cap.
Manual reset calibration values:
80±8°C (176±15°F), 90±8°C (194±15°F), 110±8°C (230±15°F), 130±8°C (266±15°F) .Other calibration temperature on request, between 30°C and 130°C(85°F and 266°F)
Action: temperature control thermostat + high limit manual reset thermostat.
Sensing element: Two liquid expansion bulbs inside aluminum bracket in contact with the pipe surface.
The bracket design provides optimized thermal contact with 34 mm (1", DN25), 60 mm (2", DN50) and 90 mm (3", DN80)outside diameter tubes. For intermediate sizes, we recommend the use of thermal grease
Electrical connections: Inside, on screw terminal connection block
Earthing: on internal screw terminal
Cable output: M16 cable gland, PA66, for cables up to 10 mm dia.
Mounting: The thermostat housing can be fixed on the pipe by worm drive hose clamps (DIN3017), nylon cable ties (Tie wraps upon EN50146, for applications at permanent temperature lower than 85°C), or specific stainless steel punched band (see accessories at the end of this catalog)
Identification: 20 x 40 mm stainless steel identification label, riveted.
Contacts: SPDT on the control thermostat and open on temperature rise on manual reset
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (Control thermostat only , C-2 6A(0.6) 250VAC)
- Electrical life >100.000 cycles for control thermostat, 600 cycles for manual reset thermostat

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)

Main references

Temperature adjustment ranges °C (°F)	Manual reset standard calibration °C (°F) *	References	Control Differential °C (°F)	Max. temperature on tube °C (°F)
30-90°C (85-195°F)	110±8°C (230±15°F)	Y178GB030090AA6T	4±3°C (7±5.5 °F)	120°C (250°F)
30-110°C (85-230°F)	130±8°C (266±15°F)	Y178GB030110AA6T	5±3°C (9±5.5 °F)	150°C (300°F)

* Other possible set point values , consult us for references

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Thermostats with IP65 plastic housings, Type Y2

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Main products

Y20	P 104	Y21	P 105	Y22	P 106	Y23	P 107
							
Fixed setting ambiance or Antifreeze thermostat, IP65, cable gland output, without pilot lights		Fixed setting ambiance or Antifreeze thermostat, IP65, backside output, without pilot lights		Fixed setting ambiance or Antifreeze thermostat, IP65, cable gland output, 2 pilot lights		Fixed setting ambiance or Antifreeze thermostat, IP65, backside output, 2 pilot lights	

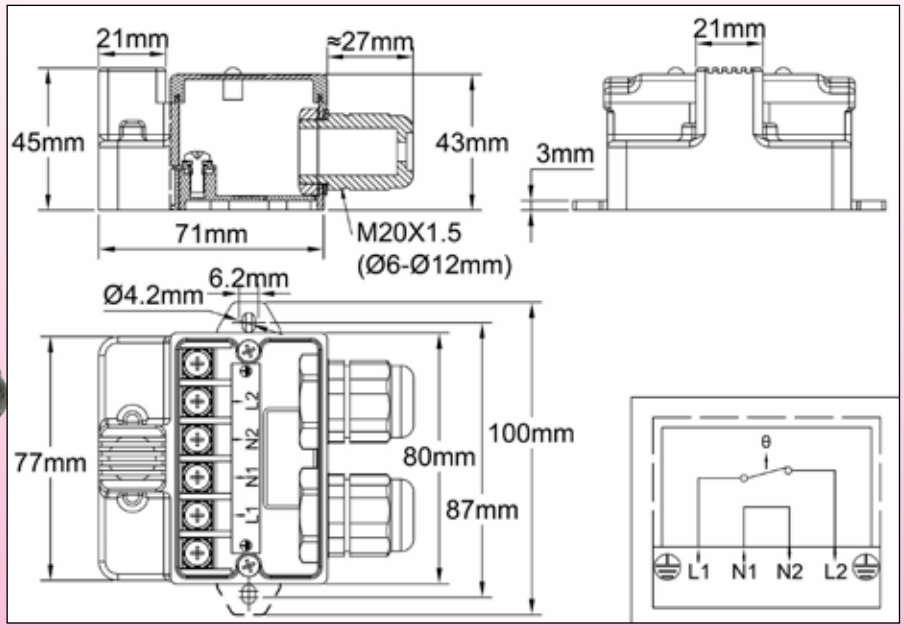
Y2A	P 108	Y2B	P 109	Y2C	P 110	Y2D	P 111
							
External knob adjustment IP65 ambiance thermostat, without pilot lights		External knob adjustment IP65 ambiance thermostat, 2 pilot lights		External knob adjustment IP65 bulb and capillary thermostat, without pilot lights		External knob adjustment IP65 bulb and capillary thermostat, 2 pilot lights	

Y2E	P 112	Y2F	P 113	Y2G	P 114	Y2H	P 115
							
External knob adjustment IP65 surface thermostat, without pilot lights		External knob adjustment IP65 surface thermostat, 2 pilot lights		External knob adjustment IP65 pipe mounting thermostat, without pilot lights		External knob adjustment IP65 pipe mounting thermostat, 2 pilot lights	

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Fixed setting ambiance or antifreeze thermostat, IP65, cable gland output, without pilot lights, Type Y20





In these boxes, the thermostat, bimetal disc type, is over-molded, and is thermally insulated from the wall on which it is mounted. Its temperature sensing cup is mechanically protected by a grid. It is located in front of the enclosure to be in an area of natural circulation of air.
Mounting: Wall, by external side brackets. These tabs can be folded inwards. There also is the opportunity to practice two mounting holes inside for wall mounting (Note: in this case the ingress protection class IP65 on the rear wall is lost)
Protection: IP65 (IK 03 On thermostat guard, IK10 the rest of the housing)
Material: ABS-PC black glass-fiber reinforced
Screws: Stainless steel, captive
Output: 2 Cable glands M20, PA66, IP66, for cable from 6 to 12 mm dia.
Electrical rating: Single pole, 8 to 16A 250V (100000 cycles). Contact style can be open on rise or close on rise.
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Customization: On request (MOQ apply)
Connection: Built in 4mm ² screw terminal block
Options:
- Other calibration temperatures
- Cream color housing
- Incorporation of a temperature sensor (thermocouple, Pt100 or Pt1000, thermistor)

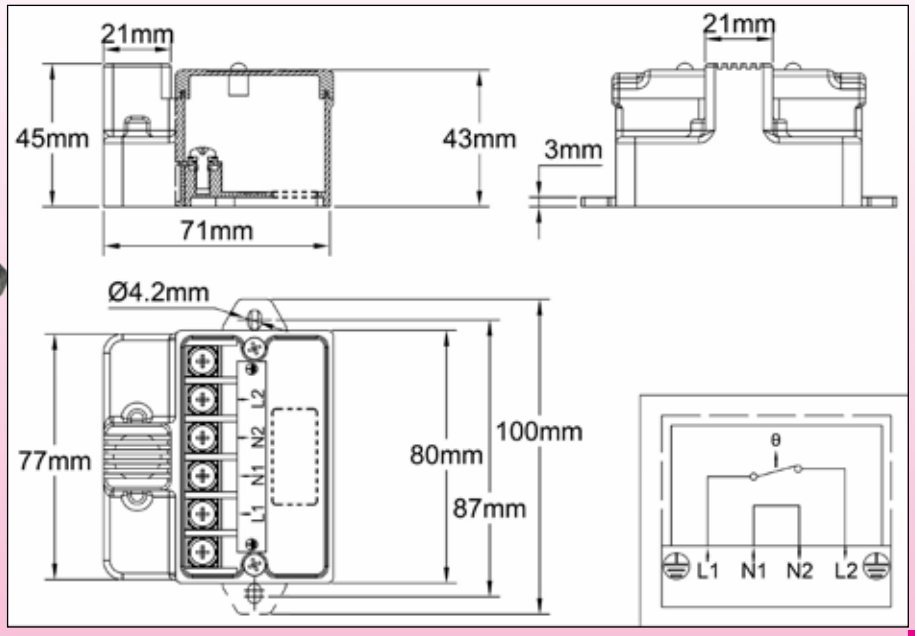
Calibration temperature °C (°F)	Close temperature °C (°F)	Electrical rating	Main uses	References
8°C (46,4)	3°C (37,4)	8A250V	Ice detaction, starts an antifreeze or heating system	Y20D7Z00805HCSV0
10°C (50)	4°C (39,2)	10A250V	Ice detaction, starts an antifreeze or heating system	Y20D7P01006CUSV0
10°C (50)	4°C (39,2)	16A250V	Ice detaction, starts an antifreeze or heating system	Y20D7J01006CUSV0
30°C (86)	20°C (68)	10A250V	Over-heating detection in residential premises, heating stop	Y20D7P03010CUSV0
20°C (68)	30°C (86)	10A250V	Over-heating detection in residential premises, alarm (NO contact)	Y20D7Q03010CUSV0
70°C (158)	60°C (140)	10A250V	Fire detaction (withstand sprinklers water sprays)	Y20D7P07010CUSV0

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Fixed setting ambiance or antifreeze thermostat, IP65, backside output, without pilot lights, Type Y21





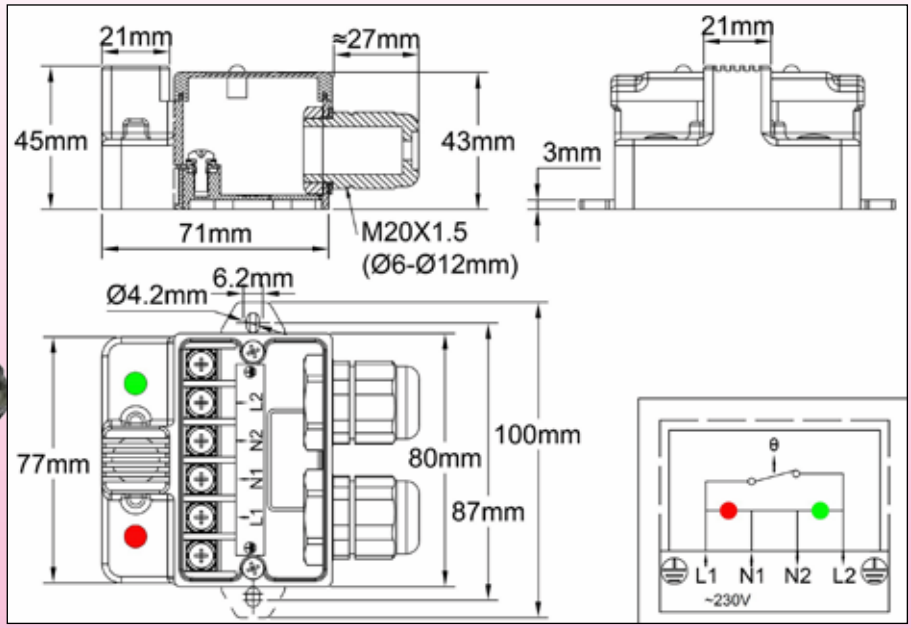
In these boxes, the thermostat is over-molded, and is thermally insulated from the wall on which it is mounted. Its temperature sensing cup is mechanically protected by a grid. It is located in front of the enclosure to be in an area of natural circulation of air. To allow its wall mounting, the box has two outer side lugs, which can be removed when assembly is made with internal screws.
Mounting: Wall, by external side brackets. These tabs can be folded inwards. There also is the opportunity to practice two mounting holes inside for wall mounting (Note: in this case the ingress protection class IP65 on the rear wall is lost)
Protection: IP65 (IK 03 On thermostat guard, IK10 the rest of the housing)
Due to the opening on the rear face of the housing for the cable outlets, it is necessary to apply, between this face and the wall mounting, an RTV elastomeric seal to comply with the ingress protection class IP65
Material: ABS-PC black glass-fiber reinforced
Screws: Stainless steel, captive
Output: Opening on backside for through wall wiring
Electrical rating: Single pole, 8 to 16A 250V (100000 cycles). Contact style can be open on rise or close on rise.
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Customization: On request (MOQ apply)
Connection: Built in 4mm ² screw terminal block
Options:
- Other calibration temperatures
- Cream color housing
- Incorporation of a temperature sensor (thermocouple, Pt100 or Pt1000, thermistor)

Calibration temperature °C (°F)	Close temperature °C (°F)	Electrical rating	Main uses	References
8°C (46,4)	3°C (37,4)	8A250V	Ice detaction, starts an antifreeze or heating system	Y20D1Z00805HCSV0
10°C (50)	4°C (39,2)	10A250V	Ice detaction, starts an antifreeze or heating system	Y20D1P01006CUSV0
10°C (50)	4°C (39,2)	16A250V	Ice detaction, starts an antifreeze or heating system	Y20D1J01006CUSV0
30°C (86)	20°C (68)	10A250V	Over-heating detection in residential premises, heating stop	Y20D1P03010CUSV0
20°C (68)	30°C (86)	10A250V	Over-heating detection in residential premises, alarm (NO contact)	Y20D1Q03010CUSV0
70°C (158)	60°C (140)	10A250V	Fire detaction (withstand sprinklers water sprays)	Y20D1P07010CUSV0

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Fixed setting ambiance or antifreeze thermostat, IP65, cable gland output, two pilot lights, Type Y22





In these boxes, the thermostat, bimetal disc type, is over-molded, and is thermally insulated from the wall on which it is mounted. Its temperature sensing cup is mechanically protected by a grid. It is located in front of the enclosure to be in an area of natural circulation of air.
Mounting: Wall, by external side brackets. These tabs can be folded inwards. There also is the opportunity to practice two mounting holes inside for wall mounting (Note: in this case the ingress protection class IP65 on the rear wall is lost)
Protection: IP65 (IK 03 On thermostat guard, IK10 the rest of the housing)
Material: ABS-PC black glass-fiber reinforced
Screws: Stainless steel, captive
Output: 2 Cable glands M20, PA66, IP66, for cable 6 to 12 mm dia.
Electrical rating: Single pole, 8 to 16A 250V (100000 cycles). Contact style can be open on rise or close on rise.
Pilot lights: allow to visualize the power supply and thermostat contact position
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Customization: On request (MOQ apply)
Connection: Built in 4mm ² screw terminal block
Options:
- Other calibration temperatures
- Cream color housing
- Incorporation of a temperature sensor (thermocouple, Pt100 or Pt1000, thermistor)
- 115V pilot lights

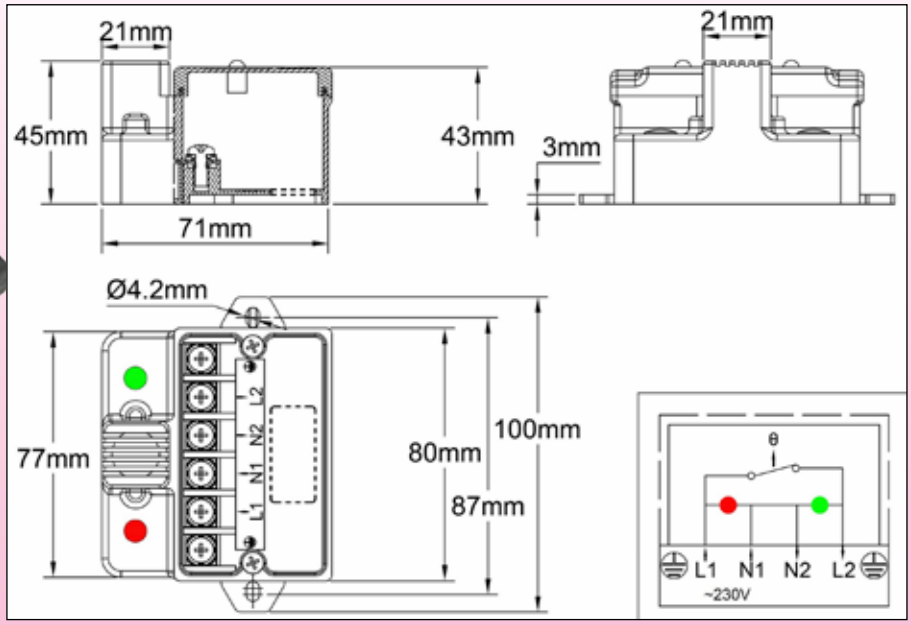
Calibration temperature °C (°F)	Close temperature °C (°F)	Electrical rating	Main uses	References
8°C (46,4)	3°C (37,4)	8A250V	Ice detaction, starts an antifreeze or heating system	Y20D9Z00805HCSV0
10°C (50)	4°C (39,2)	10A250V	Ice detaction, starts an antifreeze or heating system	Y20D9P01006CUSV0
10°C (50)	4°C (39,2)	16A250V	Ice detaction, starts an antifreeze or heating system	Y20D9J01006CUSV0
30°C (86)	20°C (68)	10A250V	Over-heating detection in residential premises, heating stop	Y20D9P03010CUSV0
20°C (68)	30°C (86)	10A250V	Over-heating detection in residential premises, alarm (NO contact)	Y20D9Q03010CUSV0
70°C (158)	60°C (140)	10A250V	Fire detaction (withstand sprinklers water sprays)	Y20D9P07010CUSV0

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Fixed setting ambiance or antifreeze thermostat, IP65, backside output, two pilot lights, Type Y23





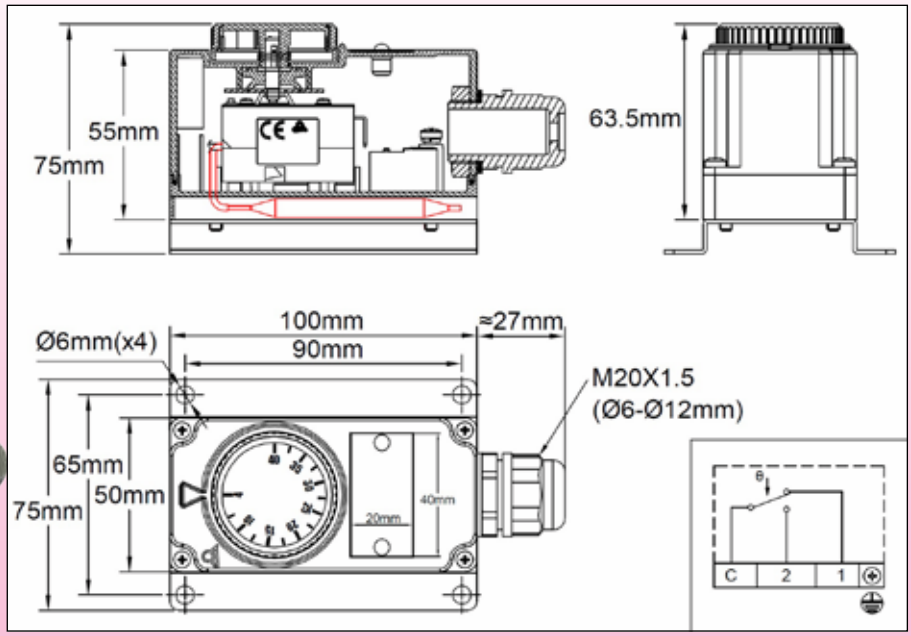
In these boxes, the thermostat is over-molded, and is thermally insulated from the wall on which it is mounted. Its temperature sensing cup is mechanically protected by a grid. It is located in front of the enclosure to be in an area of natural circulation of air. To allow its wall mounting, the box has two outer side lugs, which can be removed when assembly is made with internal screws.
Mounting: Wall, by external side brackets. These tabs can be folded inwards. There also is the opportunity to practice two mounting holes inside for wall mounting (Note: in this case the ingress protection class IP65 on the rear wall is lost)
Protection: IP65 (IK 03 On thermostat guard, IK10 the rest of the housing)
Due to the opening on the rear face of the housing for the cable outlets, it is necessary to apply, between this face and the wall mounting, an RTV elastomeric seal to comply with the ingress protection class IP65
Material: ABS-PC black glass-fiber reinforced
Screws: Stainless steel, captive
Output: Opening on backside for through wall wiring
Electrical rating: Single pole, 8 to 16A 250V (100000 cycles). Contact style can be open on rise or close on rise.
Pilot lights: Allow to visualize the power supply and thermostat contact position(Phase and Neutral power supply is mandatory for pilot lights)
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Customization: On request (MOQ apply)
Connection: Built in 4mm² screw terminal block
Options:
- Other calibration temperatures
- Cream color housing
- Incorporation of a temperature sensor (thermocouple, Pt100 or Pt1000, thermistor)
- 115V pilot lights

Calibration temperature °C (°F)	Close temperature °C (°F)	Electrical rating	Main uses	References
8°C (46,4)	3°C (37,4)	8A250V	Ice detaction, starts an antifreeze or heating system	Y20D3Z00805HCSV0
10°C (50)	4°C (39,2)	10A250V	Ice detaction, starts an antifreeze or heating system	Y20D3P01006CUSV0
10°C (50)	4°C (39,2)	16A250V	Ice detaction, starts an antifreeze or heating system	Y20D3J01006CUSV0
30°C (86)	20°C (68)	10A250V	Over-heating detection in residential premises, heating stop	Y20D3P03010CUSV0
20°C (68)	30°C (86)	10A250V	Over-heating detection in residential premises, alarm (NO contact)	Y20D3Q03010CUSV0
70°C (158)	60°C (140)	10A250V	Fire detaction (withstand sprinklers water sprays)	Y20D3P07010CUSV0

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External knob adjustment IP65 ambiance thermostat, without pilot lights, Type Y2A





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft. The SUS304 stainless steel wall mounting plate keeps temperature sensing element away from the wall.
Electric input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled bulb with mechanical protection. Temperature measurement is made backside.
Adjustment ranges: -35+35°C (-30+95°F),-10+40°C (15-105°F), 4-40°C (40-105°F)
Electrical connections: Inside, on screw terminal connection block
Mounting: Wall mounting,by 4 holes for screws dia 4 to 6 mm, 90 x 65 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 60°C (140°F)

Main references

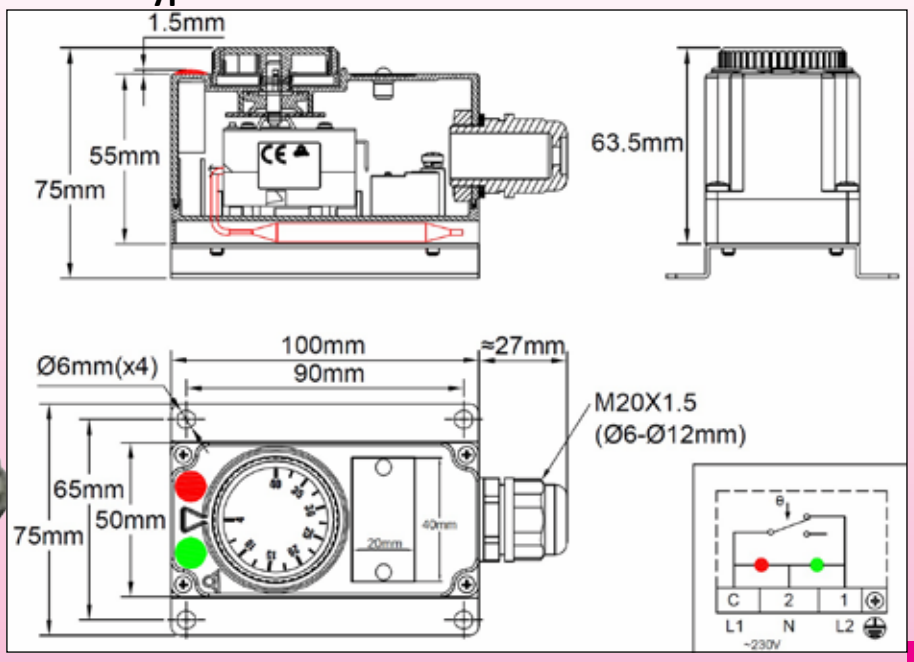
References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2A8GB-35035AA85	-35+35°C	4±2°C	Y2A8GB-35035AA86	-30+95°F	7±3.6 °F
Y2A8GB-10040AA85	-10+40°C	3°C±2	Y2A8GB-10040AA86	15-105°F	5.5±3.6 °F
Y2A8GB004040AA85	4-40°C	3°C±2	Y2A8GB004040AA86	40-105°F	5.5±3.6 °F

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External knob adjustment IP65 ambiance thermostat, two pilot lights, Type Y2B





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft. The SUS304 stainless steel wall mounting plate keeps temperature sensing element away from the wall.
Electric input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knobthat allows reducing the set point adjustment span
Sensing element: Liquid filled bulb with mechanical protection. Temperature measurement is made backside.
Adjustment ranges: -35+35°C (-30+95°F),-10+40°C (15-105°F), 4-40°C (40-105°F)
Pilot lights: Allow to visualize the power supply and thermostat contact position(Phase and Neutral power supply is mandatory for pilot lights)
Electrical connections: Inside, on screw terminal connection block
Mounting: Wall mounting,by 4 holes for screws dia 4 to 6 mm, 90 x 65 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC. 115V model on request
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 60°C (140°F)

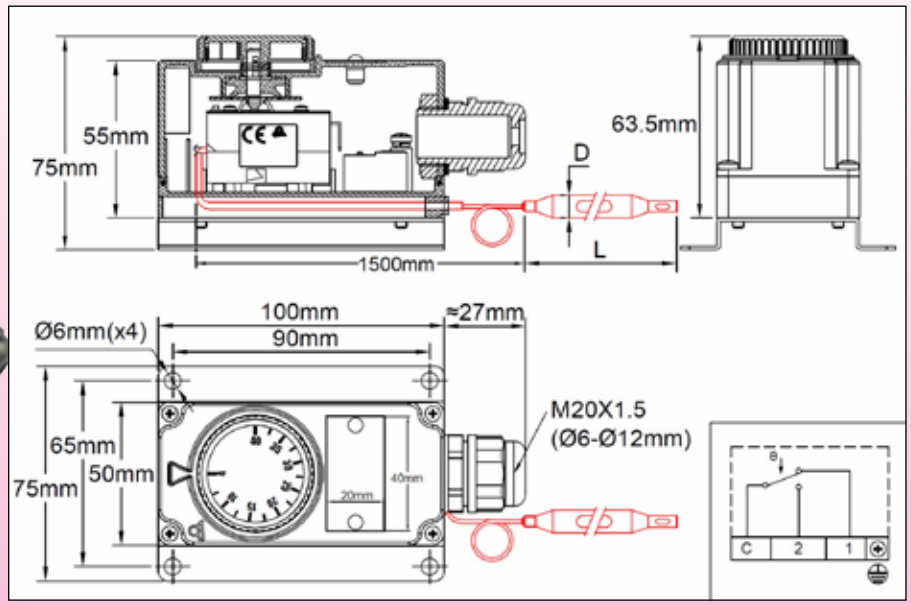
Main references

References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2B8GB-35035AA85	-35+35°C	4±2°C	Y2B8GB-35035AA86	-30+95°F	7±3.6 °F
Y2B8GB-10040AA85	-10+40°C	3°C±2	Y2B8GB-10040AA86	15-105°F	5.5±3.6 °F
Y2B8GB004040AA85	4-40°C	3°C±2	Y2B8GB004040AA86	40-105°F	5.5±3.6 °F

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External knob adjustment IP65 bulb and capillary thermostat, without pilot lights, Type Y2C





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft. The SUS304 stainless steel wall mounting plate keeps the thermostat housing away from the wall.
Electric input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled bulb and capillary, capillary length 1500 mm
Adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F)
Electrical connections: Inside, on screw terminal connection block
Mounting: Wall mounting,by 4 holes for screws dia 4 to 6 mm, 90 x 65 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 60°C (140°F)

Main references

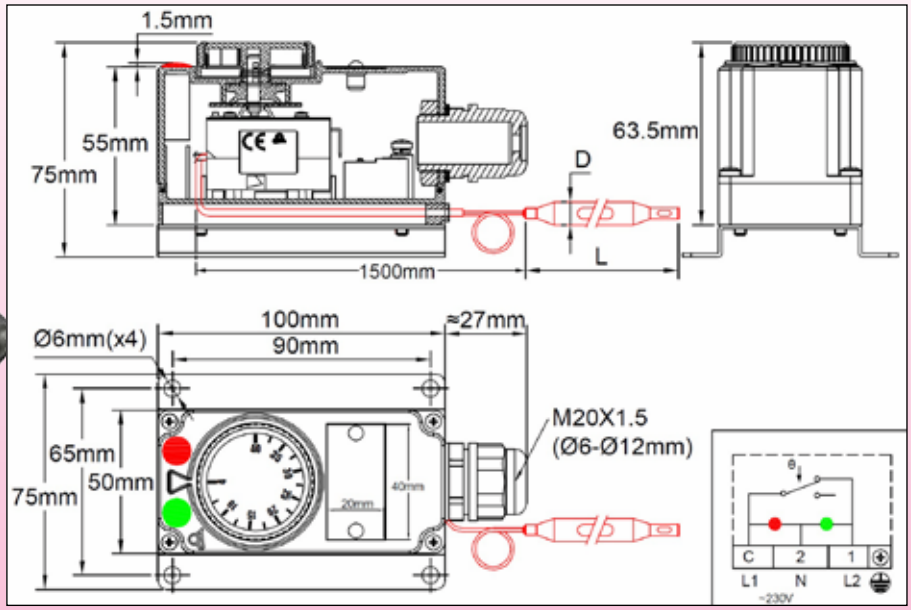
References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F	Bulb diameter (D, mm)	Bulb length (E, mm)
Y2C8GB-35035AO66	-35+35°C	4±2°C	Y2C8GB-35035AO67	-30+95°F	7±3.6 °F	6	120±5
Y2C8GB-10040AO66	-10+40°C	3°C±2	Y2C8GB-10040AO67	15-105°F	5.5±3.6 °F	6	107±5
Y2C8GB004040AO66	4-40°C	3°C±2	Y2C8GB004040AO67	40-105°F	5.5±3.6 °F	6	120±5
Y2C8GB030090AO66	30-90°C	4±3°C	Y2C8GB030090AO67	85-195°F	7±5.5 °F	6	98±5
Y2C8GB030110AO66	30-110°C	5±3°C	Y2C8GB030110AO67	85-230°F	9±5.5 °F	6	86±5
Y2C8GB050200AO66	50-200°C	5°~13°C	Y2C8GB050200AO67	120-390°F	9~24 °F	6	65±5
Y2C8GB050300AO36	50-300°C	5~15°C	Y2C8GB050300AO37	120-570°F	9 ~27°F	3	145±5

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External knob adjustment IP65 bulb and capillary thermostat, two pilot lights, Type Y2D





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft. The SUS304 stainless steel wall mounting plate keeps thermostat housing away from the wall.
Electric input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knobthat allows reducing the set point adjustment span
Sensing element: Liquid filled bulb and capillary, capillary length 1500 mm
Adjustment ranges: -35+35°C (-30+95°F), -10+40°C (15-105°F), 4-40°C (40-105°F), 30-90°C (85-195°F), 30-110°C (85-230°F), 50-200°C (120-390°F), 50-300°C (120-570°F)
Pilot lights: Allow to visualize the power supply and thermostat contact position (Phase and Neutral power supply is mandatory for pilot lights)
Electrical connections: Inside, on screw terminal connection block
Mounting: Wall mounting,by 4 holes for screws dia. 4 to 6 mm, 90 x 65 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC. 115V model on request
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 60°C (140°F)

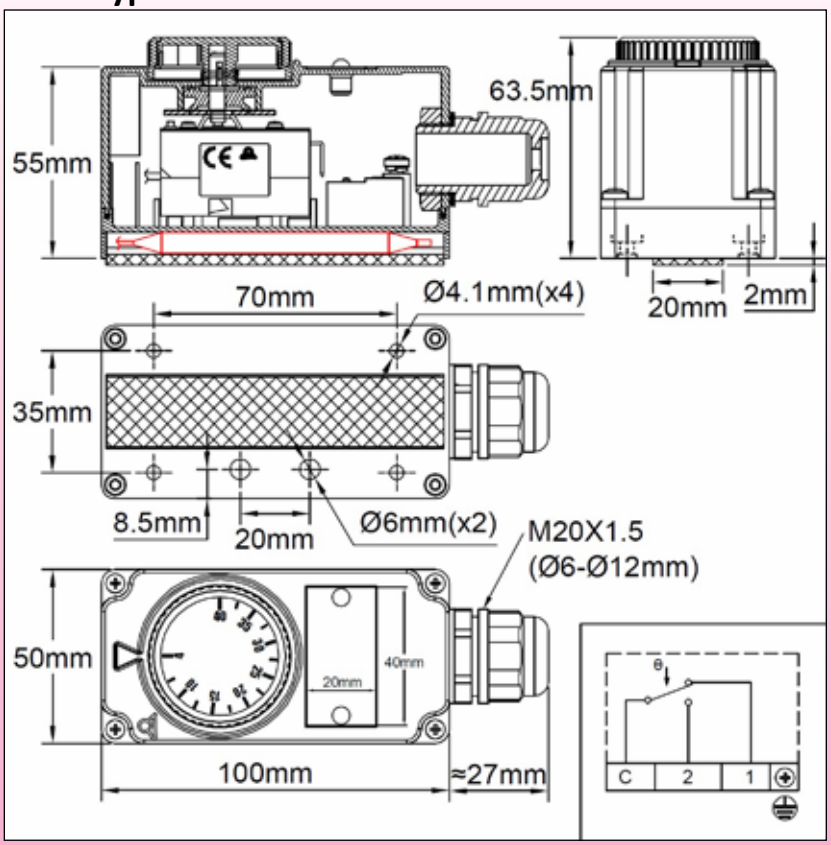
Main references

References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F	Bulb diameter (D, mm)	Bulb length (E, mm)
Y2D8GB-35035AO66	-35+35°C	4±2°C	Y2D8GB-35035AO67	-30+95°F	7±3.6 °F	6	120±5
Y2D8GB-10040AO66	-10+40°C	3°C±2	Y2D8GB-10040AO67	15-105°F	5.5±3.6 °F	6	107±5
Y2D8GB004040AO66	4-40°C	3°C±2	Y2D8GB004040AO67	40-105°F	5.5±3.6 °F	6	120±5
Y2D8GB030090AO66	30-90°C	4±3°C	Y2D8GB030090AO67	85-195°F	7±5.5 °F	6	98±5
Y2D8GB030110AO66	30-110°C	5±3°C	Y2D8GB030110AO67	85-230°F	9±5.5 °F	6	86±5
Y2D8GB050200AO66	50-200°C	5°~13°C	Y2D8GB050200AO67	120-390°F	9~24 °F	6	65±5
Y2D8GB050300AO36	50-300°C	5~15°C	Y2D8GB050300AO37	120-570°F	9 ~27°F	3	145±5

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External knob adjustment IP65 surface thermostat, without pilot lights, Type Y2E





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft.
This thermostat is provided with a temperature sensitive flat aluminum backside to put in contact with a heating surface (heating blanket, heating belt, heating mantle), and 4-hole 35mm x 70 mm distance to fix it on this surface
Electrical input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Electrical output: 2 dia. 6 mm holes equipped with silicone grommets, located on the backside face, allow to introduce the heating element wires directly inside the housing
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled bulb , located inside the aluminum part
Adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F)
Electrical connections: Inside, on screw terminal connection block
Mounting: by 4 screws dia 4 mm, 70 x 35 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 110°C (230°F)

Main references

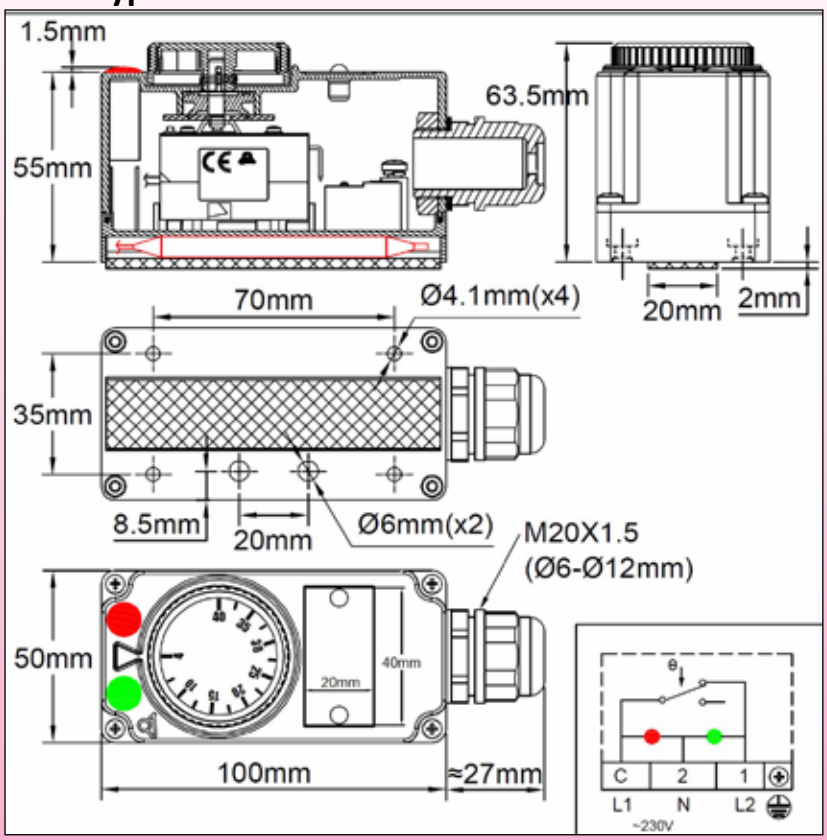
References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2E8GB030090AO66	30-90°C	4±3°C	Y2E8GB030090AO67	85-195°F	7±5.5 °F
Y2E8GB030110AO66	30-110°C	5±3°C	Y2E8GB030110AO67	85-230°F	9±5.5 °F

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External knob adjustment IP65 surface thermostat, two pilot lights, Type Y2F





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft.
This thermostat is provided with a temperature sensitive flat aluminum backside to put in contact with a heating surface (heating blanket, heating belt, heating mantle), and 4-hole 35mm x 70 mm distance to fix it on this surface
Electrical input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Electrical output: 2 dia. 6 mm holes equipped with silicone grommets, located on the backside face, allow to introduce the heating element wires directly inside the housing
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled bulb , located inside the aluminum part
Adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F)
Pilot lights: Allow to visualize the power supply and thermostat contact position (Phase and Neutral power supply is mandatory for pilot lights)
Electrical connections: Inside, on screw terminal connection block
Mounting: By 4 holes for screws dia. 4mm, 70 x 35 mm distance
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC. 115V model on request
Minimum Storage temperature: -35°C (-30°F)

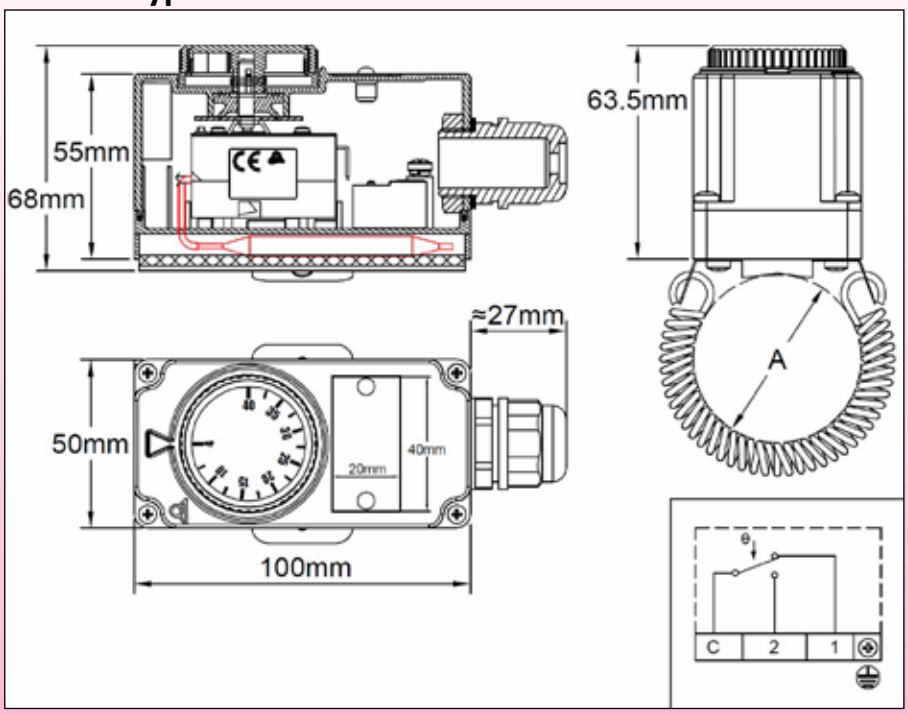
Main references

References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2F8GB030090AA66	30-90°C	4±3°C	Y2F8GB030090AA67	85-195°F	7±5.5 °F
Y2F8GB030110AA66	30-110°C	5±3°C	Y2F8GB030110AZ67	85-230°F	9±5.5 °F

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External knob adjustment IP65 pipe mountingthermostat, without pilot lights, Type Y2G





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft.
This thermostat is provided with a V shaped temperature sensitive aluminum backside to put in contact with a pipe, and two lugs for spring mounting. Suitable for pipes from 30 to 70 mm diameter
Electrical input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled capillary , located inside the aluminum part
Adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F)
Electrical connections: Inside, on screw terminal connection block
Mounting: By spring on pipe
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 110°C (230°F)

Main references

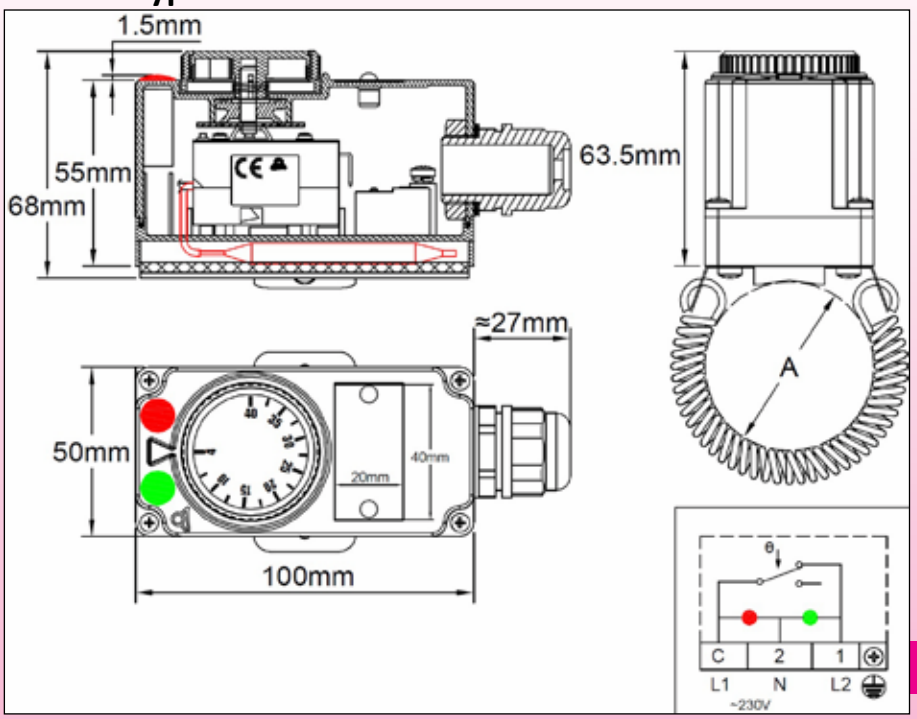
References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2G8GB030090AO66	30-90°C	4±3°C	Y2G8GB030090AO67	85-195°F	7±5.5 °F
Y2G8GB030110AO66	30-110°C	5±3°C	Y2G8GB030110AO67	85-230°F	9±5.5 °F

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External knob adjustment IP65 pipe mounting thermostat, two pilot lights, Type Y2H





Housing: IP65, 100 x 50 x 75 mm, PC-ABS, 20%FG, UL94V0. High impact and UV resistance, with silicone waterproof gasket on thermostat shaft.
This thermostat is provided with a V shaped temperature sensitive aluminum backside to put in contact with a pipe, and two lugs for spring mounting. Suitable for pipes from 30 to 70 mm diameter
Electrical input: ISO M20 cable gland, Black PA66, IP67, for cables from 6 to 12 mm dia.
Temperature adjustment: By temperature printed knob, this knob has an adjustable rotation limit system located inside the knob that allows reducing the set point adjustment span
Sensing element: Liquid filled capillary , located inside the aluminum part
Adjustment ranges: 30-90°C (85-195°F), 30-110°C (85-230°F)
Pilot lights: Allow to visualize the power supply and thermostat contact position (Phase and Neutral power supply is mandatory for pilot lights)
Electrical connections: Inside, on screw terminal connection block
Mounting: By spring on pipe
Identification: The cover can be fitted with a 20x40mm riveted stainless steel identification plate (standard) or with a sticker (Option)
Electrical rating:
- Open on temperature rise contact (C-1) 16A(2.6) 250VAC
- Close on temperature rise contact (C-2) 6A(0.6) 250VAC
- Electrical life >100.000 cycles.

Cannot be used in 400VAC. 115V model on request
Minimum Storage temperature: -35°C (-30°F)
Maximum ambient temperature: 110°C (230°F)

Main references

References with knobs printed in °C	Temperature adjustment range °C	Differential °C	References with knobs printed in °F	Temperature adjustment range °F	Differential °F
Y2H8GB030090AA66	30-90°C	4±3°C	Y2H8GB030090AA67	85-195°F	7±5.5 °F
Y2H8GB030110AA66	30-110°C	5±3°C	Y2H8GB030110AZ67	85-230°F	9±5.5 °F

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Y3:
Immersion heaters connection boxes

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Immersion heaters connection boxes

Main models (Drawings and references on next pages)

Size 1: 48x48x45 (PA66)	P 124	Size 2: Dia 54x66 (PA66)	P 125	Size 3:78x66x50 (Aluminium)	P 126-127
					
Size 4: 78x78x74* (Aluminum)	P 128-132	Size 5: 105x105x96* (Aluminum)	P 133-137	Size 6: Dia100 x 100 (PA66)	P 138-141
					
Size 7: 130x130x150 (PA66)	P 142-146	Size 8: 182x130x132 (PA66+ Aluminum)	P 147-151	Size 9: 182x132x144 (Aluminum)	P 152-162
					
Size 10: 182x132x244 (Aluminum)	P 163-168	Size 10 fitted with thermostat	See Catalogue 3	Size 10 fitted with electronic controller	See Catalogue 3
					

* Exist also in simplified version

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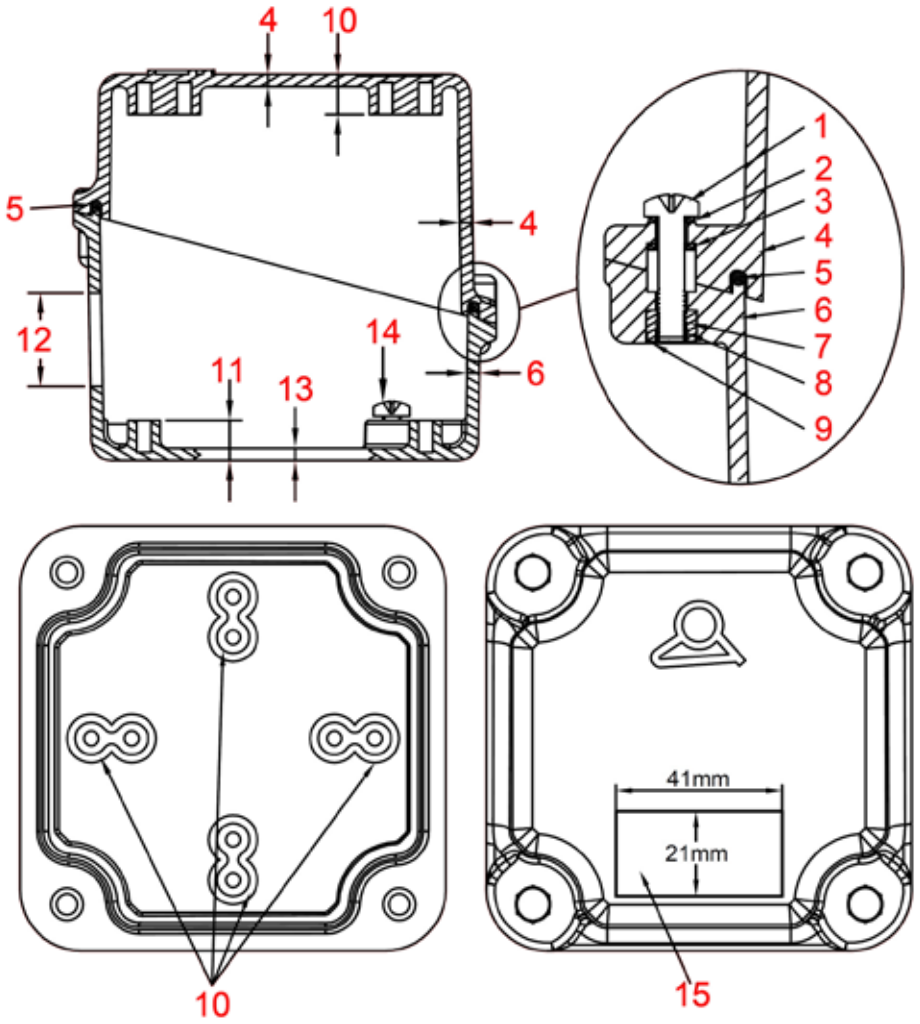
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Immersion heaters connection boxes

Design

The design of Ultimheat connection boxes for immersion heaters was oriented on the multiplicity of applications and therefore every possible machining.
Two lines of aluminum boxes of similar sizes (whose design is registered) exist:
- A “Universal” range which can cover all applications, and allows the mounting of all variants of accessories, including small series.
- A “Simplified” range, designed for specific applications, invariable, and large production series, for which the cost prevails on performance.
The complementary range of plastic enclosures has been designed to be used when aluminum is not convenient.

Technical features comparison of “Universal” and “simplified” types



1: M5 lid screws 2: Galvanic corrosion protection washer 3: Unlosable screw retaining washer 4: Lid wall 5: Lid gasket 6: Bottom wall 7: Crimped nut 8: Nylon on nut	9: Epoxy 10: M4 studs on cover 11: M4 studs on bottom 12: Hole/ thread for cable gland 13: Hole/ thread for immersion heater fitting 14: M4 ground screws 15: Identification label recessed place

Wallsand threads

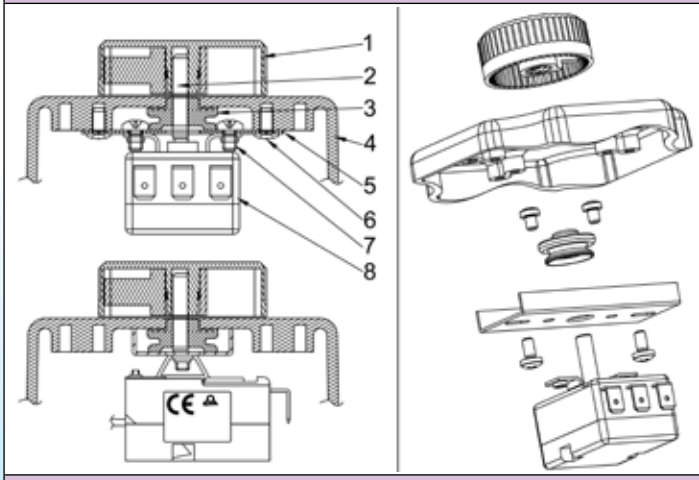
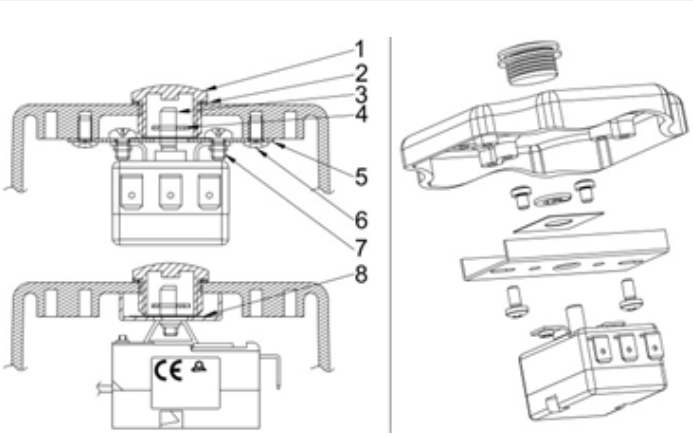
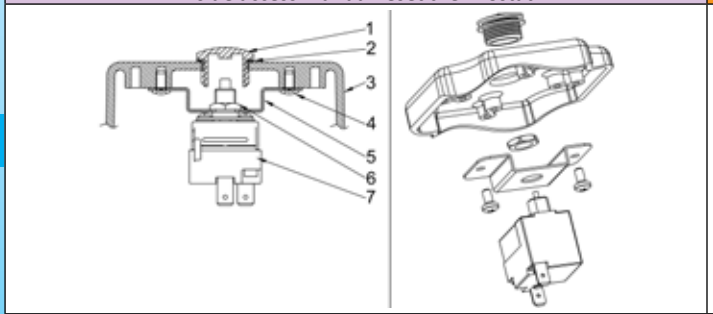
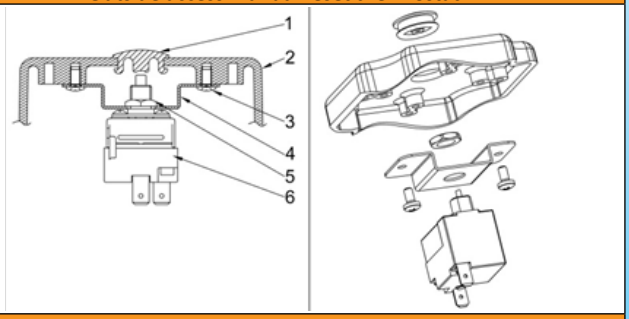
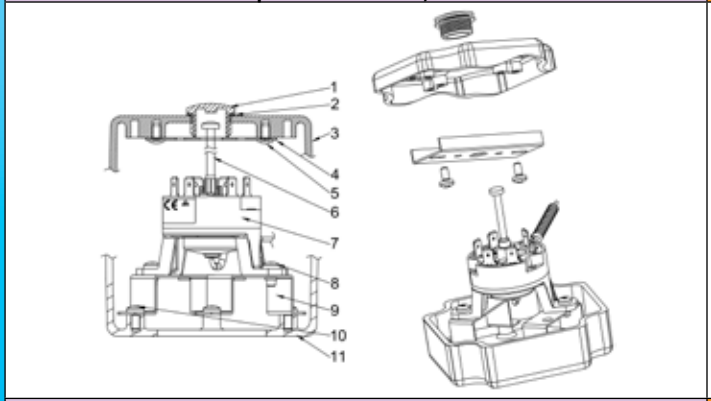
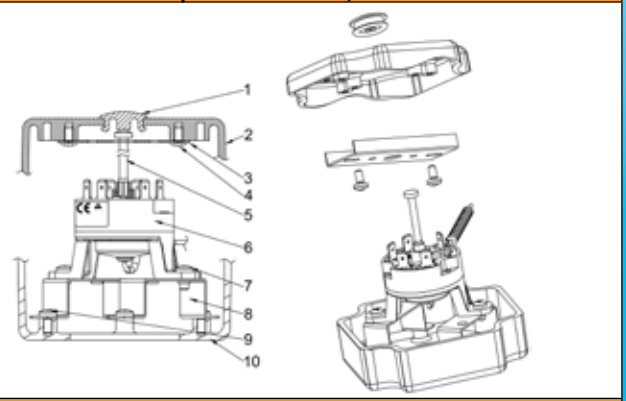
Universal	Simplified
- 3mm thick body , (and sometimes 4mm for the bottom) allows to make threads without the need for inside nut, for example, cable glands, plugs for internal adjustment of thermostats and immersion heaters fittings	- Walls of 1.7 to 2 mm thick which does not allow tapping. - Mounting accessories (heater fitting, cable gland) shall be made using an internal nut.

Internal accessories mounting

Universal	Simplified
- Studs on internal lid for mounting thermostat brackets and waterproof shaft outlet - Studs on internal lower part of the housing for mounting terminals blocks or other accessories not linked with the lid	- No studs for accessories internal mounting, - Thermostats can be mounted only with holes on cover for shaft and mounting screws

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Examples of internal accessories mountings

Universal	Simplified
Outside adjustment thermostat, waterproof shaft outlet	**Inside adjustment thermostat with inside printed dial**
	
1: Knob 2: Thermostat shaft 3: Waterproof shaft outlet gasket 4: Lid 5: Bracket 6: Bracket mounting screws 7: Thermostat mounting screws	1: Cable gland cap 2: Gasket 3: Thermostat shaft (short) 4: Arrow clip 5: Bracket 6: Bracket mounting screws 7:Thermostat mounting screws 8: Printed adhesive dial
Inside access manual reset thermostat	**Outside access manual reset thermostat**
	
1: Cable gland cap 2: Gasket 3: Lid 4: Bracket mounting screws 5: Bracket 6: M10 x1 nut 7: Manual reset thermostat	1: Silicone cap 2: Lid 3: Bracket mounting screws 4: Bracket 5: M10 x1 nut 6:Manual reset thermostat
Inside access 3 pole manual reset, bottom mounted	**Outside access 3 pole manual reset, bottom mounted**
	
1: Cable gland cap 2: Gasket 3: Lid 4: Bracket mounting screws 5: Bracket 6: Manual reset shaft 7: 3 Pole manual reset thermostat 8: Thermostat mounting screws 9: Backside thermostat bracket (x2) 10: Backside bracket screws 11: Box bottom	1: Silicone cap 2: Lid 3: Bracket mounting screws 4: Bracket 5: Manual reset shaft 6: 3 Pole manual reset thermostat 7: Thermostat mounting screws 8: Backside thermostat bracket (x2) 19: Backside bracket screws 10: Box bottom

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Immersion heaters connection boxes

Machining

Universal	Simplified
- Drilling holes and thread tapping are possible on every side upon customer drawings	- The hole diameters for immersion heater fittings are defined in the tool and are therefore invariant. - The diameter and position of the holes for cable glands are defined in the tool and are therefore invariant - Thread tapping is not possible.

Screws

Universal	Simplified
- Nyloc nuts: prevent loosening by vibration - Stainless steel screws and stainless steel nuts to prevent galvanic corrosion between nuts and screws - Crimped and epoxy sealed nuts to avoid galvanic corrosion between nut and aluminum - Plastic washer under the screw head : prevents corrosion between the screw head and the lid - Lid captive screws, A2 stainless steel, with double style recessed head (slot and Pozidriv) - 2 x M4 Internal threads for grounding, with stainless steel screws and washers. Biggest models have also external grounding screws	- Threads for lid screws are tapped directly on aluminum - No protection against galvanic corrosion - The lid screws are standard plated steel hex head. Stainless steel captive screws are available as an option. - No internal grounding screw, but two holes can be threaded for M4 screws.

Accessories

Universal	Simplified
- Recessed label place to prevent voluntary or involuntary removal - Holes for hammer drive screw mounting of metal identification plate (On large size models) - Lid silicone foam gasket: withstand 200 °C and provides good compensation of surface irregularities in the sealing surfaces - Wide range of internal accessories for mounting thermostats, control or manual reset with waterproof external access or adjustment	- NBR 70 shore gasket.

Surface finish (Aluminum housings options)

Universal	Simplified
- As cast surface,deburred (last character of reference= 0) - As cast, vibration polished and deburred (last character of reference = 7) - Sand blasted finish to provide the best bonding with epoxy paint (last character of reference= 1) - RAL 7035 grey epoxy paint: last character of reference = G (other colours are available on request).	- As cast surface, deburred (last character of reference= 0) - As cast, vibration polished and deburred (last character of reference = 7)


Cast surface


Vibration polished


Sand blasted


« Orange skin » epoxy painting

Minimum ordering quantities

Universal	Simplified
- 1 piece (MOQ apply for epoxy painting)	- 1000 pieces for products already tooled - 5000 pieces box with holes or specific dimensions not already tooled

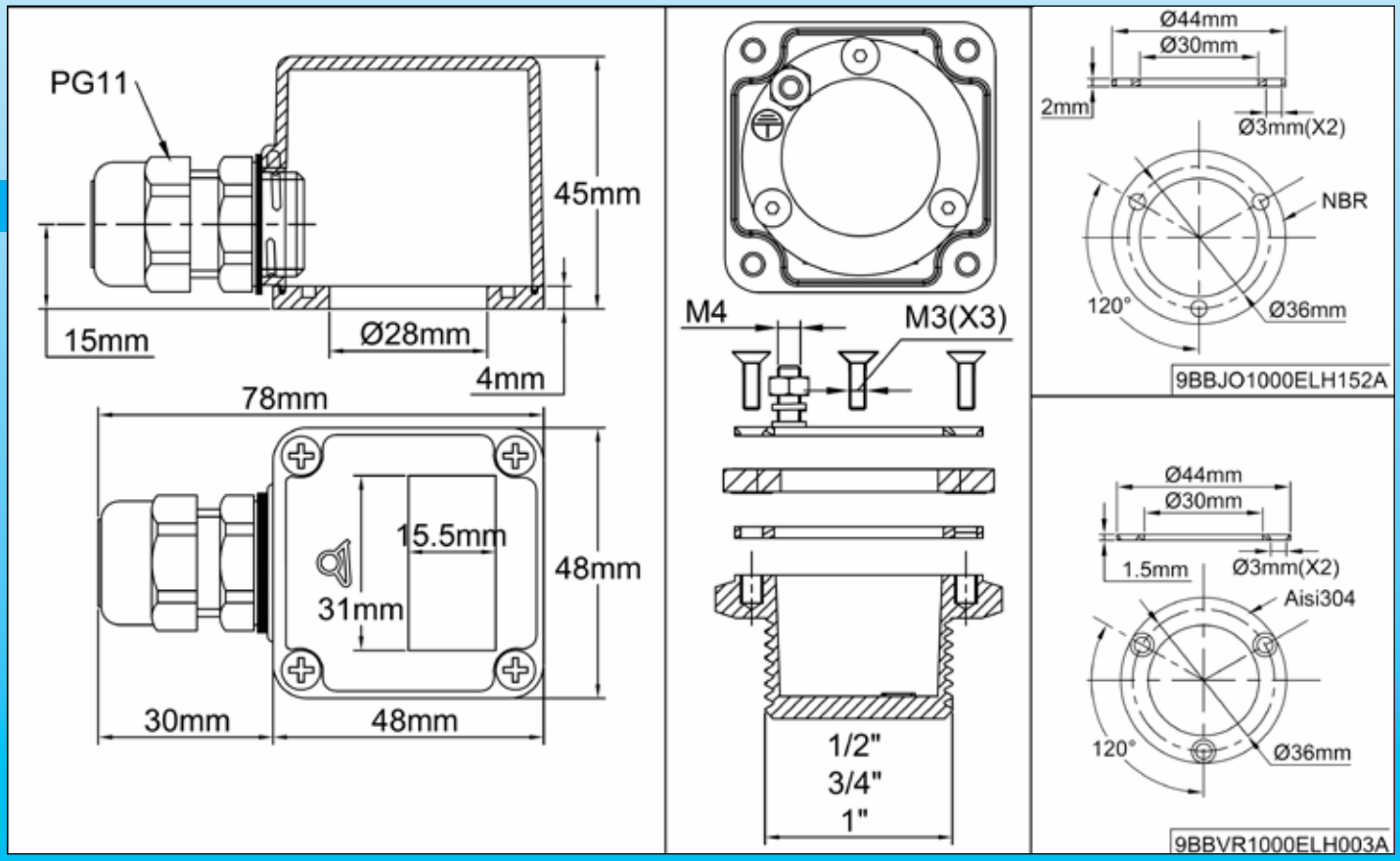
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Immersion heaters connection boxes

Dimensions: 48x48x45 mm
Material: Fiber glass filled black PA66
Fastener: Stainless steel
Main configurations





Basic references

Without cable gland, PG11thread	Y301SM5E1FTT0XGA
With PG11 PA66 cable gland	Y301SC2E1FTTXGA

* References do not include the brass fitting (See accessories at the end of this catalogue)

Internal accessories: These models cannot receive thermostats or other internal accessories

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Immersion heaters connection boxes

Size 2

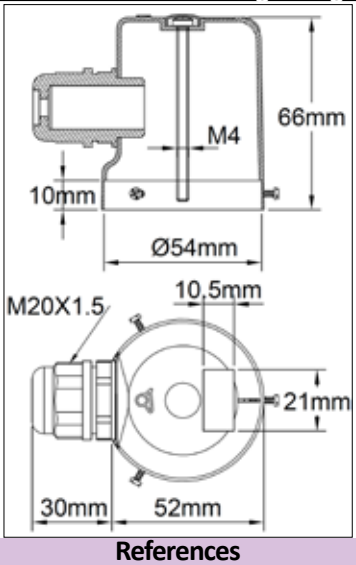


Dia 54x66 mm

Dimensions: Dia. 54x66 mm
Material: Fiber glass filled black PA66
Fastener: Stainless steel

Main configurations

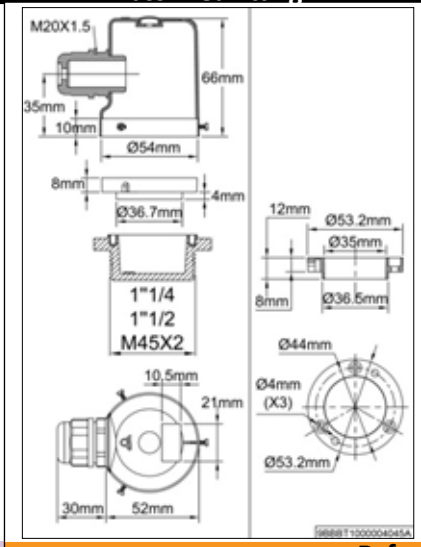
Center screw mounting fitting*



References

Without cable gland	Y302SH3ECSTT0XGA
WithM20x 1.5PA66 cable gland	Y302SC3ECSTT0XGA

Brass fixed fitting *

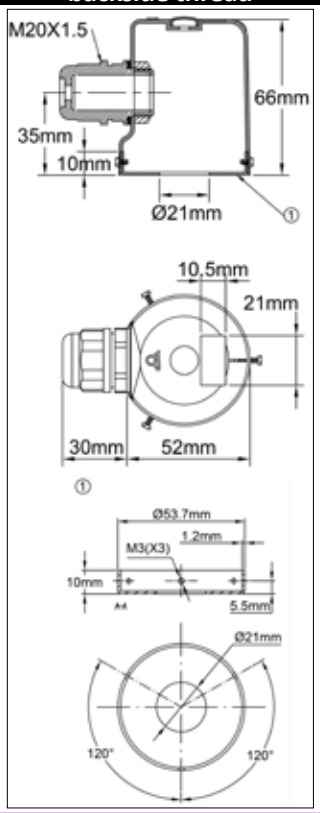




References

Without cable gland	Y302SH3E1FTT0XGA
With PA66 cable gland	Y302SC3E1FTT0XGA

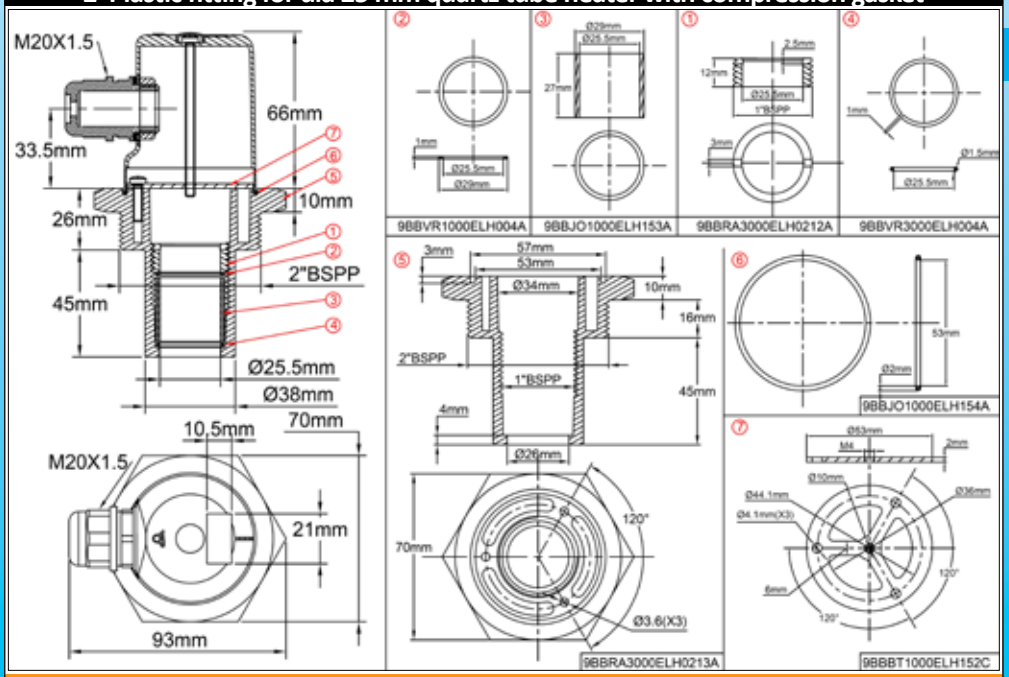
Stainless steel bottom cup (1) for single tube heater, with ½" backside thread



References

Without cable gland	Y302SH3E12000XVA
With PA66 cable gland	Y302SC3E12000XVA

2"Plastic fitting for dia 25 mm quartz tube heater with compression gasket



1: Compression screw, brass
2: Stainless steel washer
3: Elastomeric gasket
4: Titanum washer
5: PA66+ fiberglass fitting
6: Gasket
7: SS 304 ring

References

Without cable gland	Y302SH3E2Q000XGA
With PA66 cable gland	Y302SC3E2Q000XGA

* References do not include the brass fitting (See accessories at the end of this catalogue)

Internal accessories: These models cannot receive thermostats or other internal accessories

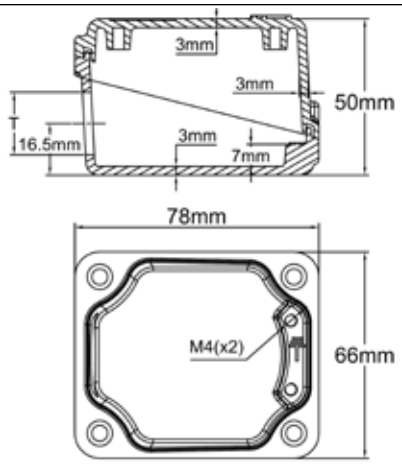
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Immersion heaters connection boxes

Dimensions: 78x66x50 mm (1st section)
Material: Die cast aluminum
Type: Universal, unlosable stainless steel fasteners, galvanic corrosion protected

Basic references



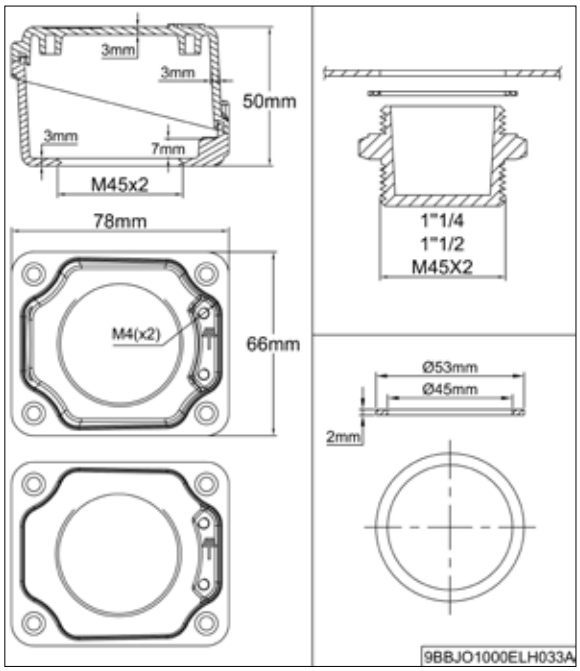


Basic references, sand blasted, no fitting holes, cable gland not included

No cable gland hole.	Y303U00B00TT0XA1
PG11 thread (T)	Y303UM5B00TT0XXA1
M20 x 1.5 thread (T)	Y303UM1B00TT0XA1

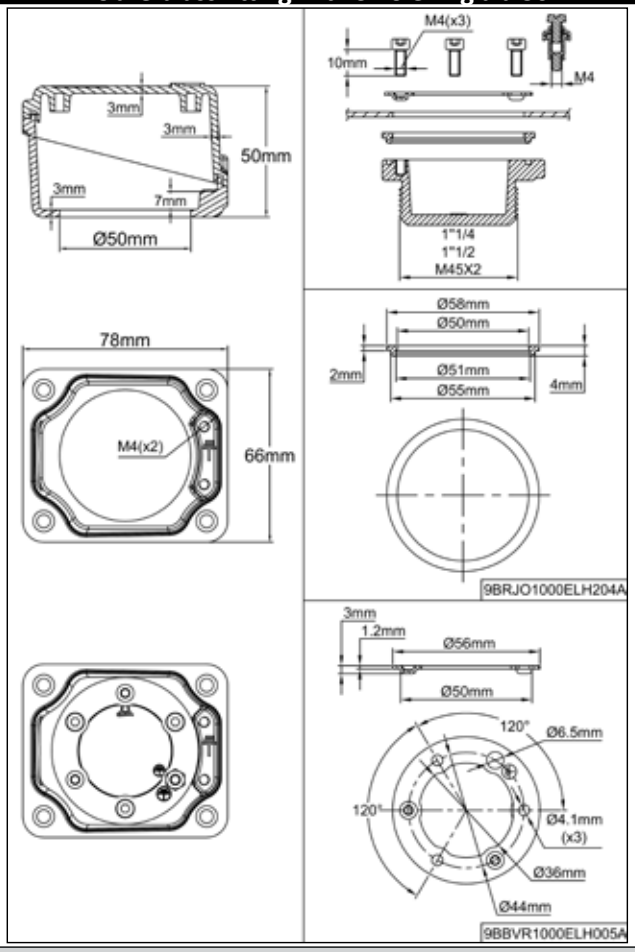
Main fitting configurations

M45 thread for brass fitting direct mounting*



Reference : Replace B00 in the basic reference by B45

Mobile brass fitting with 3 hole ring dia.50*



Reference : Replace B00 in the basic reference by B34

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

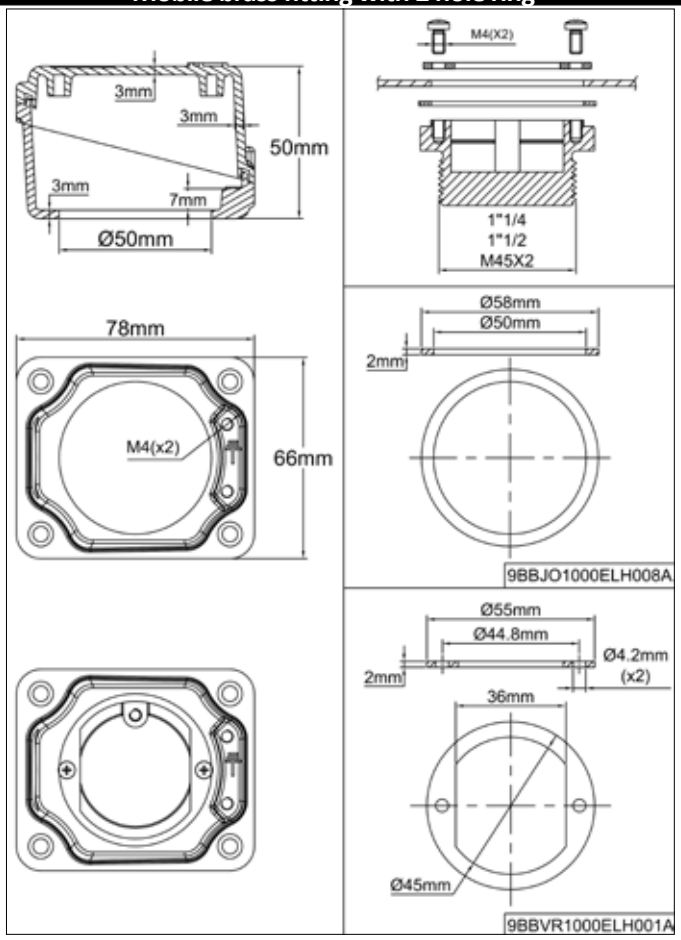
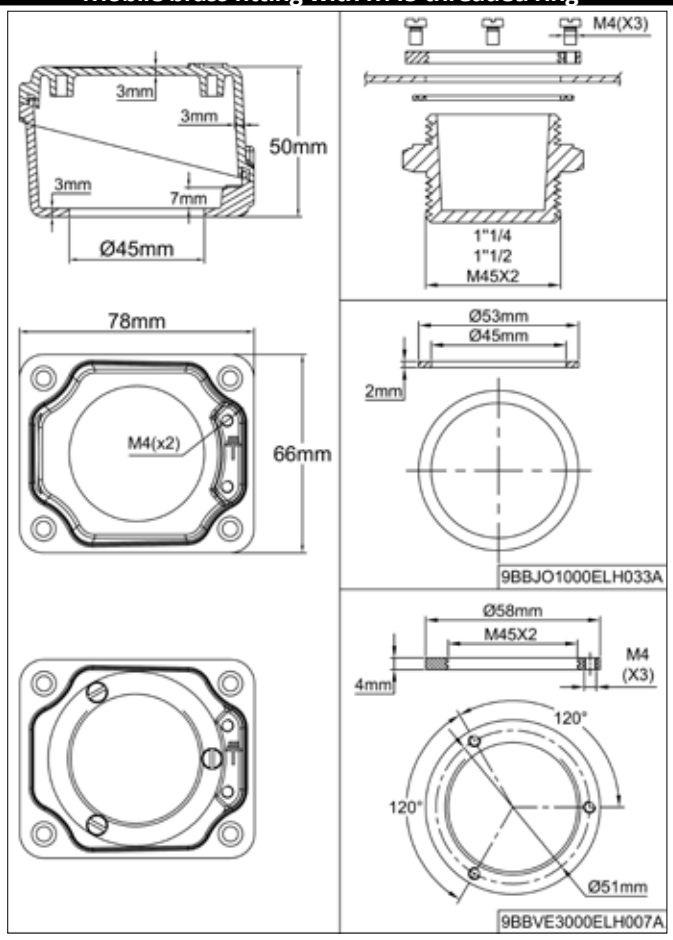
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
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Size 3



78x66x50 mm Universal

Dimensions: 78x66x50 mm (2nd section)
Main fitting configurations

Mobile brass fitting with 2 hole ring*	Mobile brass fitting with M45 threaded ring*
	
Reference : Replace B00 in the basic reference by B24	Reference : Replace B00 in the basic reference by BR4

* References do not include the brass fitting (See accessories at the end of this catalogue)

Internal accessories: These models cannot receive thermostats but can receive an internal bracket

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



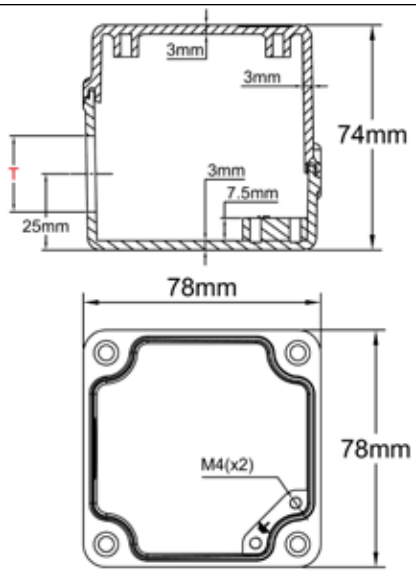
Immersion heaters connection boxes

Dimensions: 78x78x74 mm Universal (1st section)

Material: Die cast aluminum

Type: Unlosable stainless steel fasteners, galvanic corrosion protected

Basic references



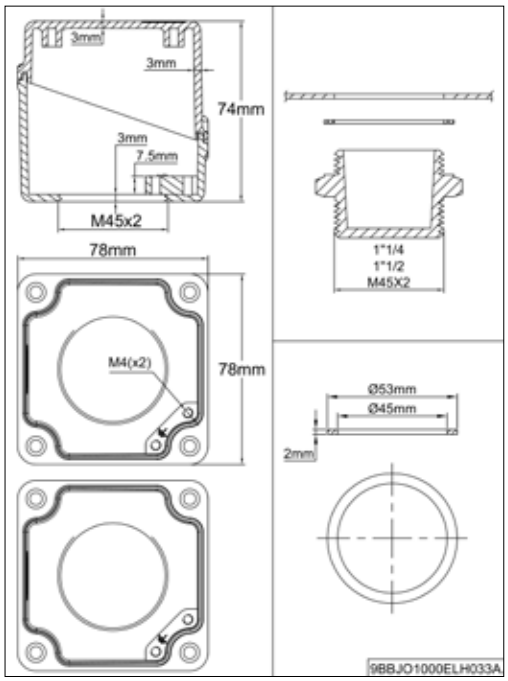


Basic references, sand blasted, no fitting holes, cable gland not included

No cable gland hole.	Y304U00B00TT0XA1
PG11 thread (T)	Y304UM5B00TT0XA
M20 x 1.5 thread (T)	Y304UM1B00TT0XA

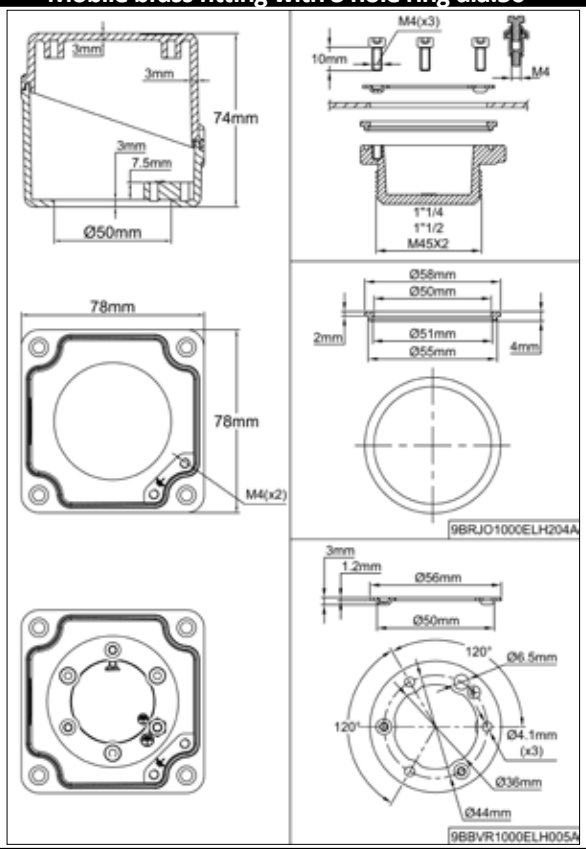
Main fitting configurations

M45 thread for brass fitting direct mounting*



Reference : Replace B00 in the basic reference by B45

Mobile brass fitting with 3 hole ring dia.50*



Reference : Replace B00 in the basic reference by B34

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Immersion heaters connection boxes

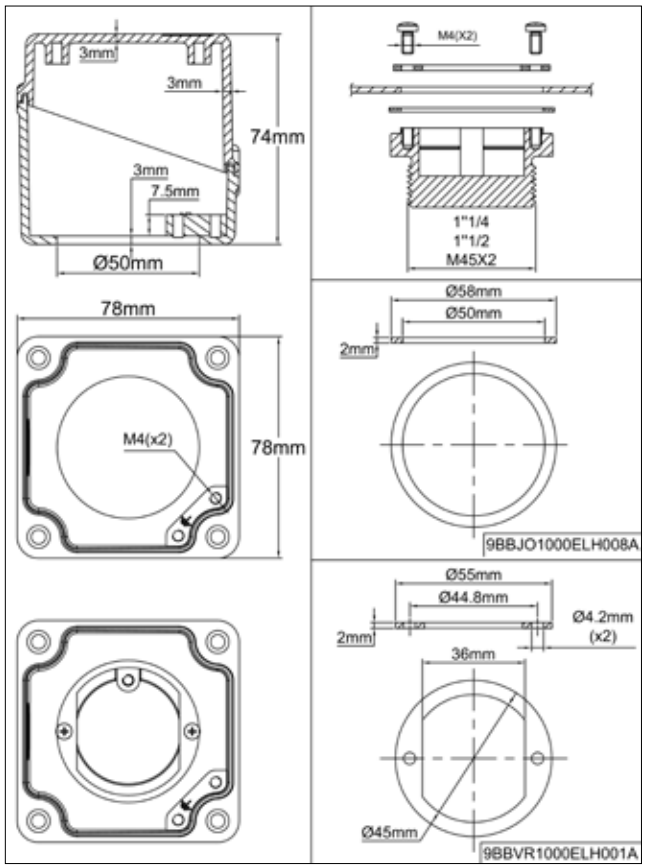
Size 4



78x78x74 mm Universal

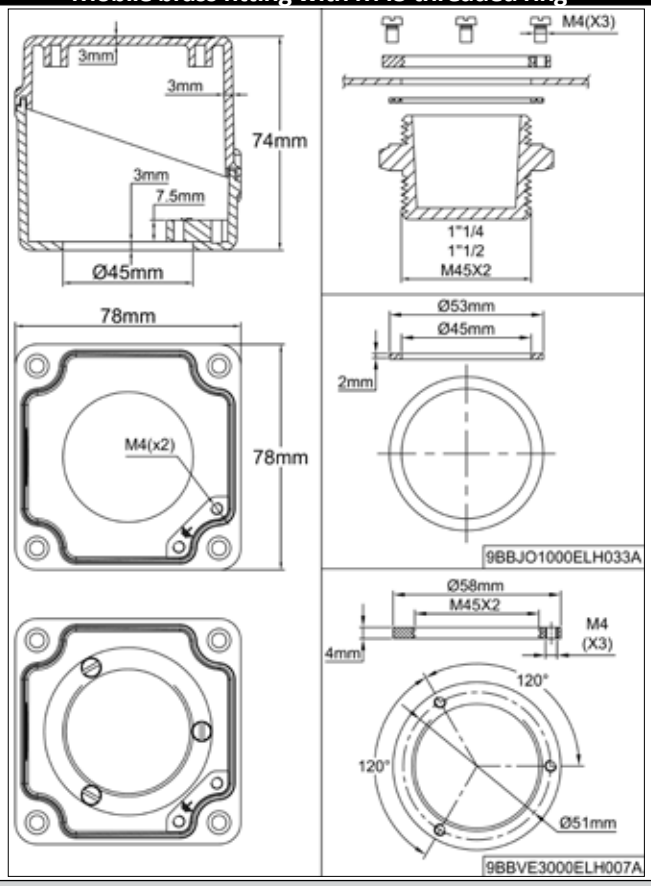
Dimensions: 78x78x74 mm Universal (2nd section)
Main fitting configurations

Mobile brass fitting with 2 hole ring dia.50*



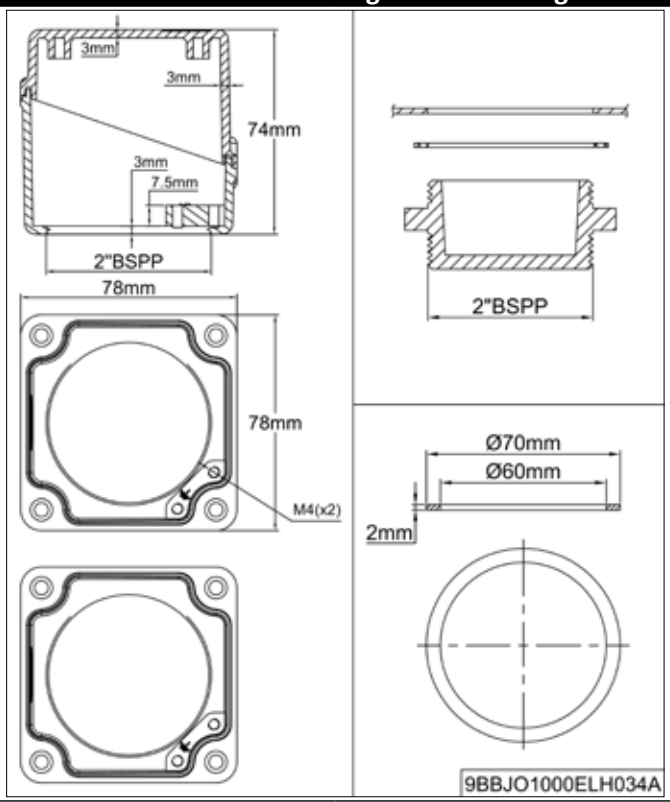
Reference : Replace B00 in the basic reference by B24

Mobile brass fitting with M45 threaded ring*



Reference : Replace B00 in the basic reference by BR4

2" thread for brass fitting direct mounting*



Reference : Replace B00 in the basic reference by B2I

* References do not include the brass fitting (See accessories at the end of this catalogue)

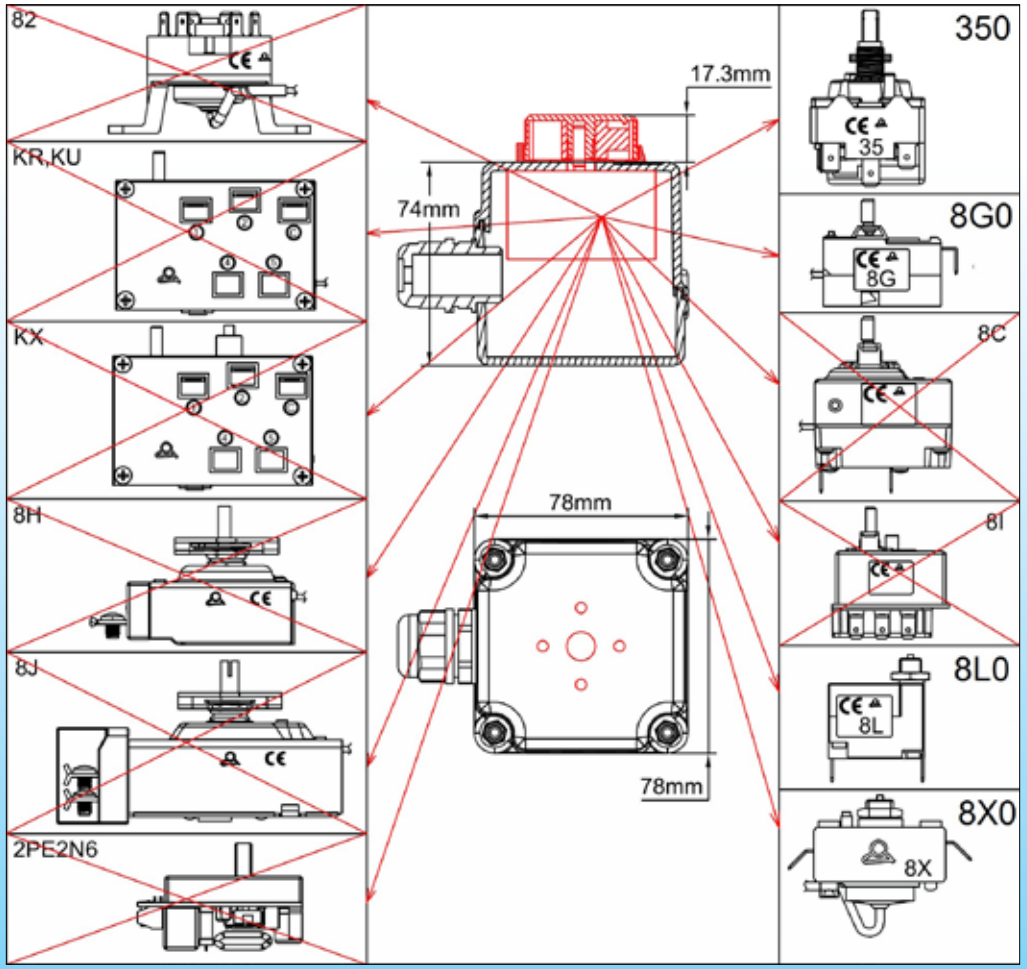
Internal accessories: These models can receive thermostats and internal bracket options, see next page

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Immersion heaters connection boxes

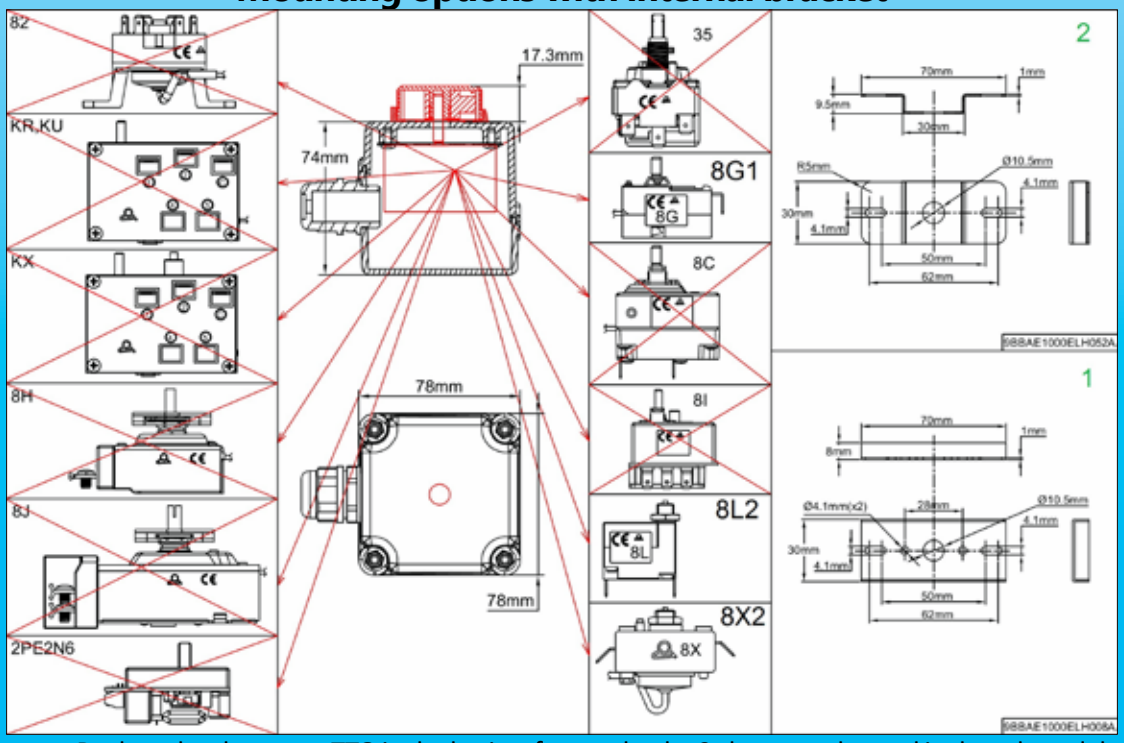
Dimensions: 78x78x74mm Universal (3rd section)

Mounting options directly on the cover



Drilling references: Replace the characters TTO in the basic reference by the 2 characters located in the selected thermostat cell.
Attention: the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

Mounting options with internal bracket



Drilling references: Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention: the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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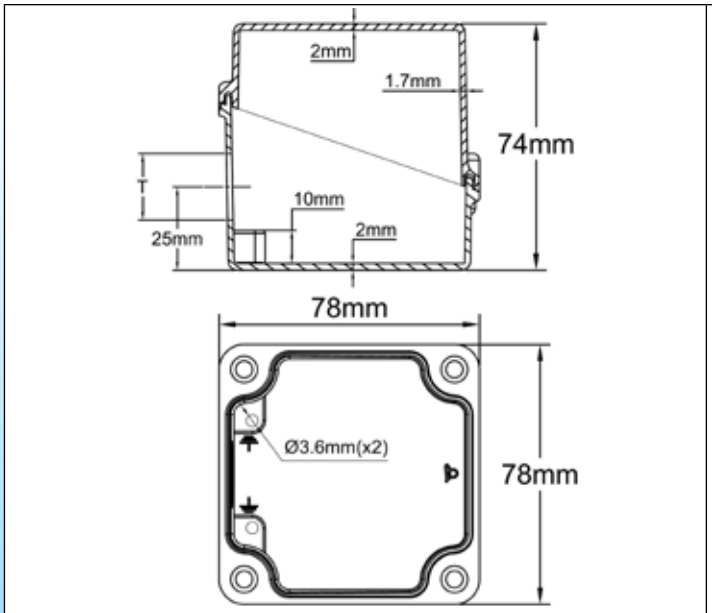


Dimensions: 78x78x74 mm Simplified (1st section)

Material: Die cast aluminum

Type: simplified, nickel plated steel fasteners, without galvanic corrosion protection

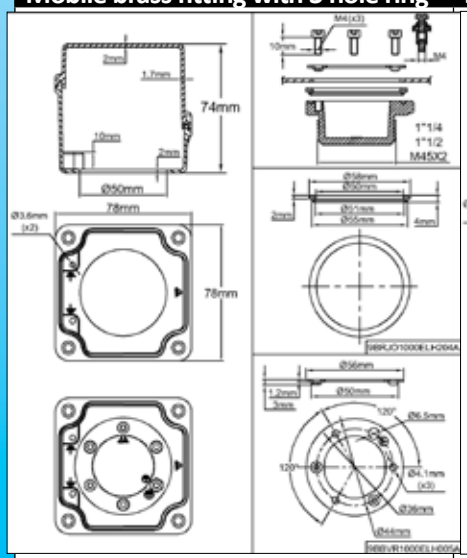
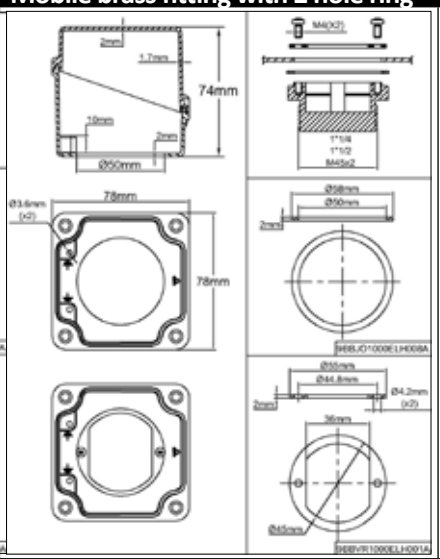
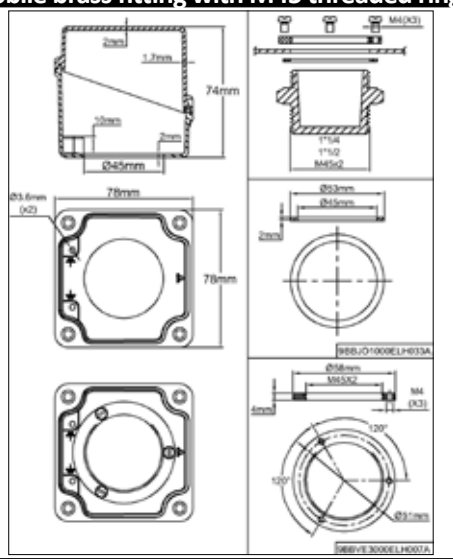
Basic references





Basic reference, not sand blasted, fitting holes and cable gland hole without threads, cable gland not included	
With dia 20 mm cable gland hole (T)	Y304SH3B00TT0XA0

Main fitting configurations

Mobile brass fitting with 3 hole ring*	Mobile brass fitting with 2 hole ring*	Mobile brass fitting with M45 threaded ring*
		
Reference : Replace B00 in the basic reference by B34	Reference : Replace B00 in the basic reference by B24	Reference : Replace B00 in the basic reference by BR4

* References do not include the brass fitting (See accessories at the end of this catalogue)

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

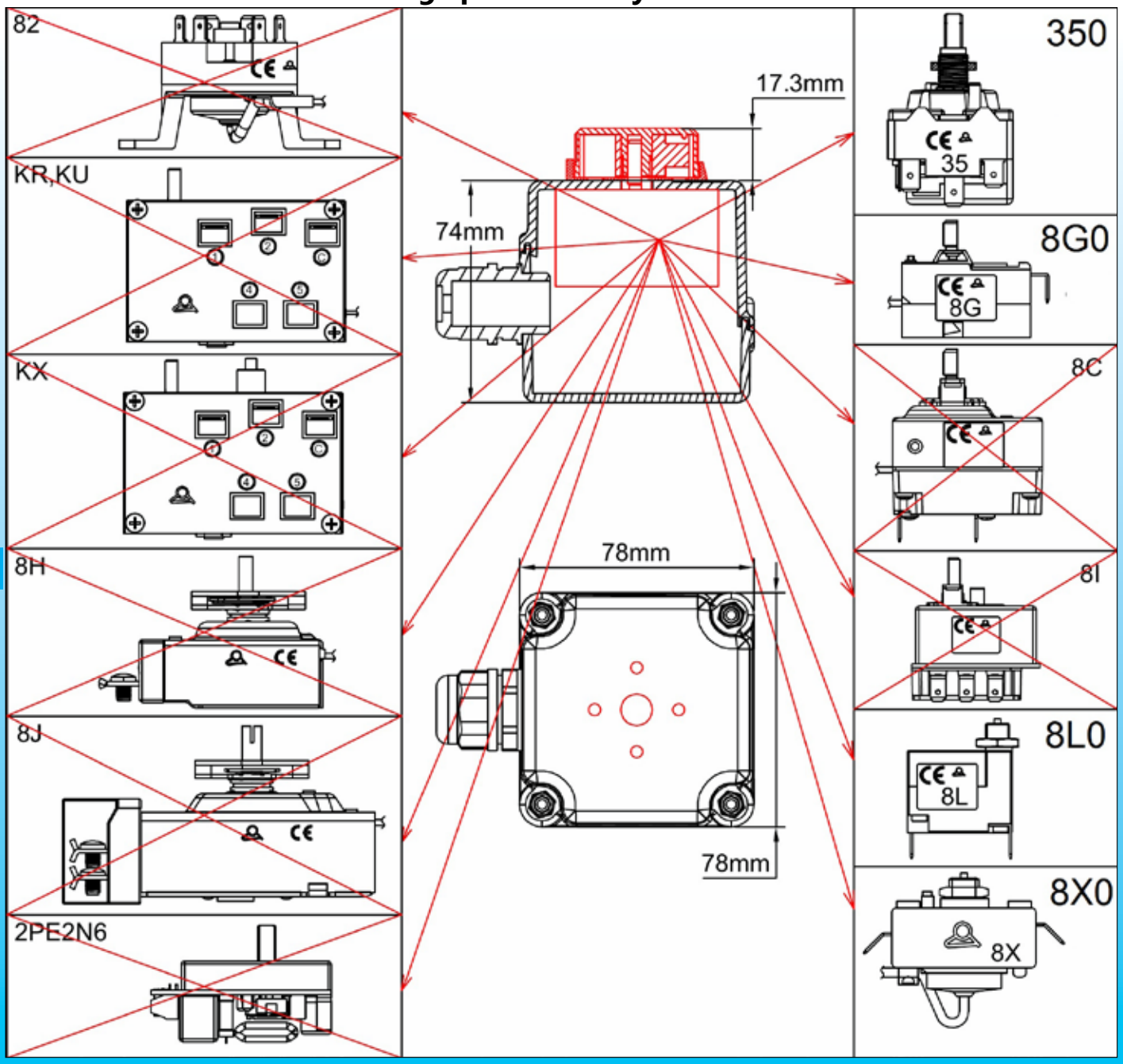


Immersion heaters connection boxes

Dimensions: 78x78x74 mm Simplified (2nd section)

Internal accessories: These models can receive thermostats but not internal bracket options, and thermostats mounting holes are drilled after molding

Mounting options directly on the cover



Drilling references : Replace the characters TT in the basic reference by the 2 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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Size 5



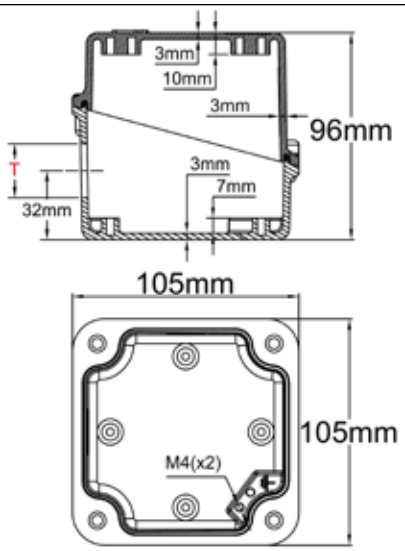
105x105x96 mm Universal

Dimensions: 105x105x96 mm Universal (1st section)

Material: Die cast aluminum

Type: Universal, unlosable stainless steel fasteners, galvanic corrosion protected

Basic references



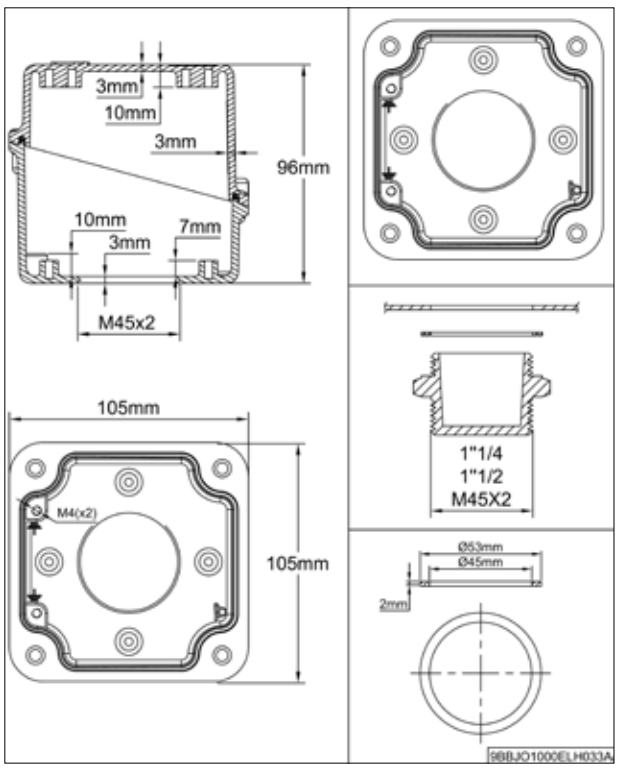


Basic references, sand blasted, no fitting holes, cable gland not included

No cable gland hole.	Y305U00B00TT0XA1
PG13.5 thread (T)	Y305UM6B00TT0XA1
M25 x 1.5 thread (T)	Y305UM3B00TT0XA1

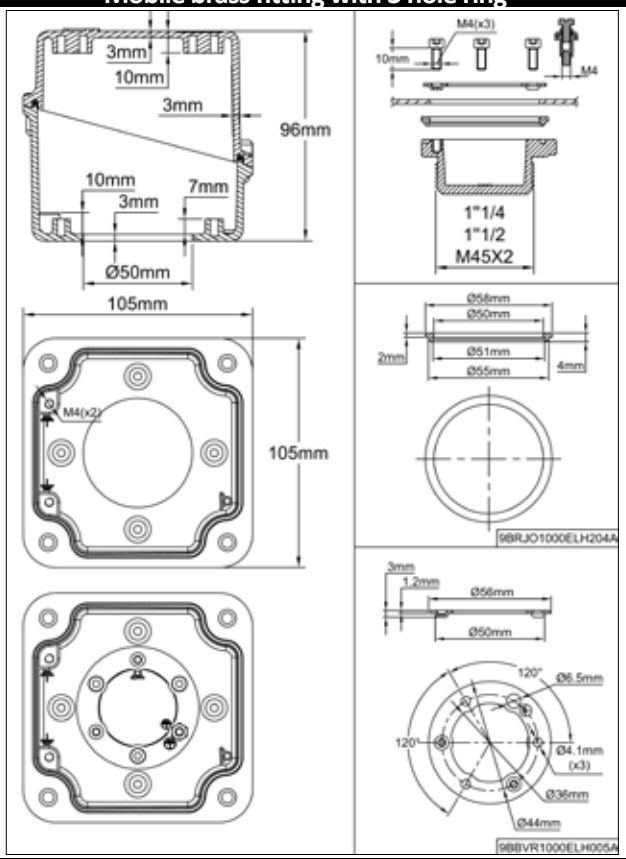
Main fitting configurations

M45 thread for brass fitting direct mounting*



Reference : Replace B00 in the basic reference by B45

Mobile brass fitting with 3 hole ring*



Reference : Replace B00 in the basic reference by B34

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

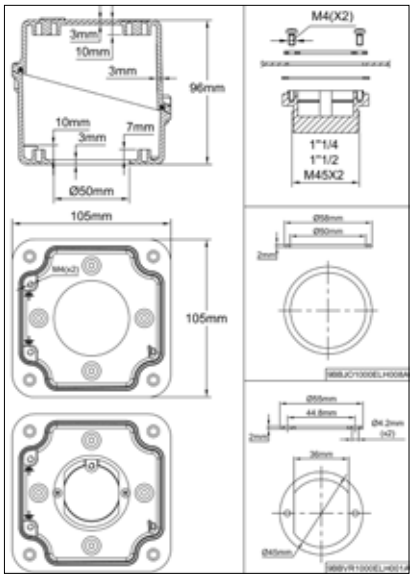


105x105x96 mm Universal

Immersion heaters connection boxes

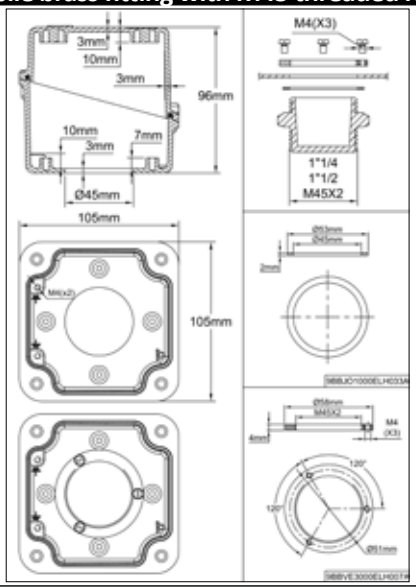
Dimensions: 105x105x96 mm Universal (2nd section)

Mobile brass fitting with 2 hole ring*



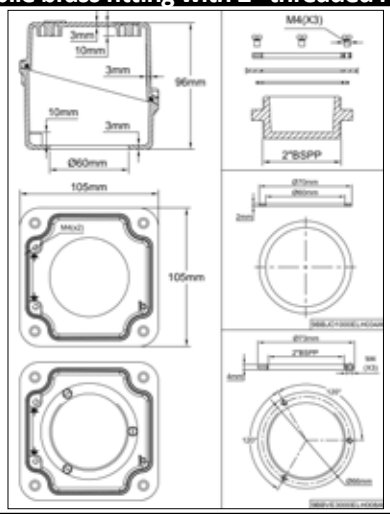
Reference : Replace B00 in the basic reference by B24

Mobile brass fitting with M45 threaded ring*



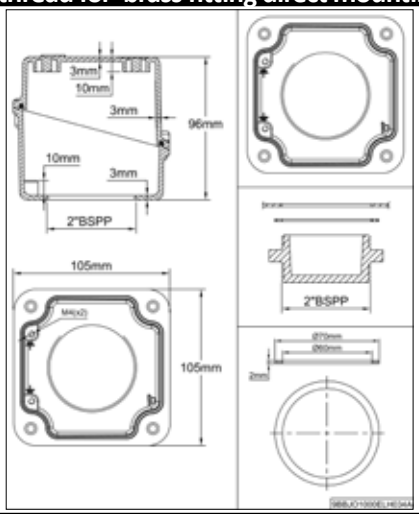
Reference : Replace B00 in the basic reference by BR4

Mobile brass fitting with 2" threaded ring*



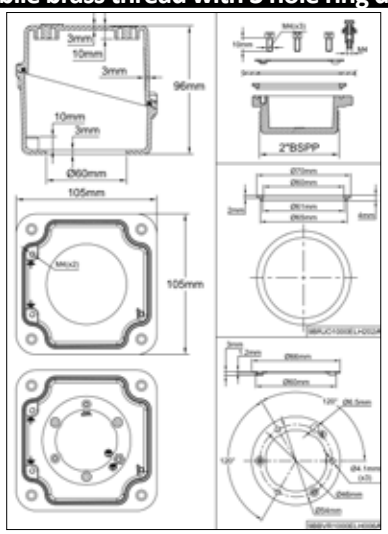
Reference : Replace B00 in the basic reference by B2R

2" thread for brass fitting direct mounting*



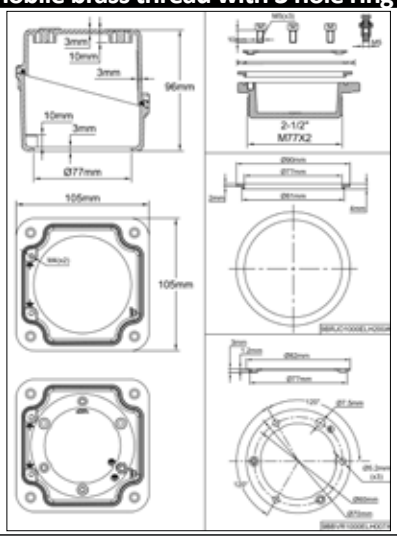
Reference : Replace B00 in the basic reference by B2I

2" mobile brass thread with 3 hole ring dia.60*



Reference : Replace B00 in the basic reference by B36

2"1/2 mobile brass thread with 3 hole ring dia.77*



Reference : Replace B00 in the basic reference by B37

* References do not include the brass fitting (See accessories at the end of this catalogue)

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

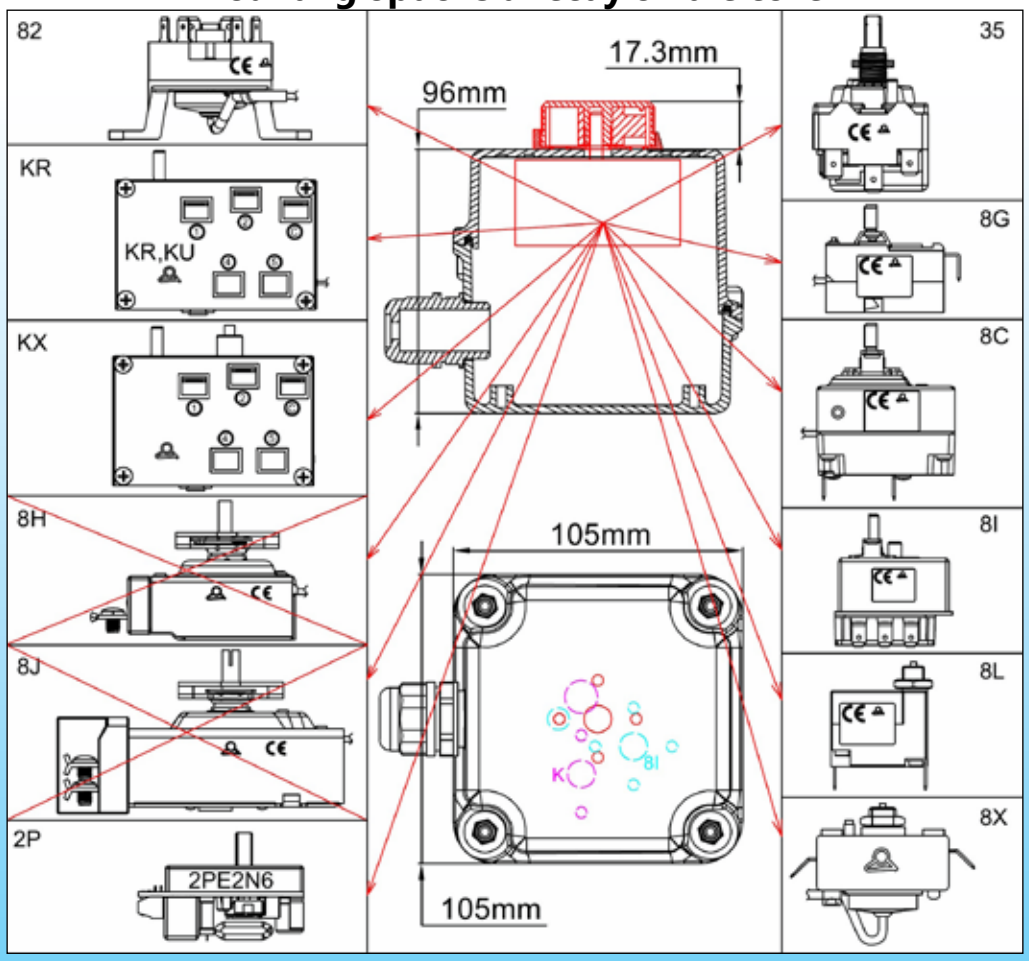
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Dimensions: 105x105x96 mm Universal (3rd section)

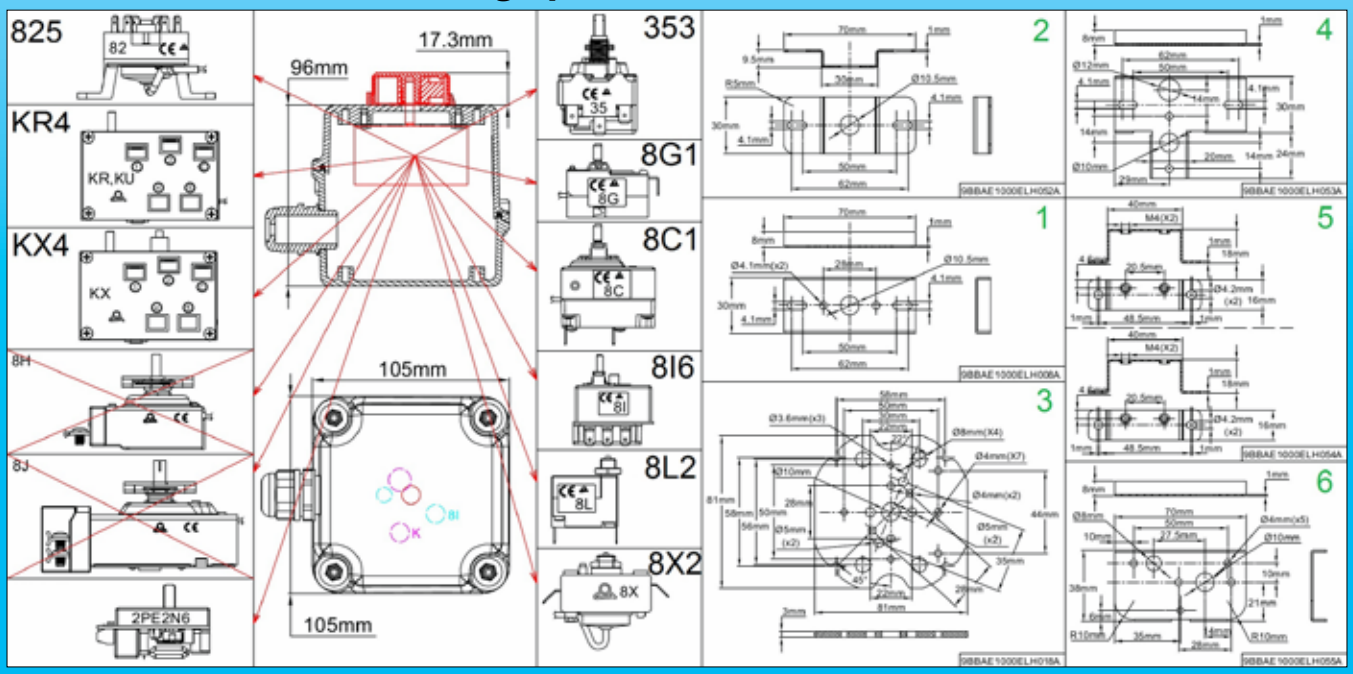
Internal accessories: These models can receive thermostats and internal bracket options

Mounting options directly on the cover



Drilling references: Replace the characters TT in the basic reference by the 2 characters located in the selected thermostat cell.
Attention: the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

Mounting options with internal bracket



Drilling references: Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention: the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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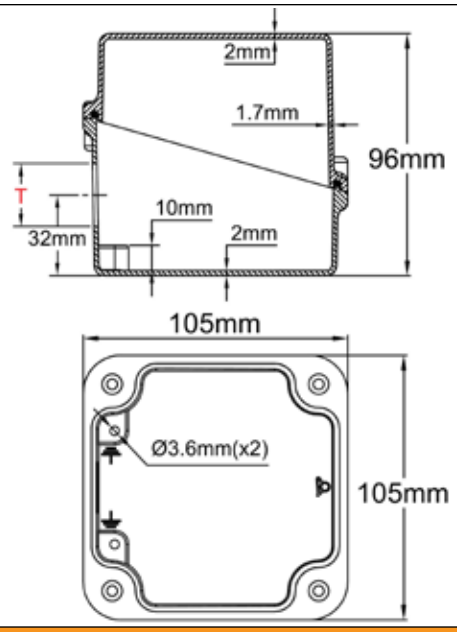
Immersion heaters connection boxes

Dimensions: 105x105x96 mm Simplified (1st section)

Material: Die cast aluminum

Type: Simplified, nickel plated steel fasteners, without galvanic corrosion protection

Basic references



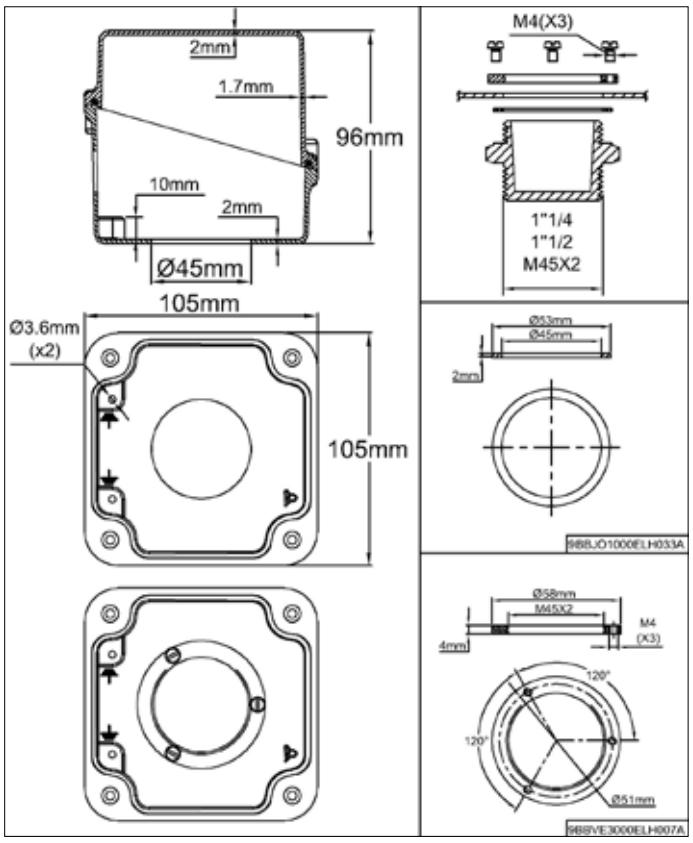


Basic reference, not sand blasted, fitting holes and cable gland hole without threads, cable gland not included

With dia 25 mm cable gland hole (T)	Y305SH6B00TT0XA0

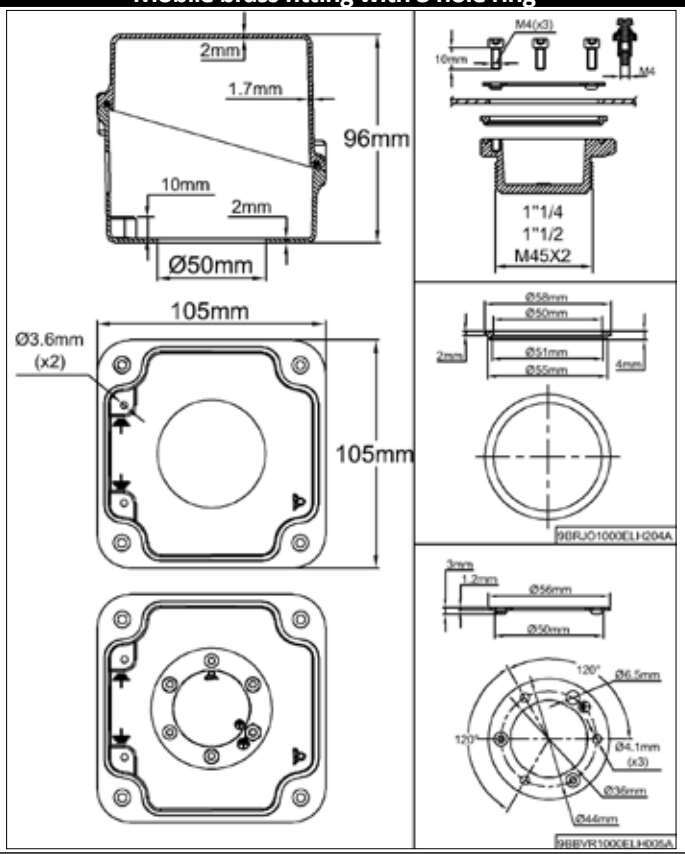
Main fitting configurations

Mobile brass fitting with M45 threaded ring*



Reference : Replace B00 in the basic reference by BR4

Mobile brass fitting with 3 hole ring*



Reference : Replace B00 in the basic reference by B34

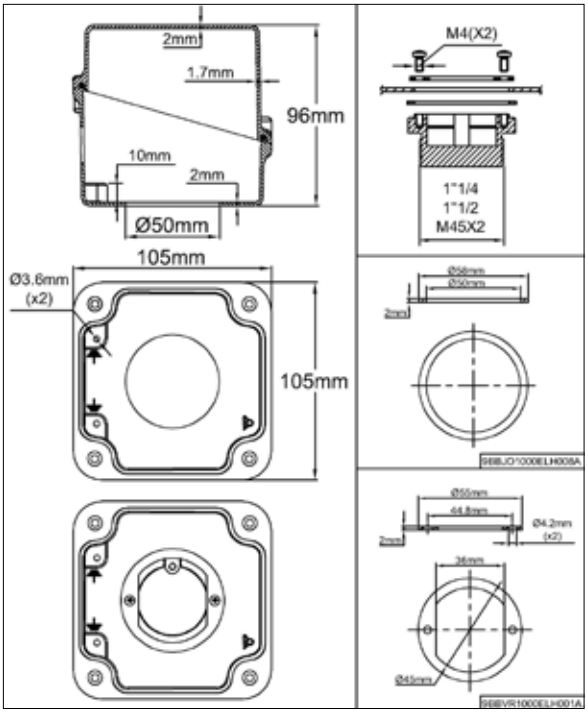
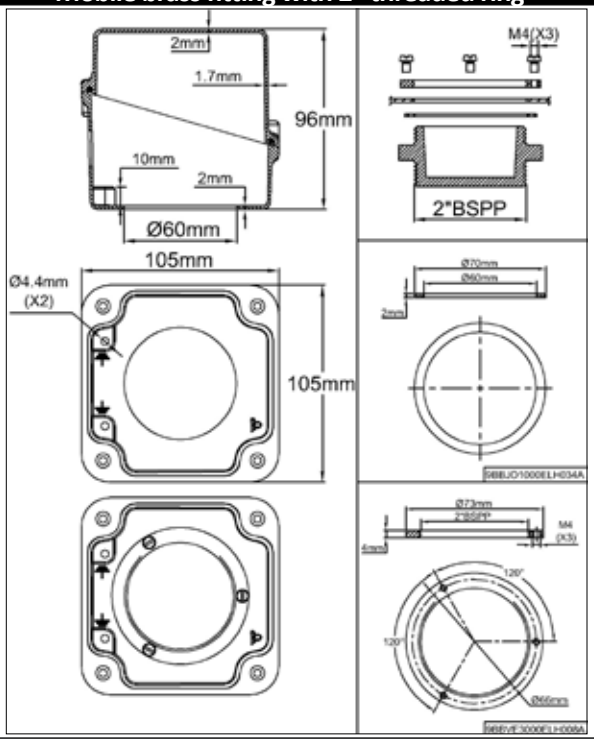
Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
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Immersion heaters connection boxes



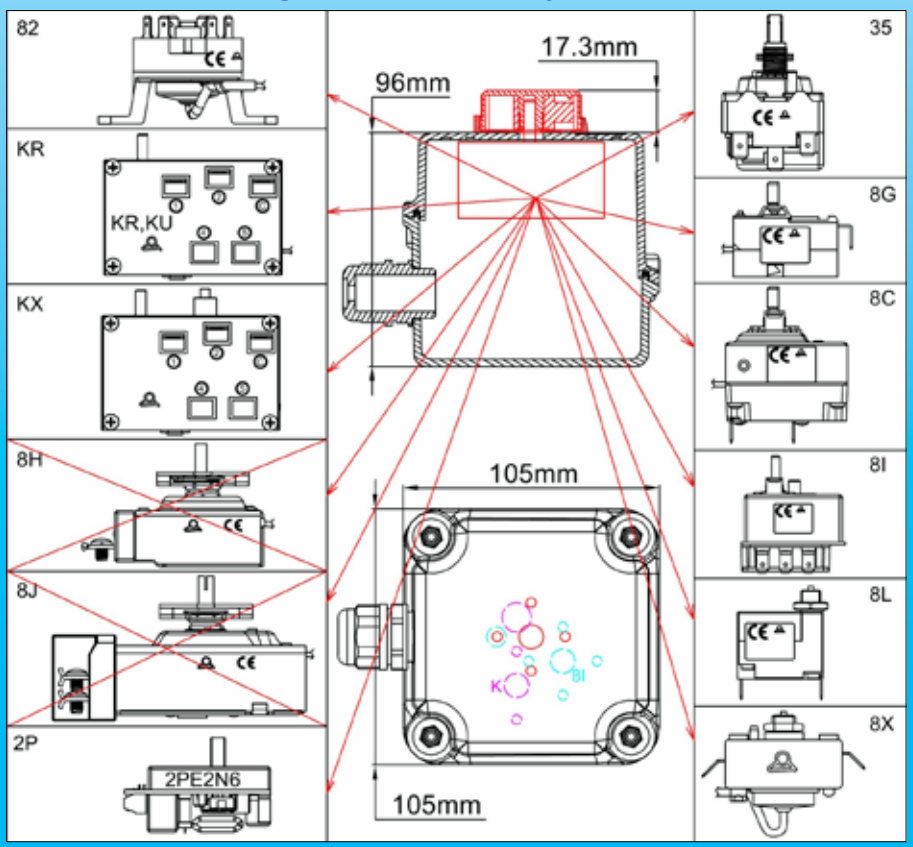
Dimensions: 105x105x96 mm Simplified (2nd section)

Mobile brass fitting with 2 hole ring*	Mobile brass fitting with 2" threaded ring*
	
Reference : Replace B00 in the basic reference by B24	Reference : ReplaceB00 in the basic reference by B2R

* References do not include the brass fitting (See accessories at the end of this catalogue)

Internal accessories : These models can receive thermostats but not internal bracket options, and thermostats mounting holes are drilled after molding

Mounting options directly on the cover



Drilling references : Replace the characters TT in the basic reference by the 2 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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Dia. 100x100 mm Universal

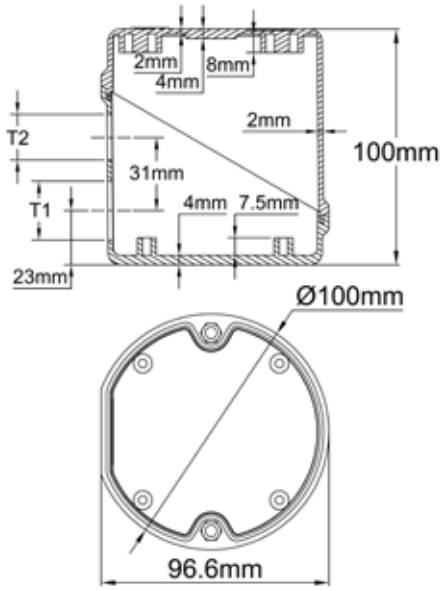
Immersion heaters connection boxes

Dimensions: Dia. 100x100 mm Universal (1st section)

Material: Fiber glass reinforced PA66

Type: Universal, unlosable stainless steel fasteners

Basic references



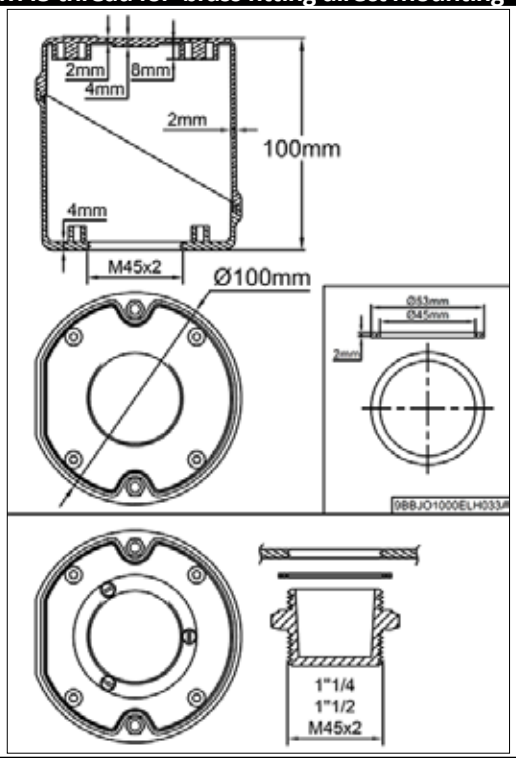


Basic references, no fitting holes, cable gland not included

No cable gland hole	Y306U00E00TT0XGA
Dia 16mm hole (T2)	Y306UH1E00TT0XGA
Dia 20mm hole (T2)	Y306UH4E00TT0XGA
Dia 20mm hole (T1)	Y306UH3E00TT0XGA
Dia 25mm hole (T1)	Y306UH6E00TT0XGA
Dia 16mm hole (T2)+ Dia 25mm hole (T1)	Y306UH7E00TT0XGA
Dia 20mm hole (T2)+ Dia 20mm hole (T1)	Y306UH5E00TT0XGA

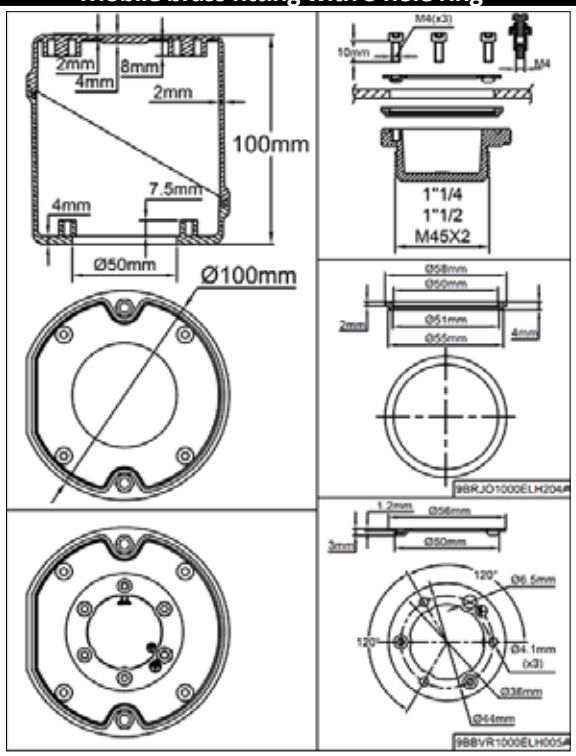
Main fitting configurations

M45 thread for brass fitting direct mounting*



Reference : Replace E00 in the basic reference by E45

Mobile brass fitting with 3 hole ring*



Reference : Replace E00 in the basic reference by E34

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Immersion heaters connection boxes

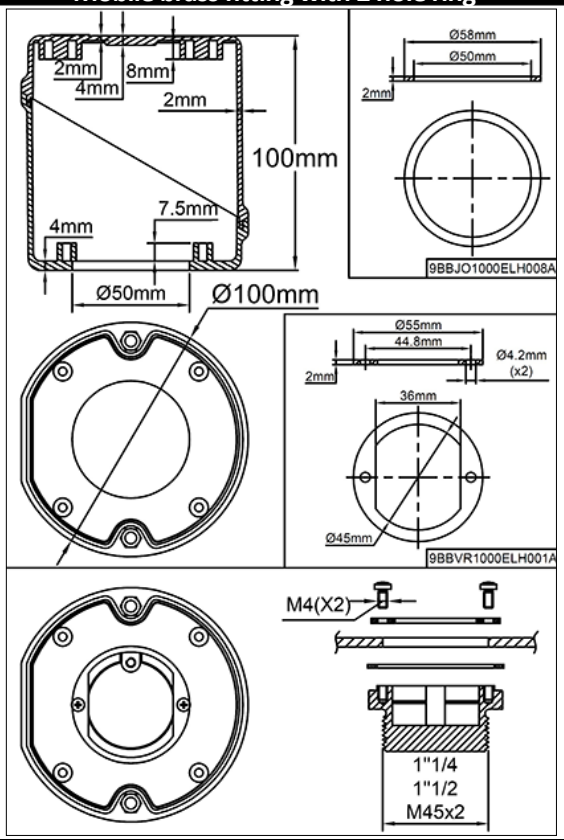
Size 6



Dia. 100x100 mm Universal

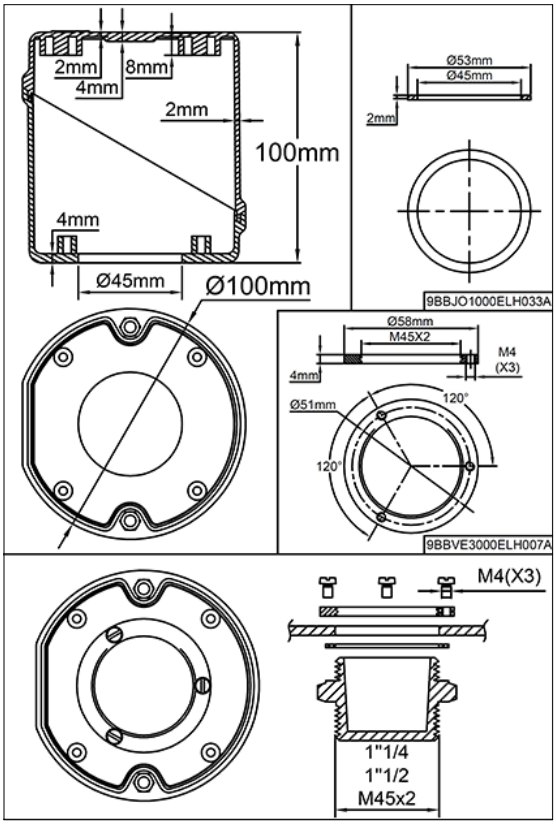
Dimensions: 105x105x96 mm Universal (2nd section)

Mobile brass fitting with 2 hole ring*



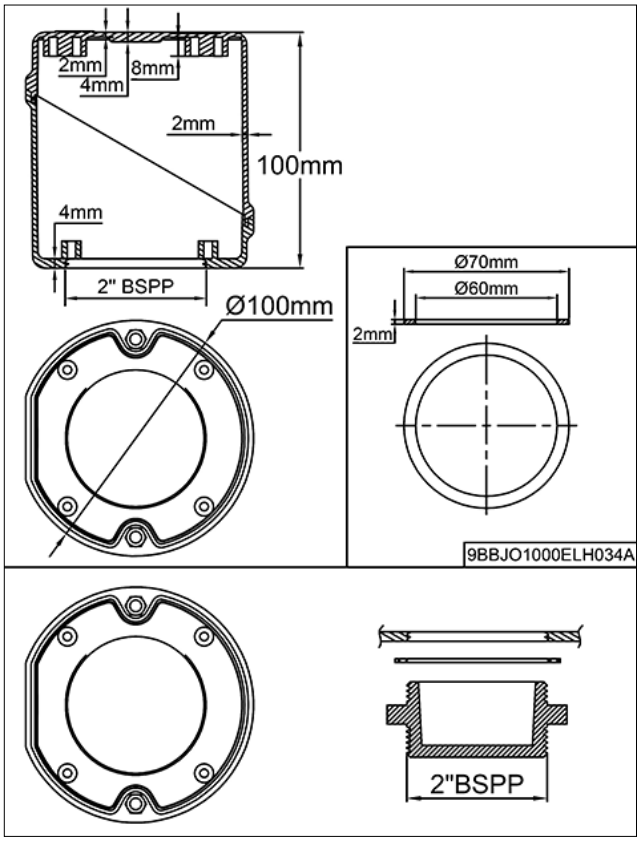
Reference : Replace E00 in the basic reference by E24

Mobile brass fitting with M45 threaded ring*



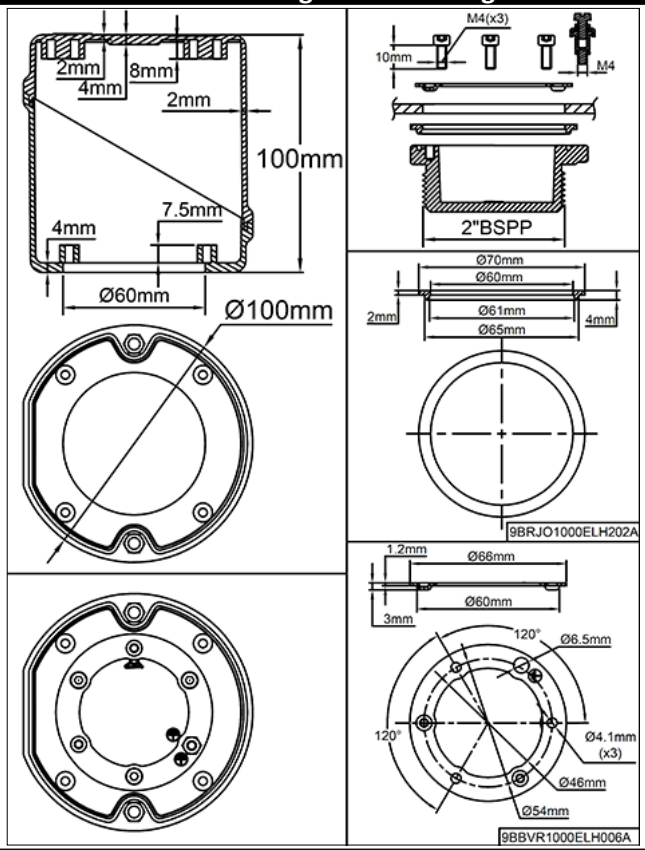
Reference : Replace E00 in the basic reference by ER4

2" thread for brass fitting direct mounting*



Reference : Replace E00 in the basic reference by E2I

2" mobile brass fitting with 3 hole ring dia.60*



Reference : Replace E00 in the basic reference by E36

* References do not include the brass fitting (See accessories at the end of this catalogue)

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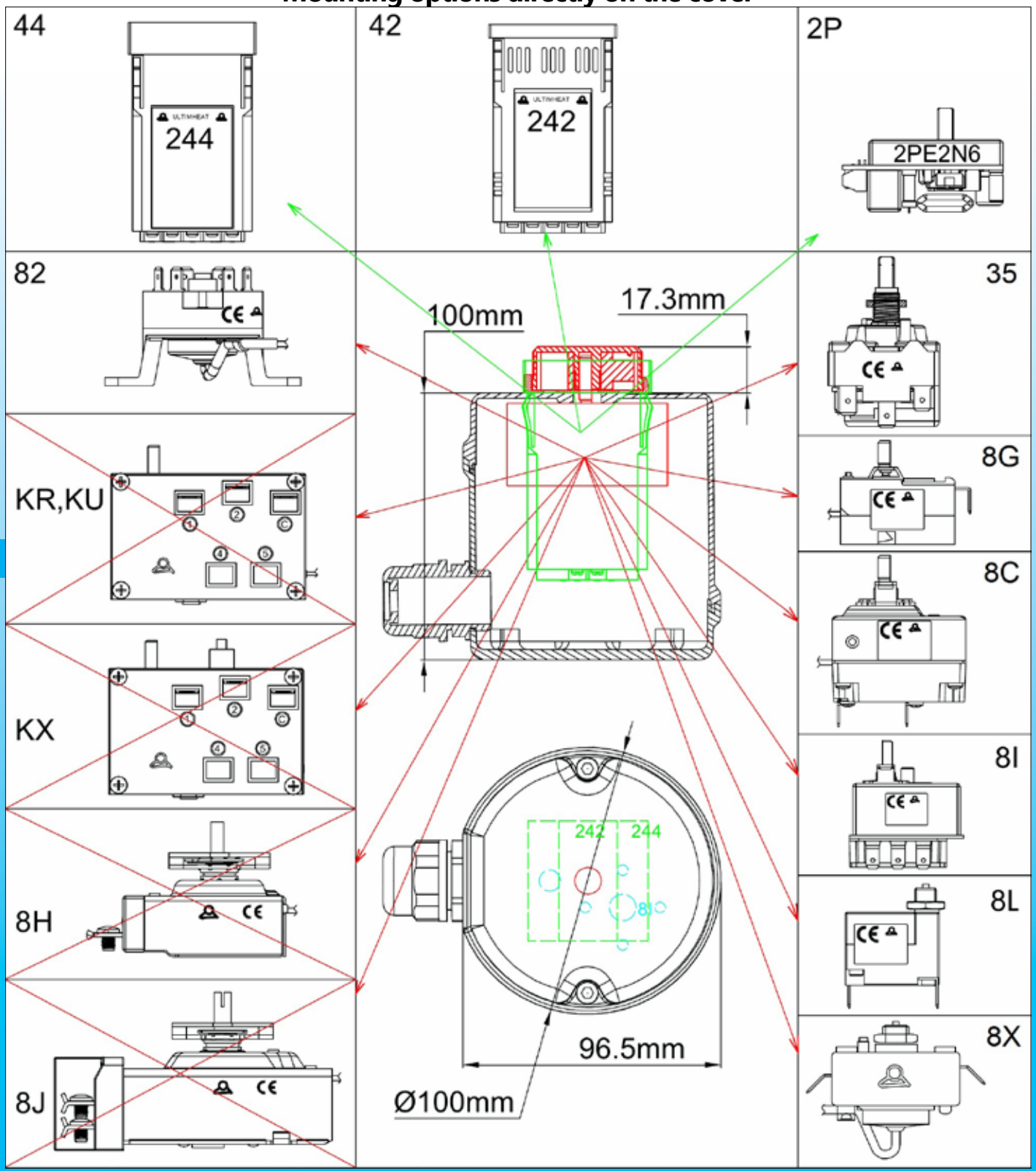


Immersion heaters connection boxes

Dimensions: Dia. 100x100 mm Universal (3rd section)

Internal accessories: These models can receive thermostats and internal bracket options

Mounting options directly on the cover



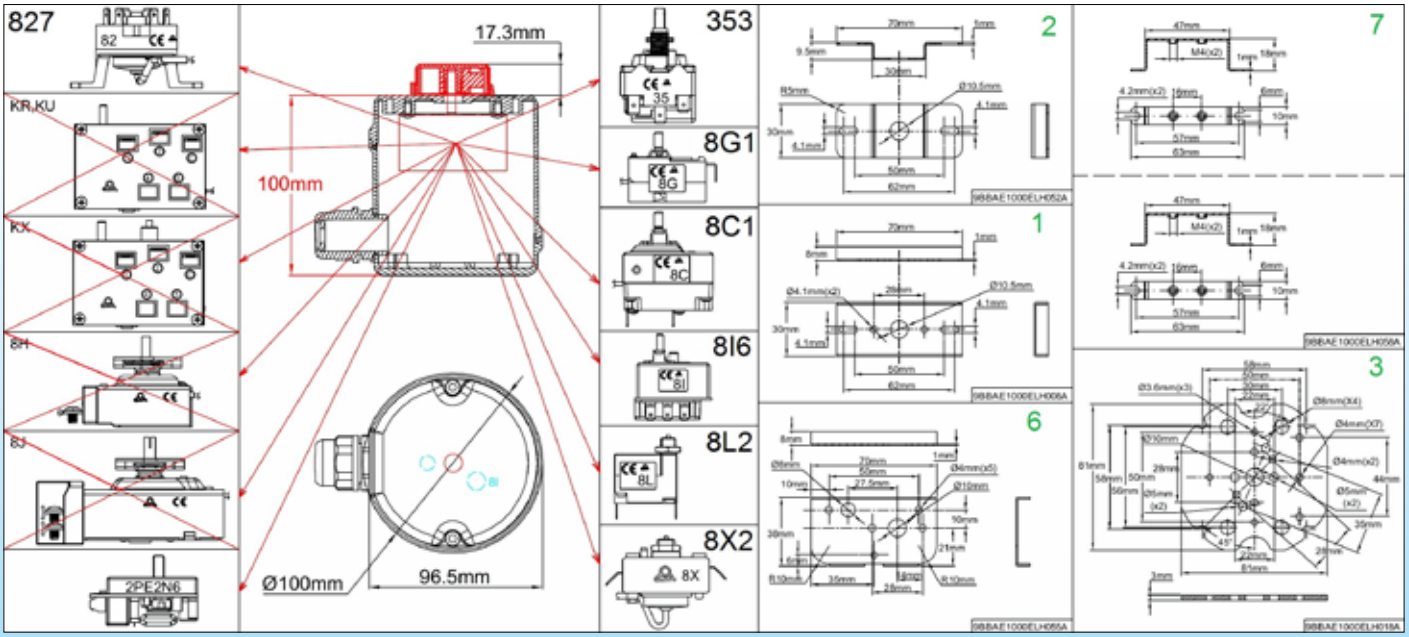
Drilling references : Replace the characters TT in the basic reference by the 2 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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Dimensions: Dia. 100x100 mm Universal
(4th section)
Mounting options with internal bracket



Drilling references : Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell. **Attention :** the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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130x130x150 mm Universal

Immersion heaters connection boxes

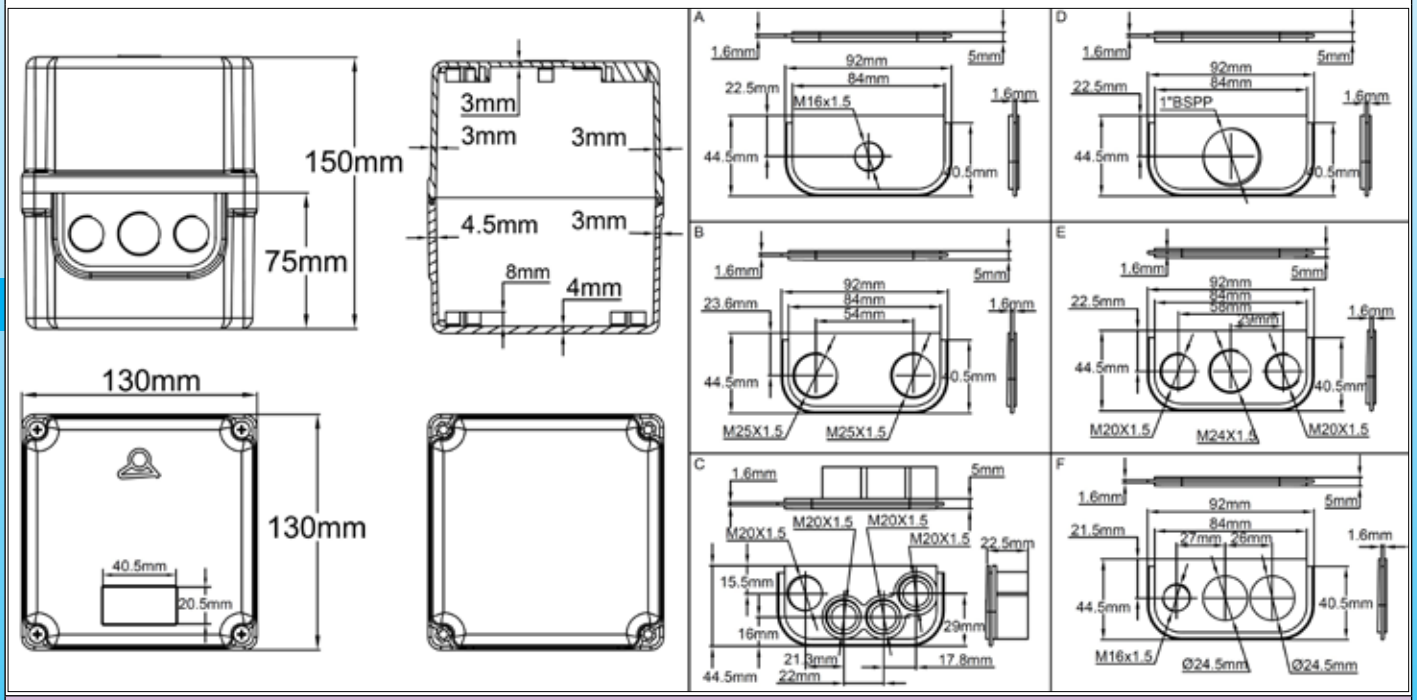
Dimensions: 130x130x150 mm Universal (1st section)

Material: Fiber glass reinforced PA66

Type: Universal, unlosable stainless steel fasteners

Basic references





Basic references, no fitting holes, cable gland not included

1x M16x1.5 thread	A	Y307U1AE00TT0XGA
2x M25x1.5 threads	B	Y307U1BE00TT0XGA
1x M20x105 thread + 3 outputs for flat cables	C	Y307U1CE00TT0XGA
1x 1" thread	D	Y307U1DE00TT0XGA
1x M24x1.5 thread + 2 x M20x1.5 threads	E	Y307U1EE00TT0XGA
2 holes dia 24.5+ 1x M16x1.5 thread	F	Y307U1FE00TT0XGA

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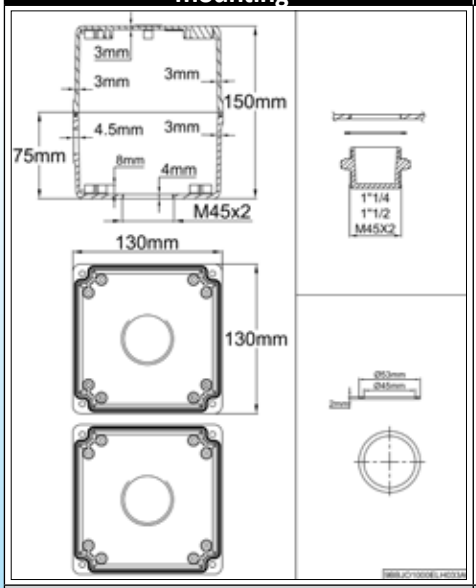
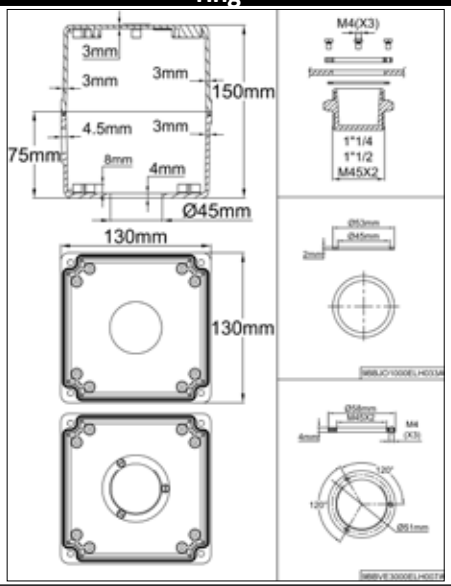
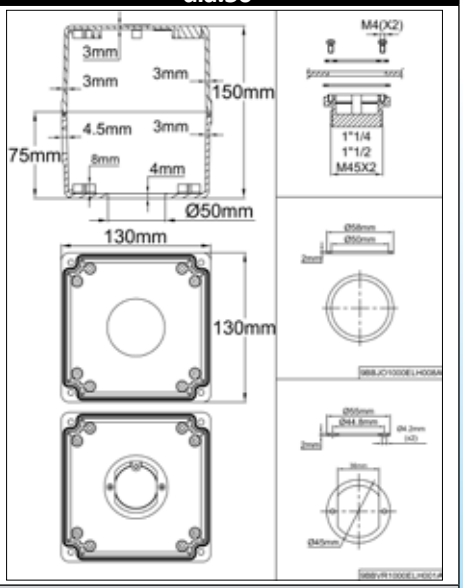
Immersion heaters connection boxes

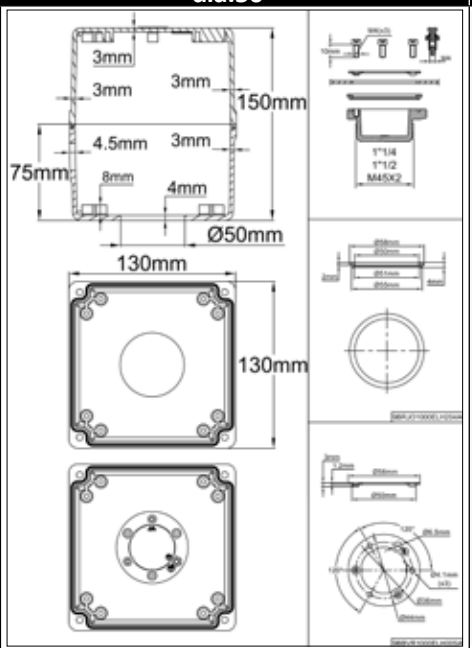
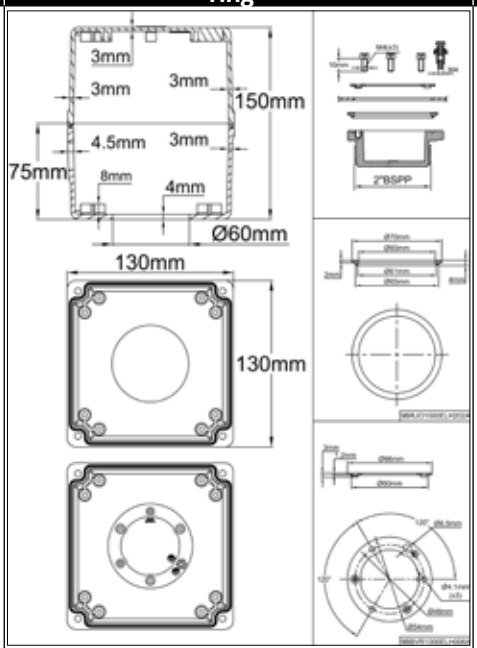
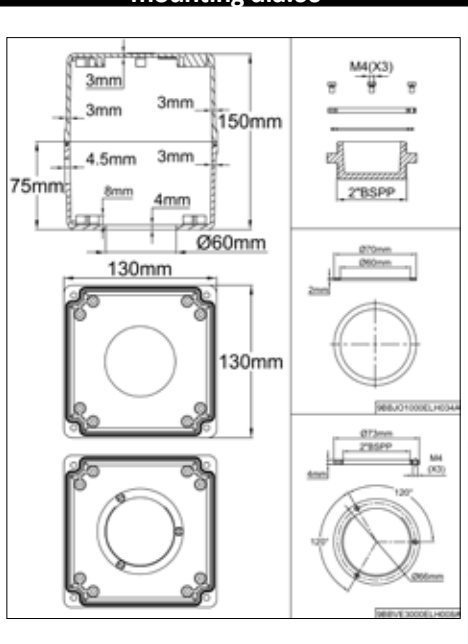
Size 7



130x130x150 mm Universal

Dimensions: 130x130x150 mm Universal
(2nd section)
Main fitting configurations

M45 thread for brass fitting direct mounting*	Mobile brass fitting with M45 threaded ring*	Mobile brass fitting with 2 hole ring dia.50*
		
Reference : ReplaceE00 in the basic reference by E45	Reference : Replace E00 in the basic reference by ER4	Reference : Replace E00 in the basic reference by E24

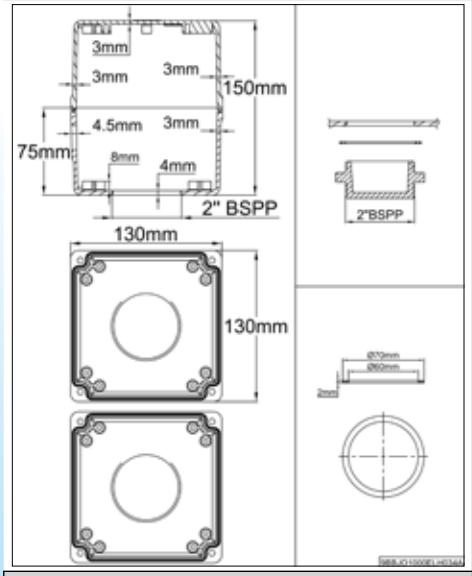
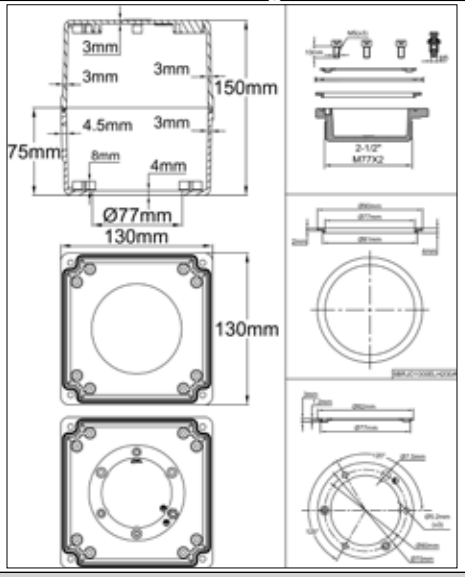
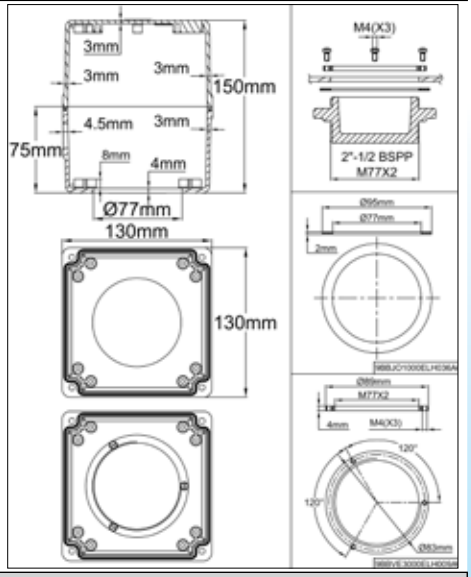
Mobile brass fitting with 3 hole ring dia.50*	Mobile brass fitting with 2" threaded ring*	2" thread for brass fitting direct mounting dia.60*
		
Reference : Replace E00 in the basic reference by E34	Reference : Replace E00 in the basic reference by E36	Reference : Replace E00 in the basic reference by E2R

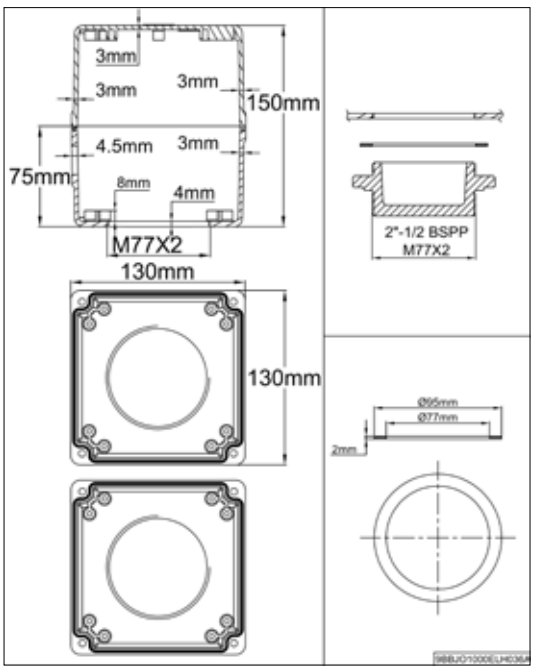
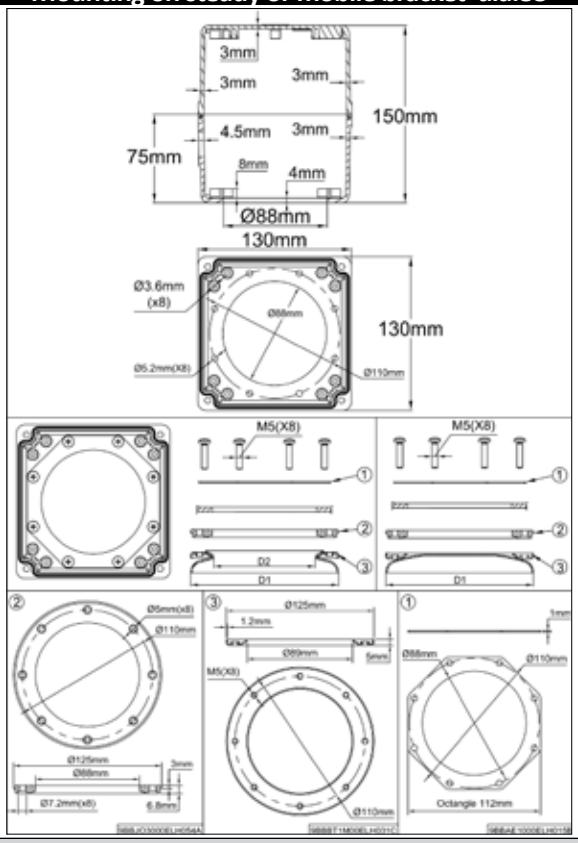
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Immersion heaters connection boxes

Dimensions: 130x130x150 mm Universal (3rd section)

2" thread for fitting direct mounting	M77 thread for brass fitting direct mounting*	Mobile flange assembly
		
Reference : Replace E00 in the basic reference by E2I	Reference : Replace E00 in the basic reference by E37	Reference : Replace E00 in the basic reference by E7R

M77 thread for fitting direct mounting*	Mounting on steady or mobile bracket dia.88
	
Reference : Replace E00 in the basic reference by E77	Reference : Replace E00 in the basic reference by EF8

* References do not include the brass fitting (See accessories at the end of this catalogue)

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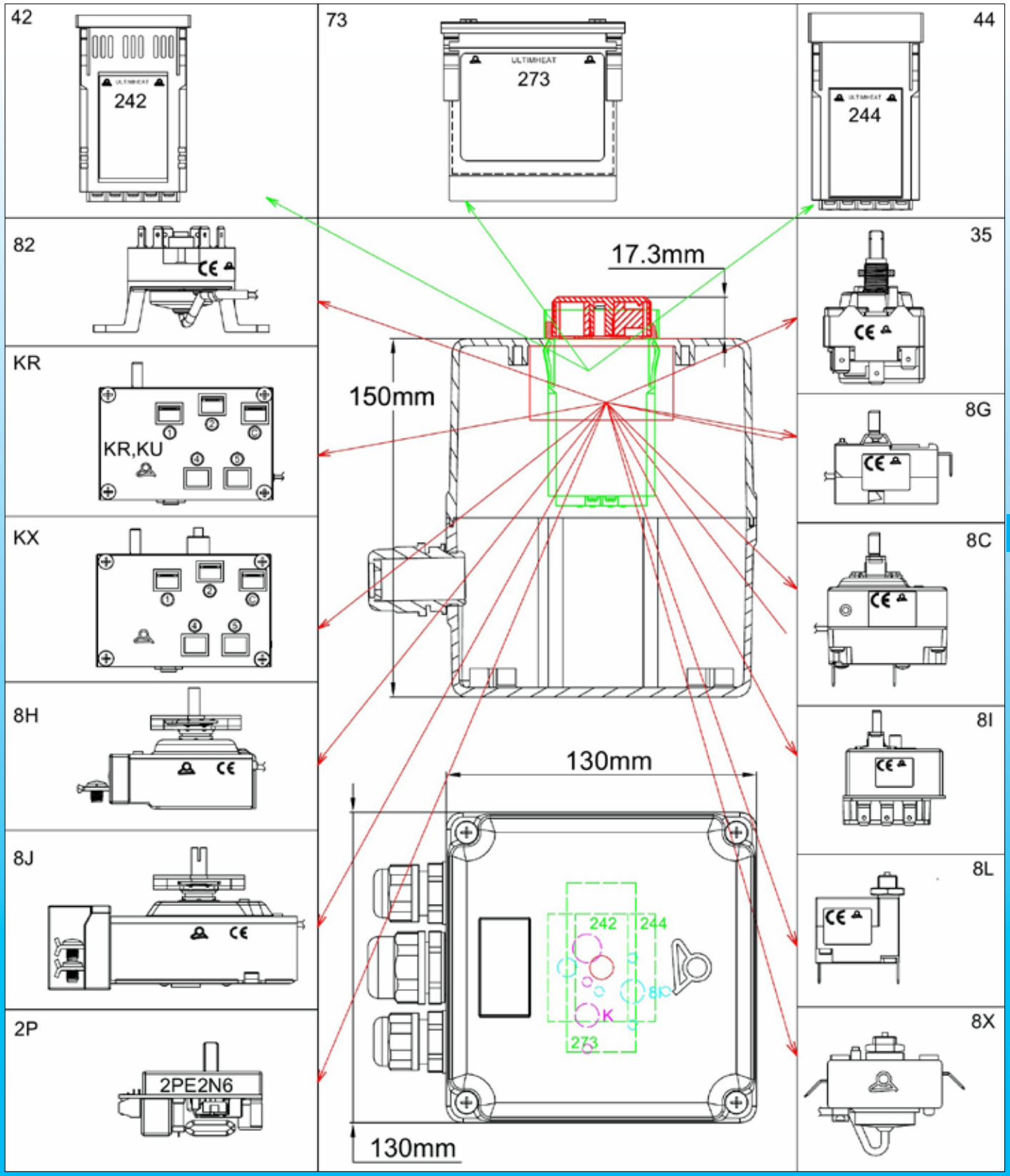
Immersion heaters connection boxes



Dimensions: 130x130x150 mm Universal
(4th section)

Internal accessories: These models can receive thermostats and internal bracket options

Mounting options directly on the cover



Drilling references : Replace the characters TT in the basic reference by the 2 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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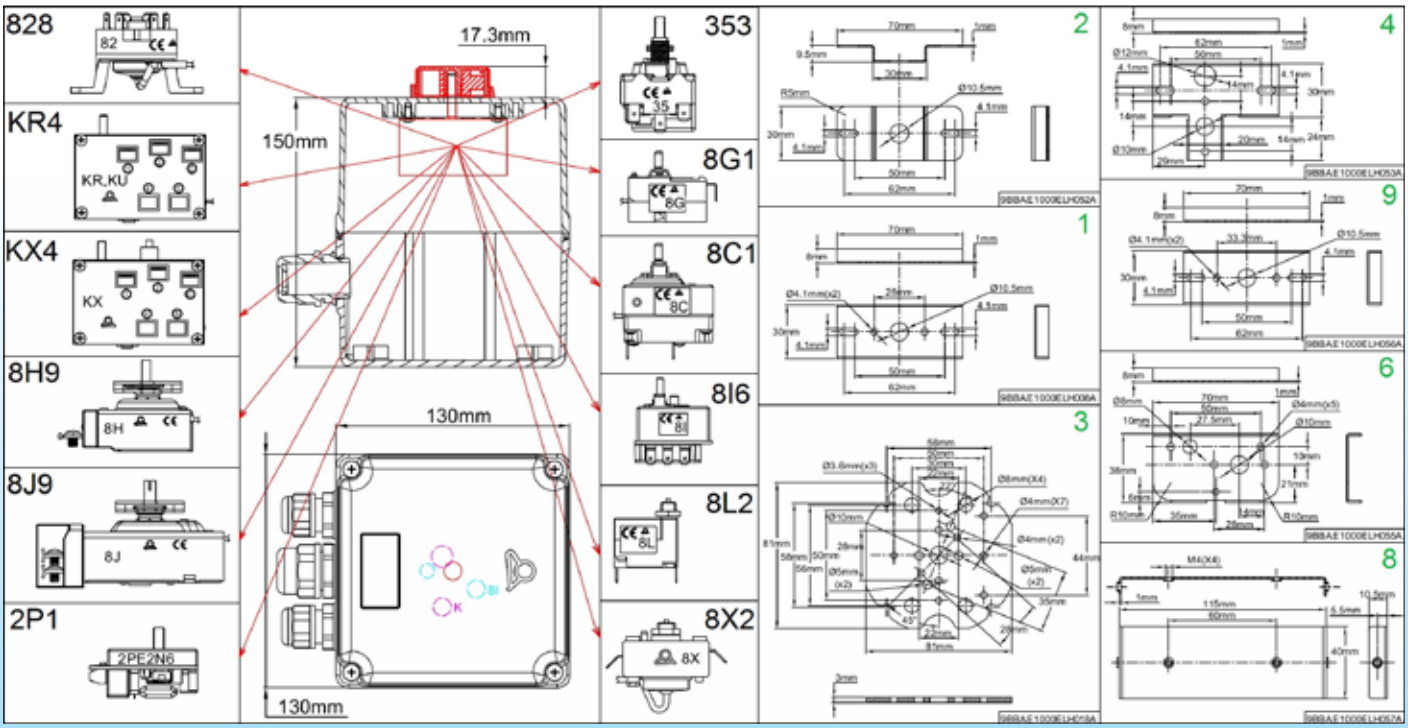


130x130x150 mm Universal

Immersion heaters connection boxes

Dimensions: 130x130x150 mm Universal (5th section)

Mounting options with internal bracket



Drilling references : Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1.

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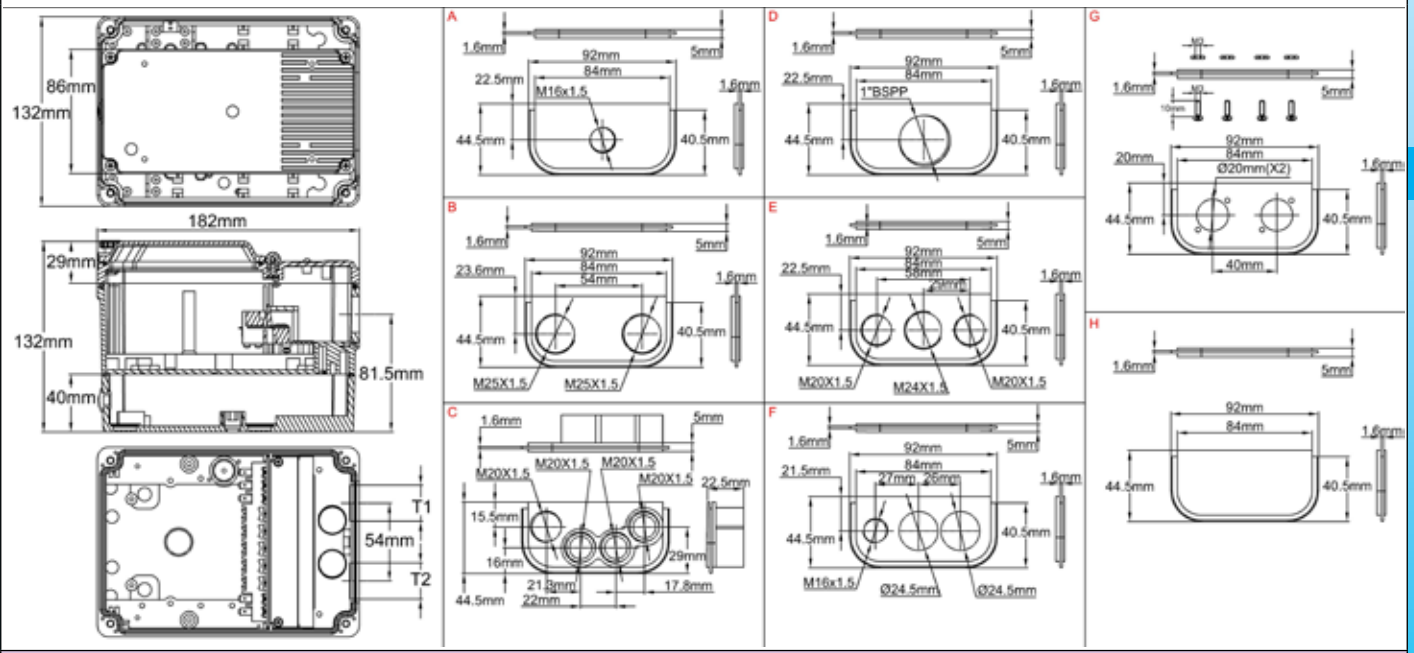
Immersion heaters connection boxes



Dimensions: 182x130x132 mm Universal (1st section)
Material: Fiber glass reinforced PA66
and die cast aluminum
Type: Universal, unlosable stainless steel fasteners
Many versions of this box size, fully equipped and
wired are described in the catalog No. 3, series Y8.

Basic references





Basic references, no fitting holes, cable gland not included*

	Drawing	
1x M16x1.5 thread	A	Y303U1AE00TT0XH1
2x M25x1.5 threads	B	Y303U1BE00TT0XH1
1x M20x105 thread + 3 outputs for flat cables	C	Y303U1CE00TT0XH1
1x 1" thread	D	Y303U1DE00TT0XH1
1x M24x1.5 thread + 2 x M20x1.5 threads	E	Y303U1EE00TT0XH1
2 holes dia 24.5+ 1x M16x1.5 thread	F	Y303U1FE00TT0XH1
2x dia 20 holes for DIN 43650A connectors*	G	Y303U1GE00TT0XH1

* This output is mandatory for models with 2 K thermostats

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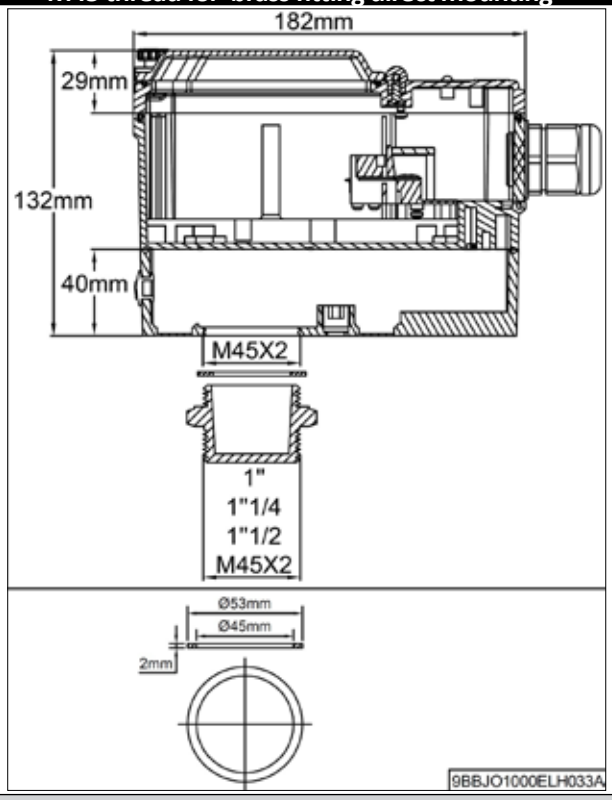


182x130x132 mm Universal

Immersion heaters connection boxes

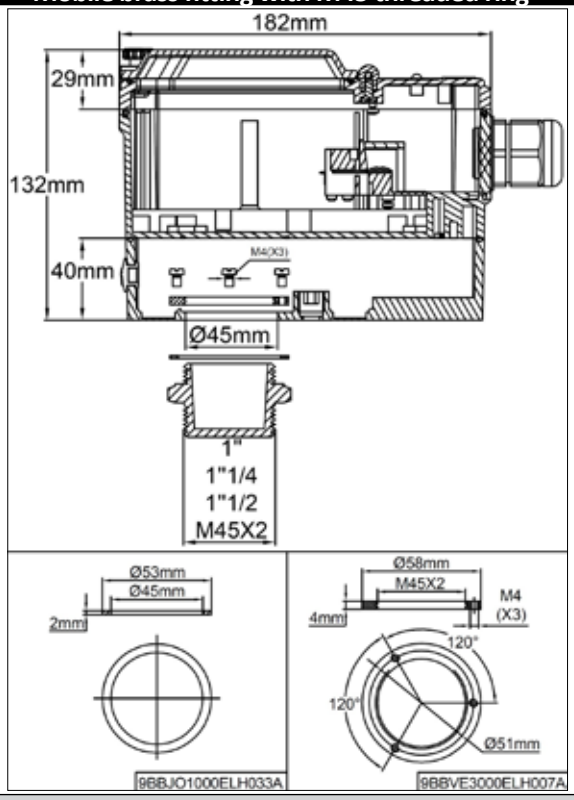
Dimensions: 182x130x132 mm Universal
(2nd section)
Main fitting configurations

M45 thread for brass fitting direct mounting*



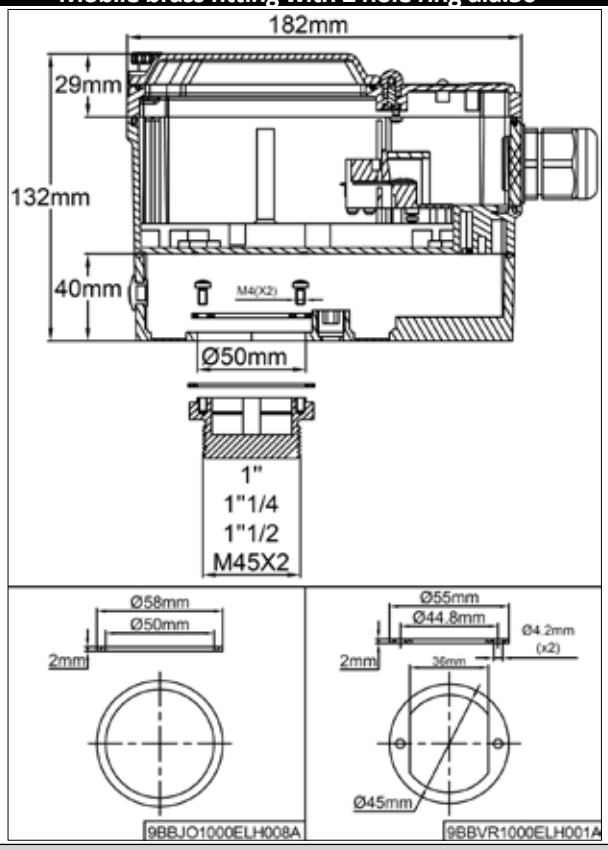
Reference : Replace E00 in the basic reference by E45

Mobile brass fitting with M45 threaded ring*



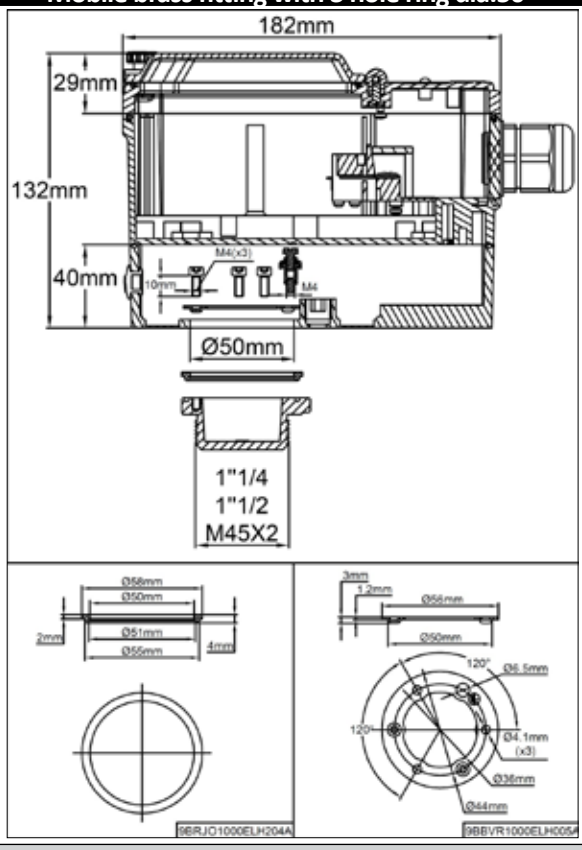
Reference : Replace E00 in the basic reference by ER4

Mobile brass fitting with 2 hole ring dia.50*



Reference : Replace E00 in the basic reference by E24

Mobile brass fitting with 3 hole ring dia.50*



Reference : Replace E00 in the basic reference by E34

* References do not include the brass fitting (See accessories at the end of this catalogue)

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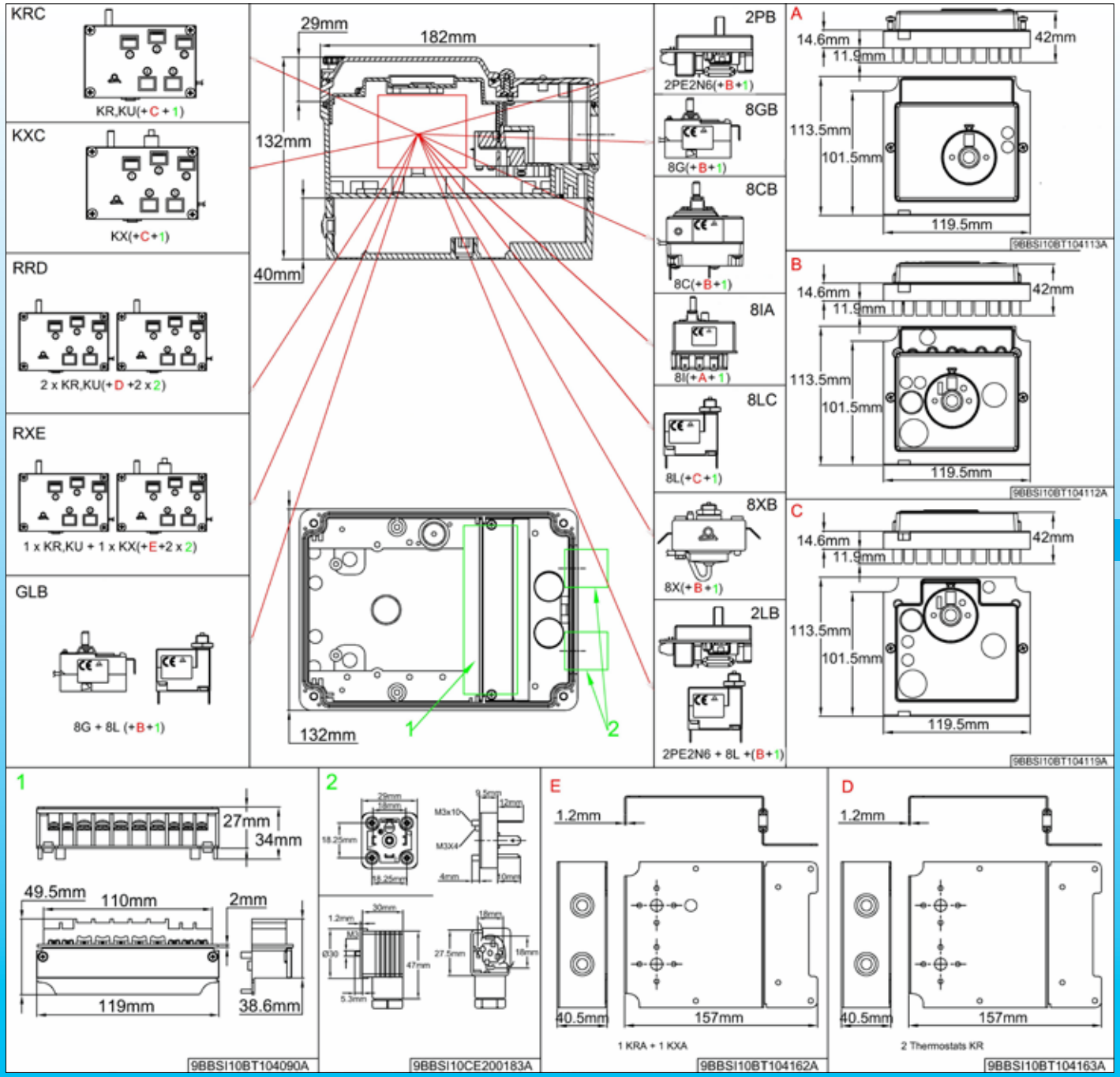
Immersion heaters connection boxes



Dimensions: 182x132x132 mm Universal
(3rd section)

Internal accessories: These models can receive thermostats, electronic controls, relays and contactors mounted on internal boards

Thermostat mounting options on internal mounting boards



References : Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1 for standard thermostats and catalogue N°4 for explosion proof EX thermostats.

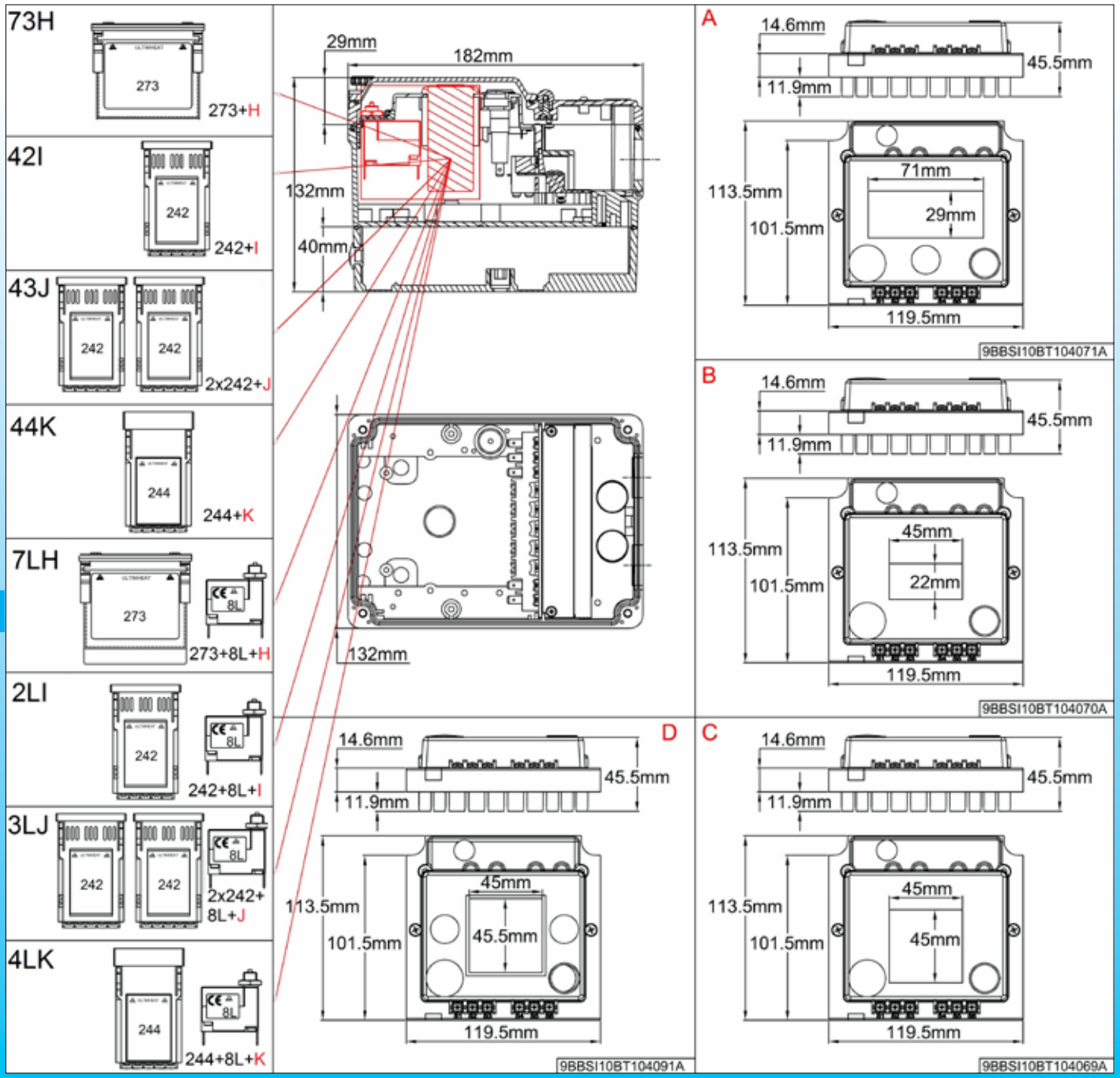
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182x130x132 mm Universal

Immersion heaters connection boxes

Dimensions: 182x132x144 mm Universal (4th section)
Electronic control mounting options on internal mounting boards



References : Replace the characters TTO in the basic reference by the 3 characters located in the selected electronic controller cell. **Attention :** Electronic controller must be ordered separately, see catalogue N°3 describing every possible version.

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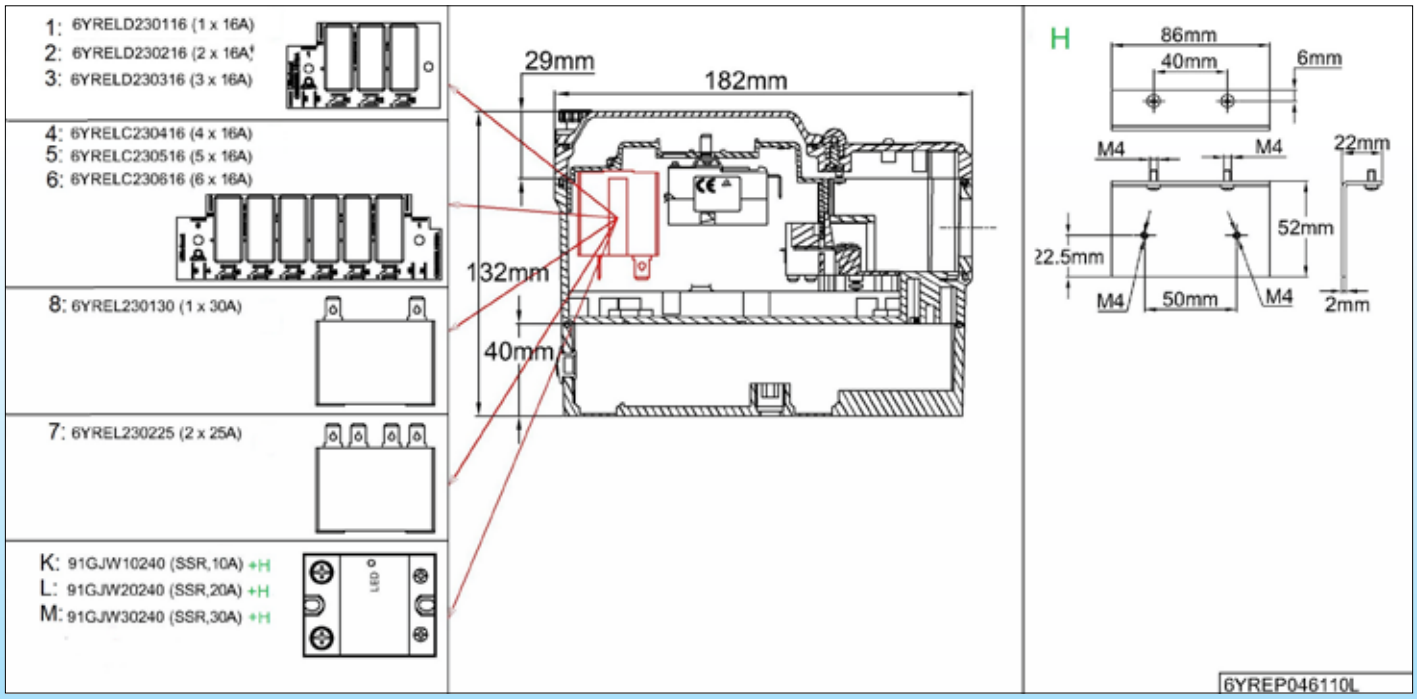
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
Tel: +33(0)1 60046644 Fax: +33(0)1 60048444 E-Mail: info@jpcfrance.fr Web: www.jpcfrance.fr

Size 8



182x130x132 mm Universal

Dimensions: 182x130x132 mm Universal (5th section)
Relay and contactor internal mounting options



References : Replace the character X in the basic reference by the character located in the selected relay cell.
Attention : relays must be ordered separately, see catalogue N°3 describing every possible version.

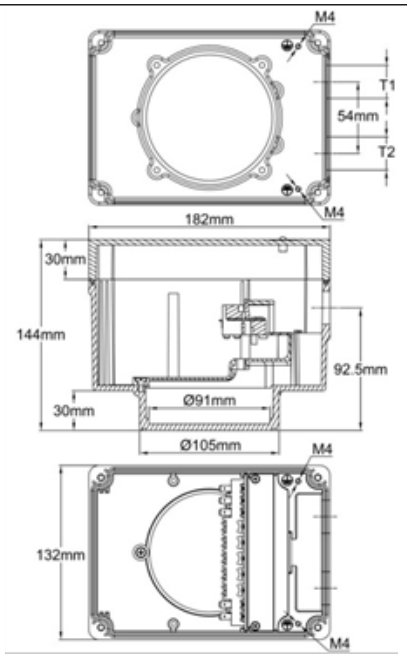
Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



Immersion heaters connection boxes

Dimensions: 182x132x144 mm Universal (1st section)
Material: Die cast aluminum
Type: Universal, unlosable stainless steel fasteners
Many versions of this box size, fully equipped and wired are described in the catalog No. 3, series Y7.

Basic references



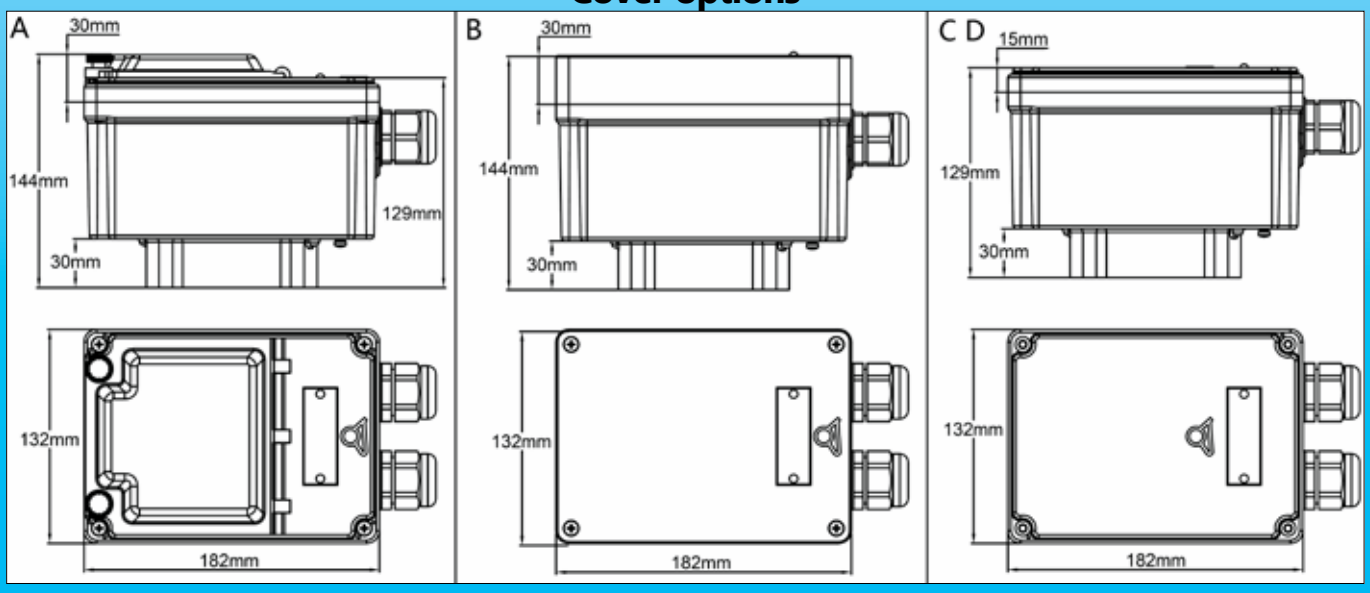


Basic references, with aluminum cover, no fitting holes, cable gland not included*

No cable gland hole.	Y309U00B00TT0XA0
1 x M20 x 1.5 thread (T1).	Y309UM1B00TT0XA0
1 x M25 x 1.5 thread (T1).	Y309UM3B00TT0XA0
2 x M20 x 1.5 threads (T1+T2).	Y309UM8B00TT0XA0
2 x M25 x 1.5 threads (T1+T2).	Y309UM9B00TT0XA0
2x dia 20 holes for DIN 43650A connectors(T1+T2)**	Y309U1GB00TT0XA0

* This type, with EX-e cable gland, can be fitted with thermostats for explosive areas. See catalogue N°4
** This output is mandatory for models with 2 K thermostats

Cover options



View	Description	References
A	Plastic cover with window	Replace B in the basic reference by A
B	Aluminum cover. (standard)	See basic references
C	Plastic cover, black color.	Replace B in the basic reference by C
D	Plastic cover, clear.	Replace B in the basic reference by D

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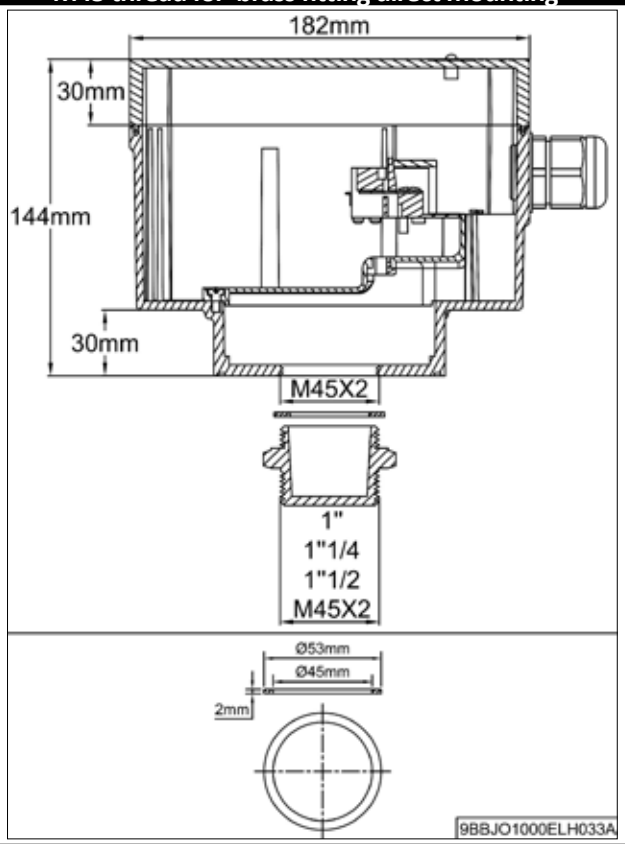
Size 9



182x132x144 mm Universal

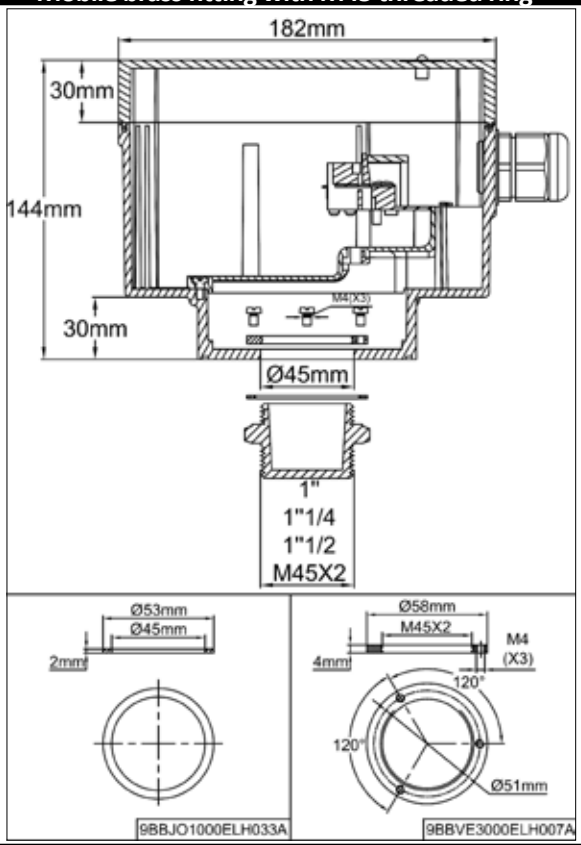
Dimensions: 182x132x144 mm Universal
(2nd section)
Main fitting configurations

M45 thread for brass fitting direct mounting*



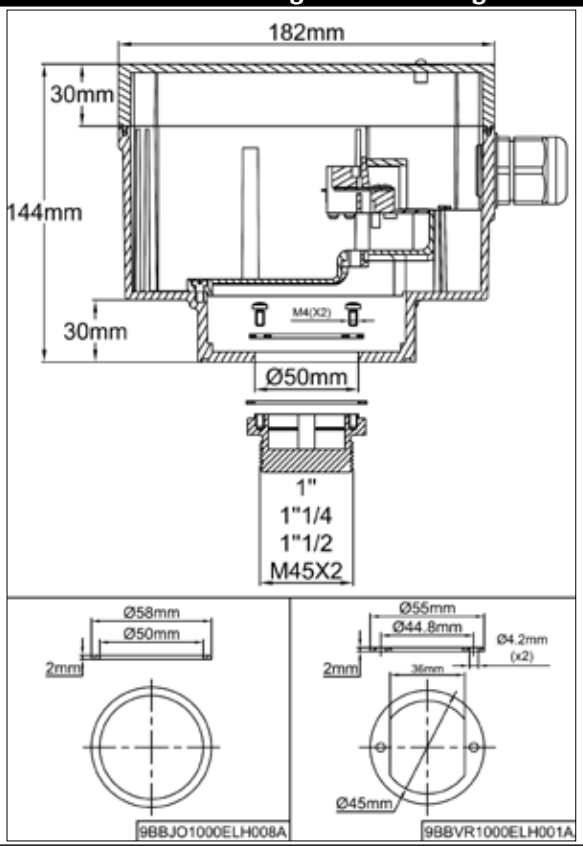
Reference : Replace B00 in the basic reference by B45

Mobile brass fitting with M45 threaded ring*



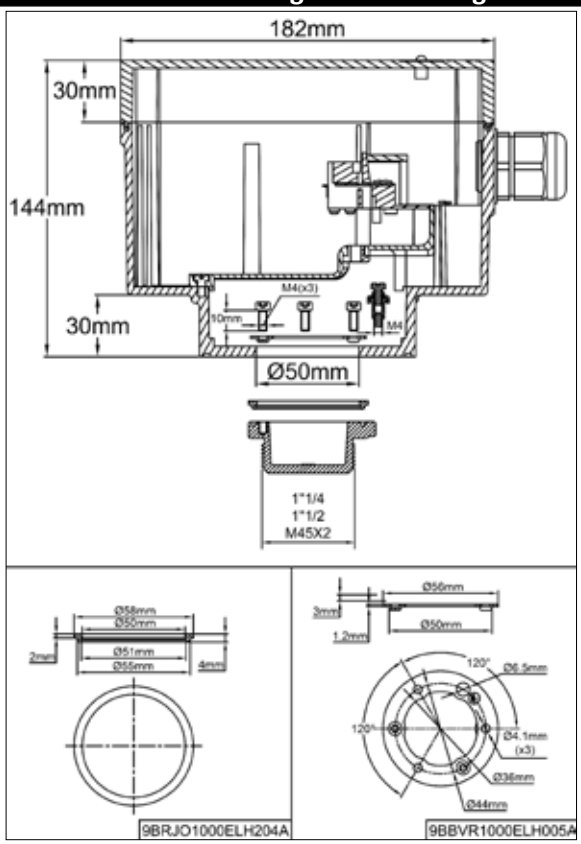
Reference : Replace B00 in the basic reference by BR4

Mobile brass fitting with 2 hole ring*



Reference : Replace B00 in the basic reference by B24

Mobile brass fitting with 3 hole ring*



Reference : Replace B00 in the basic reference by B34

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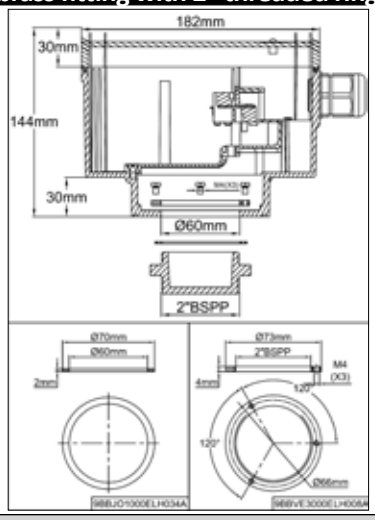


182x132x144 mm Universal

Immersion heaters connection boxes

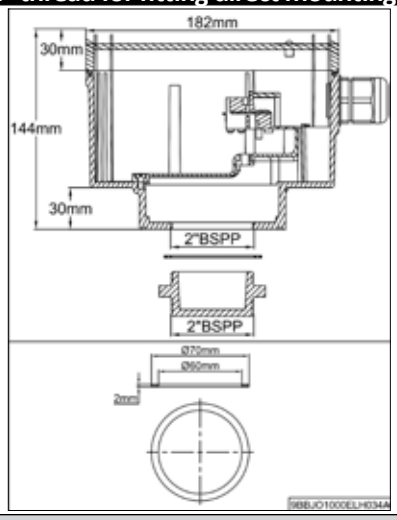
Dimensions: 182x132x144 mm Universal (3rd section)
Main fitting configurations (continued)

Mobile brass fitting with 2" threaded ring dia.60*



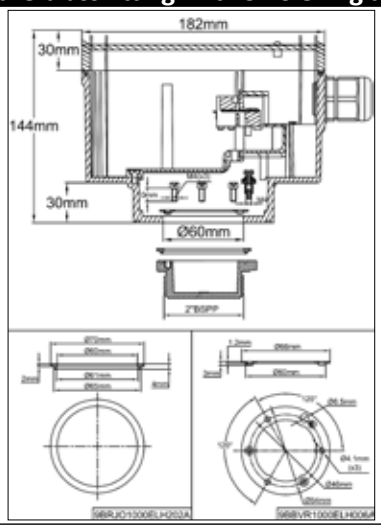
Reference : Replace B00 in the basic reference by B2R

2" thread for fitting direct mounting*



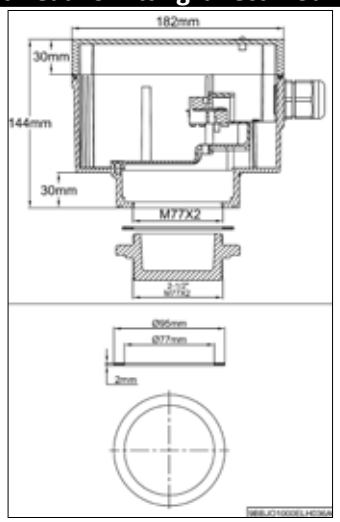
Reference : Replace B00 in the basic reference by B2I

2" mobile brass fitting with 3 hole ring dia.60 *



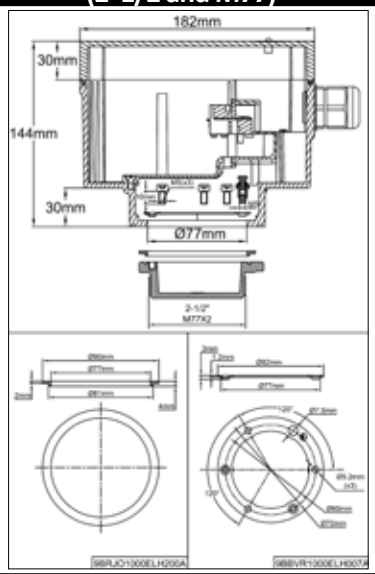
Reference : Replace B00 in the basic reference by B36

M77 thread for fitting direct mounting*



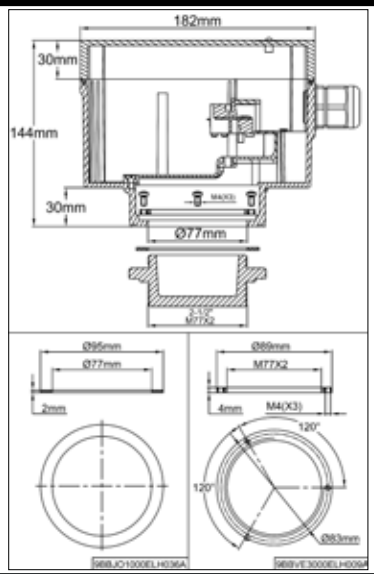
Reference : Replace B00 in the basic reference by B77

Mobile brass fitting with 3 hole ring dia.88 (2"1/2 and M77)*



Reference : Replace B00 in the basic reference by B37

Mobile brass fitting with M77 threaded ring*



Reference : Replace B00 in the basic reference by B7R

* References do not include the brass fitting (See accessories at the end of this catalogue)

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

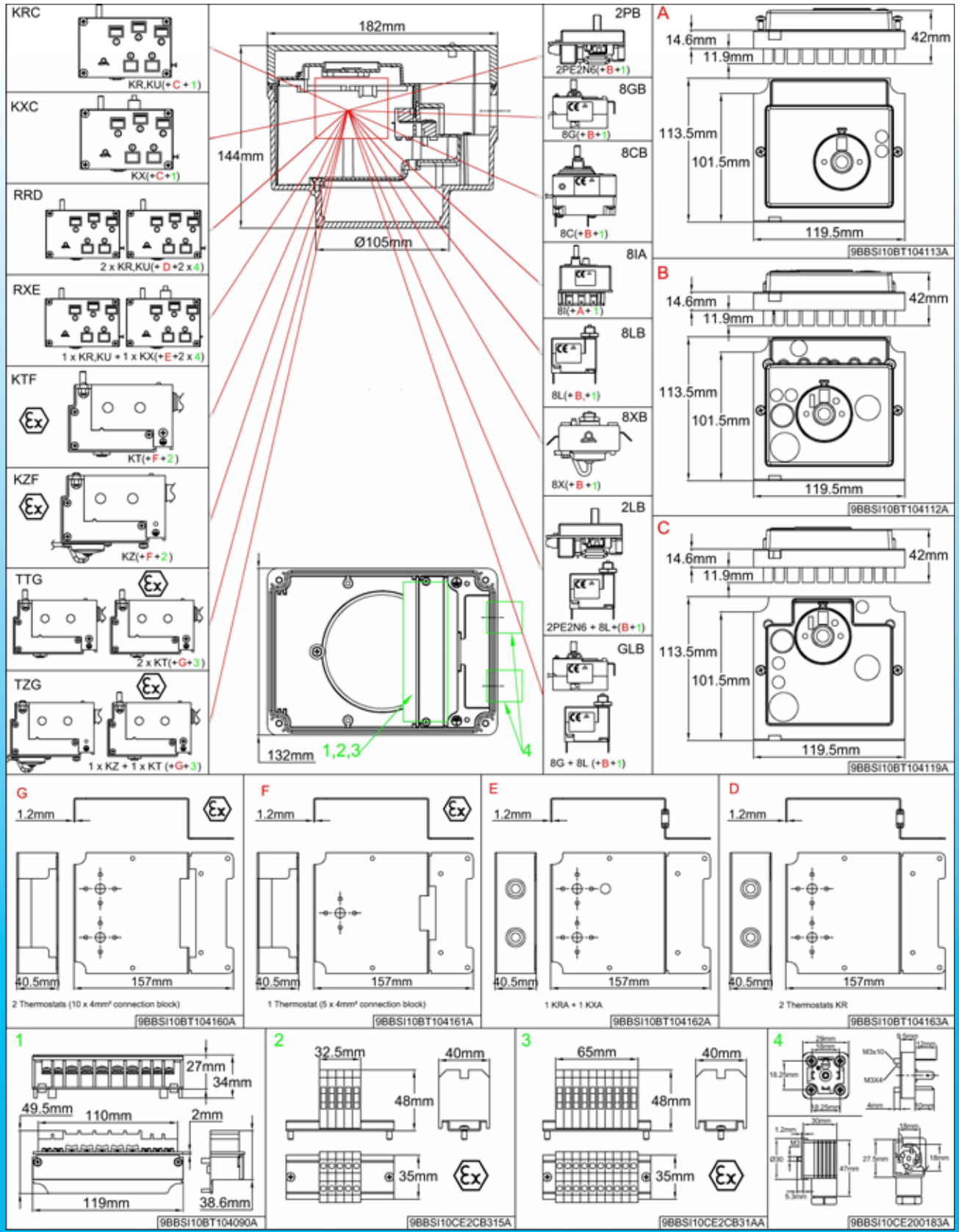
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
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Dimensions: 182x132x144 mm Universal
(4th section)

Internal accessories: These models can receive thermostats, electronic controls, relays and contactors mounted on internal boards. They are not intended to receive accessories mounted directly on the cover(s)

Thermostat mounting options on internal mounting boards



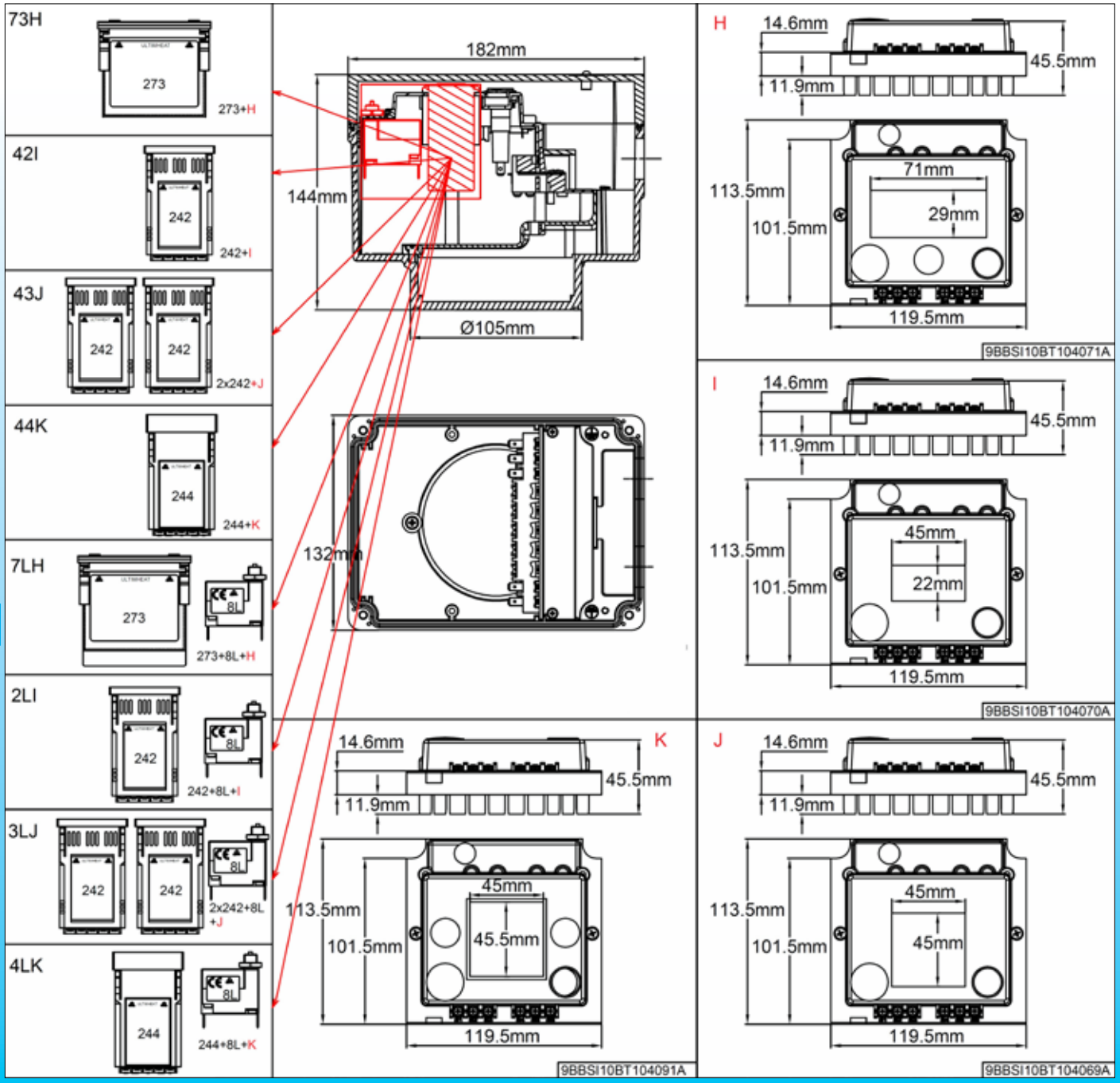
References : Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1 for standard thermostats and catalogue N°4 for explosion proof EX thermostats.

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Immersion heaters connection boxes

Dimensions: 182x132x144 mm Universal
(5th section)
Electronic control mounting options on internal mounting boards



References : Replace the characters TTO in the basic reference by the 3 characters located in the selected electronic controller cell. **Attention :** Electronic controller must be ordered separately, see catalogue N°3 describing every possible version.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

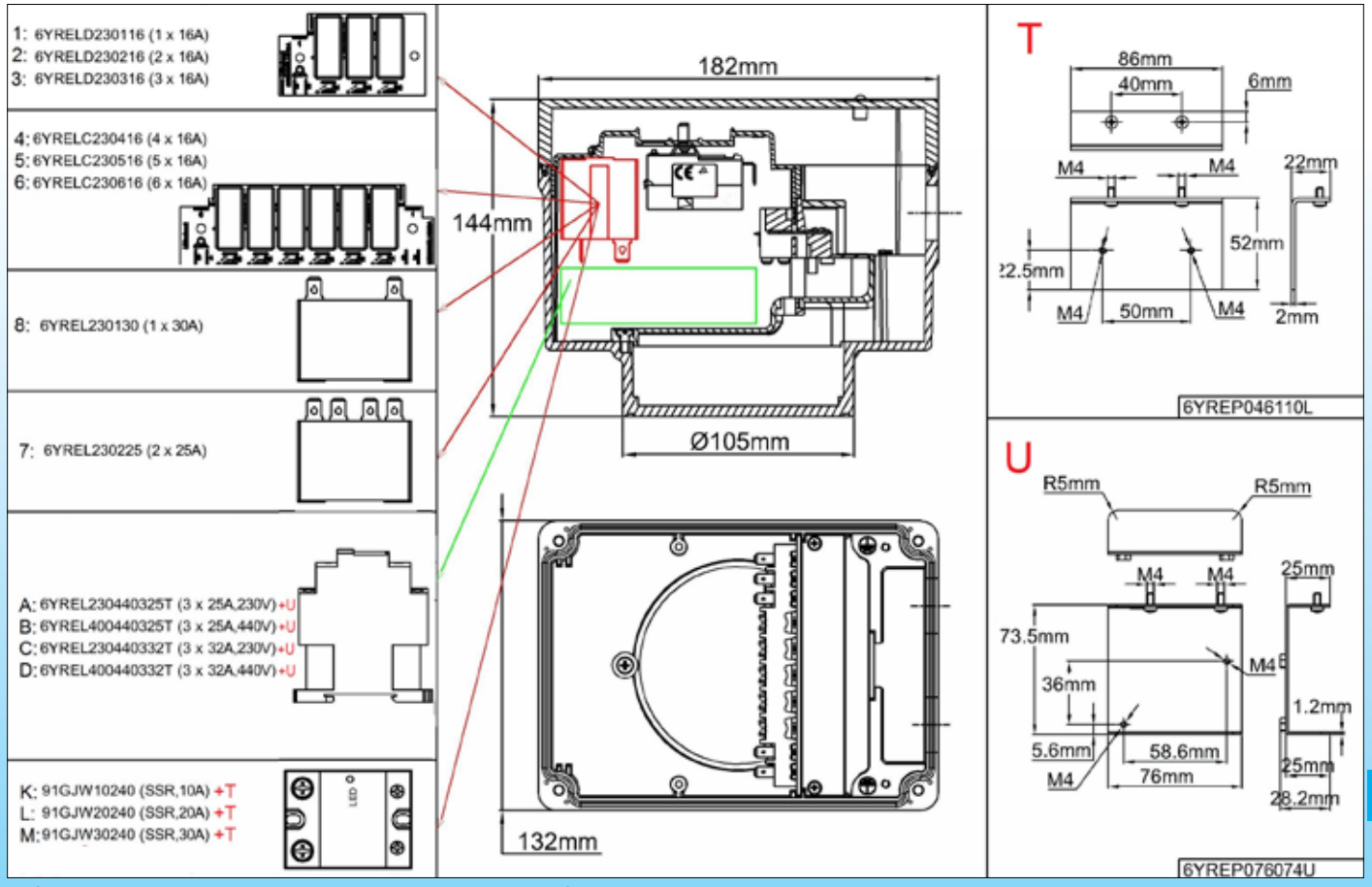
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
Tel: +33(0)1 60046644 Fax: +33(0)1 60048444 E-Mail: info@jpcfrance.fr Web: www.jpcfrance.fr

Size 9



182x132x144 mm Universal

Dimensions: 182x132x144 mm Universal (6th section)
Relay and contactor internal mounting options



References : : Replace the character X in the basic reference by the character located in the selected relay cell.
Attention : relays must be ordered separately, see catalogue N°3 describing every possible version.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



Immersion heaters connection boxes

Dimensions: 182x132x148 mm Universal

With orientable fitting from outside without opening

(1st section)

Material: Die cast aluminum

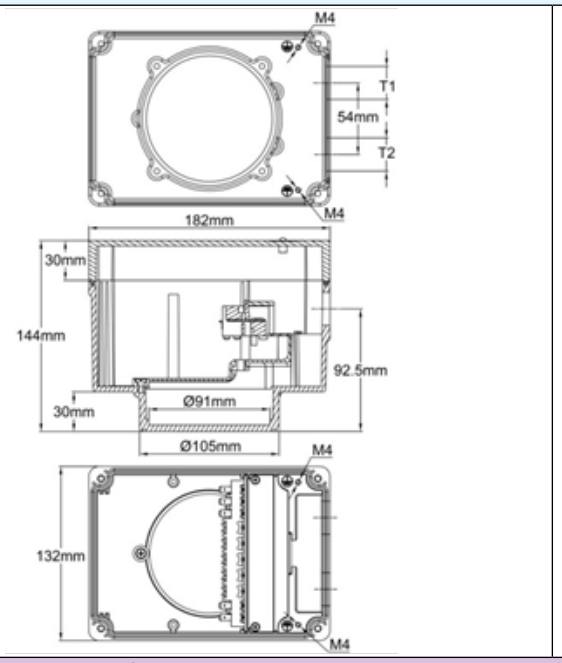
Type: Universal, unlosable stainless steel fasteners

Many versions of this box size, fully equipped and wired are described in the catalog No. 3, series Y7.

This series was developed to provide a simple way to make the orientation of immersion heater enclosures after installation, without the need to open.

The fitting size change is made without the need for enclosure machining, simply by changing the rotating aluminum disc located backside. This solution limits the stock value to meet all existing dimensions, since there is only one enclosure model and various cheap stamped aluminum rings with different holes and threads

Basic references





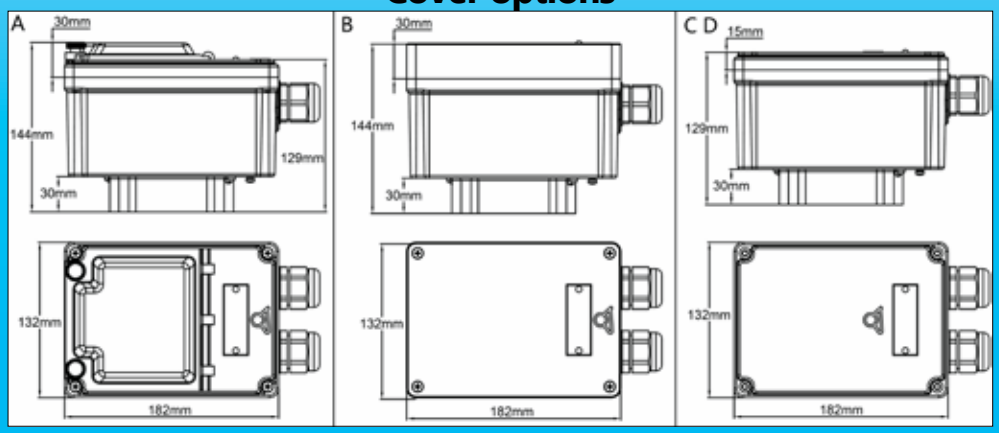
Basic references, with aluminum cover, dia 91mm hole backside, cable gland not included*

No cable gland hole.	Y3R9U00B90TT0XA0
1 x M20 x 1.5 thread (T1).	Y3R9UM1B90TT0XA0
1 x M25 x 1.5 thread (T1).	Y3R9UM3B90TT0XA0
2 x M20 x 1.5 threads (T1+T2).	Y3R9UM8B90TT0XA0
2 x M25 x 1.5 threads (T1+T2).	Y3R9UM9B90TT0XA0
2x dia 20 holes for DIN 43650A connectors(T1+T2)**	Y3R9U1GB90TT0XA0

* This type, with EX-e cable gland, can be fitted with thermostats for explosive areas. See catalogue N°4

** This output is mandatory for models with 2 K thermostats

Cover options



View	Description	References
A	Plastic cover with window	Replace B in the basic reference by A
B	Aluminum cover. (standard)	See basic references
C	Plastic cover, black color.	Replace B in the basic reference by C
D	Plastic cover, clear.	Replace B in the basic reference by D

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

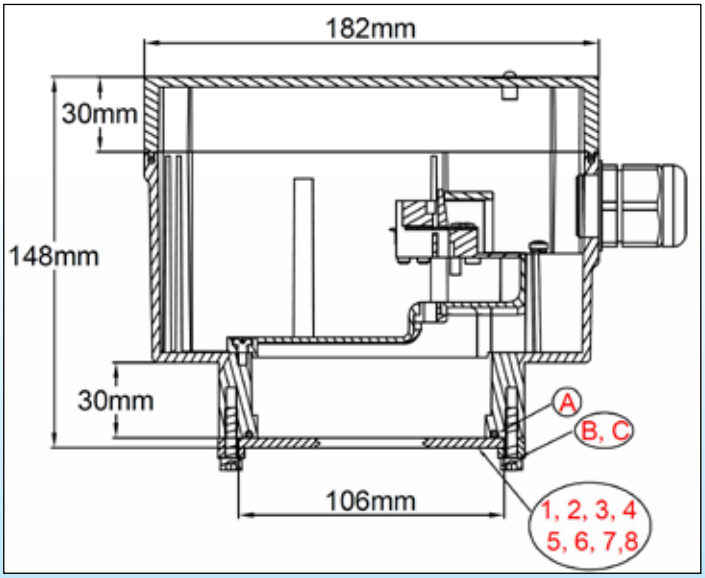
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
Tel: +33(0)1 60046644 Fax: +33(0)1 60048444 E-Mail: info@jpcfrance.fr Web: www.jpcfrance.fr

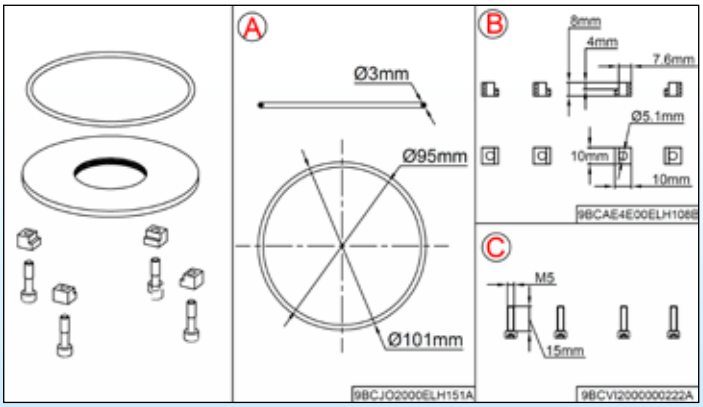
Size 9

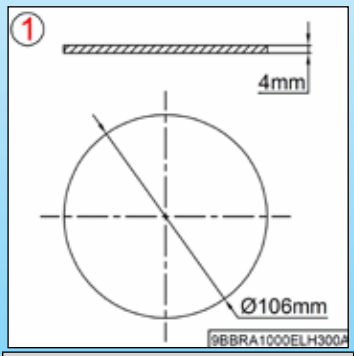


182x132x144 mm Universal with ring

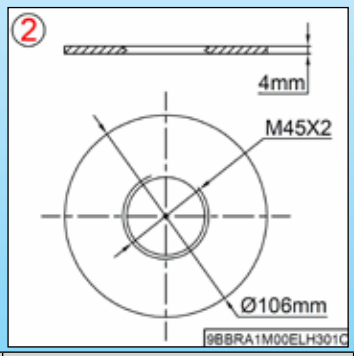
Dimensions : 182x132x148 mm Universel (2nd section)
Backside aluminum rings



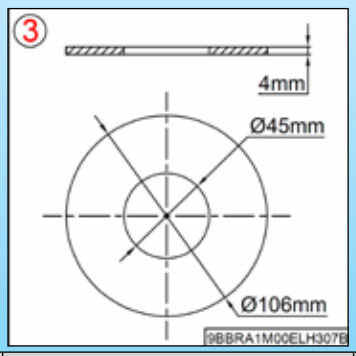




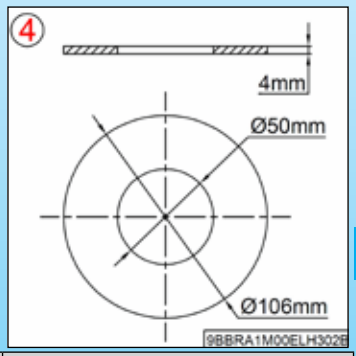
No hole



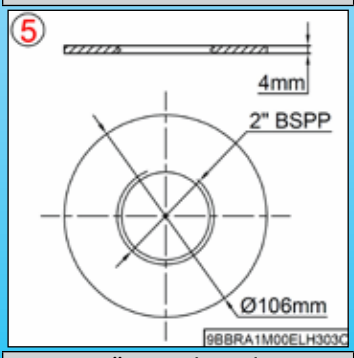
M45x2 thread



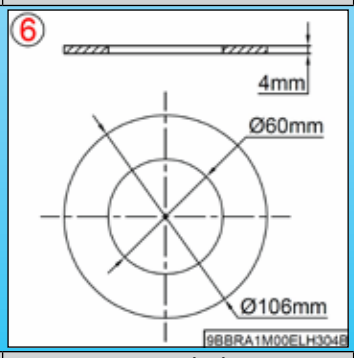
Dia 45 hole



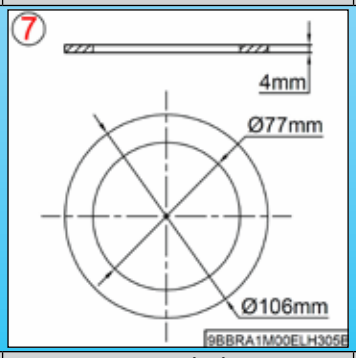
Dia 50 hole



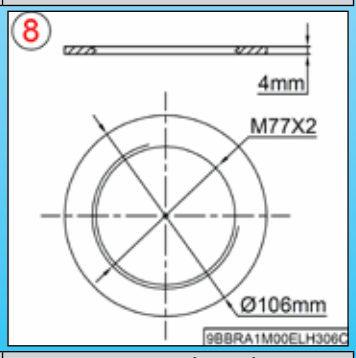
2"BSPP thread



Dia 60 hole



Dia 45 hole



M77x2 thread

This enclosure is supplied in standard with four M5x12 screws (parts A), 4 clamps (parts B) and one gasket (part C). They can be purchased as spare parts (References on the drawing)
Backside rings can be purchased as spare parts (references on drawing) or fitted on enclosure. Reference with aluminum ring fitted: Replace character N°10 (0) by the number on the drawing

Accessories

Other accessories: Brass and stainless steel fittings, inside rings, gaskets must be ordered separately and can be found at the end of this catalogue

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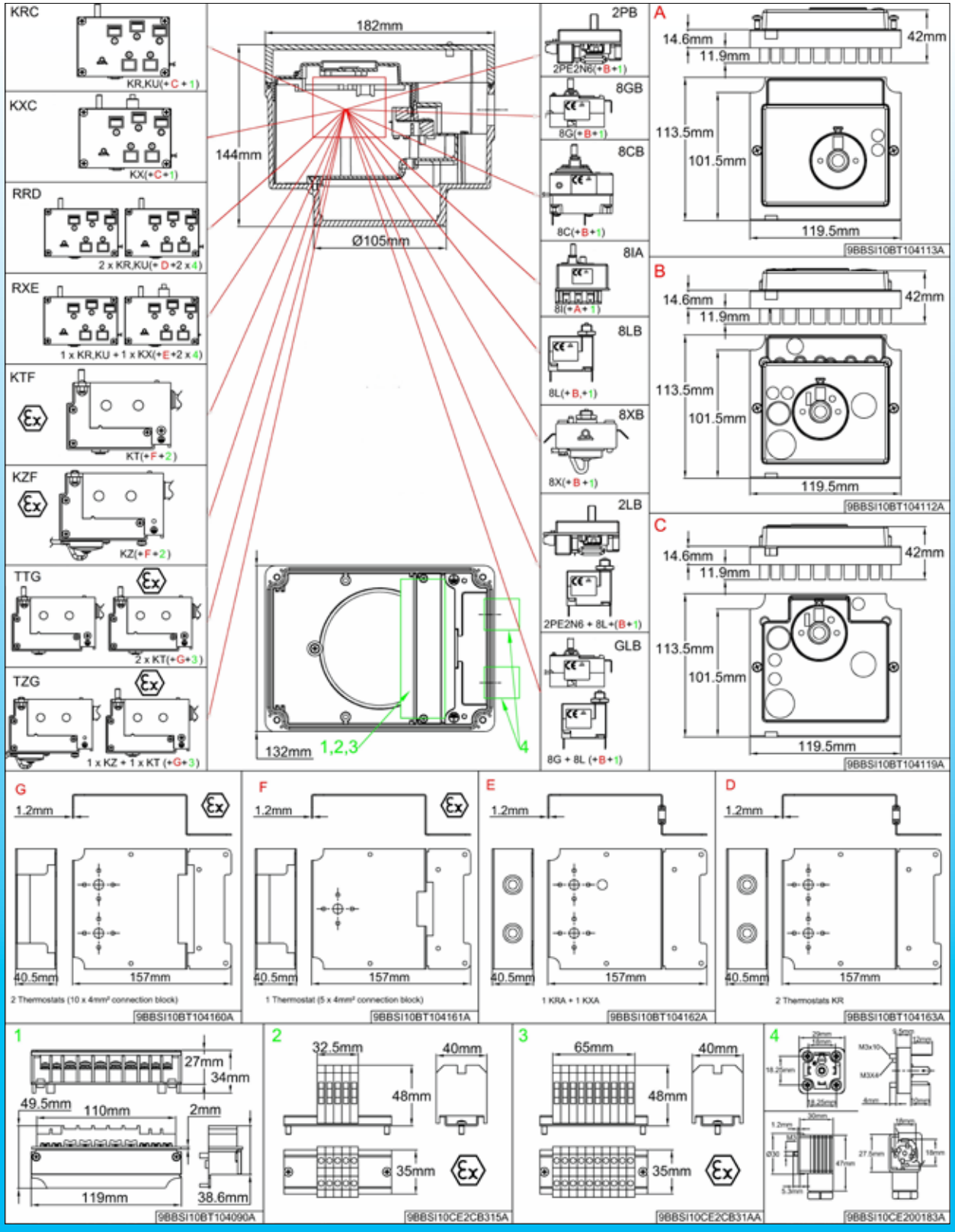


Immersion heaters connection boxes

Dimensions: 182x132x148 mm Universal (3rd section)

Internal accessories: These models can receive thermostats, electronic controls, relays and contactors mounted on internal boards. They are not intended to receive accessories mounted directly on the cover(s)

Thermostat mounting options on internal mounting boards



References : Replace the characters TTO in the basic reference by the 3 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1 for standard thermostats and catalogue N°4 for explosion proof EX thermostats.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

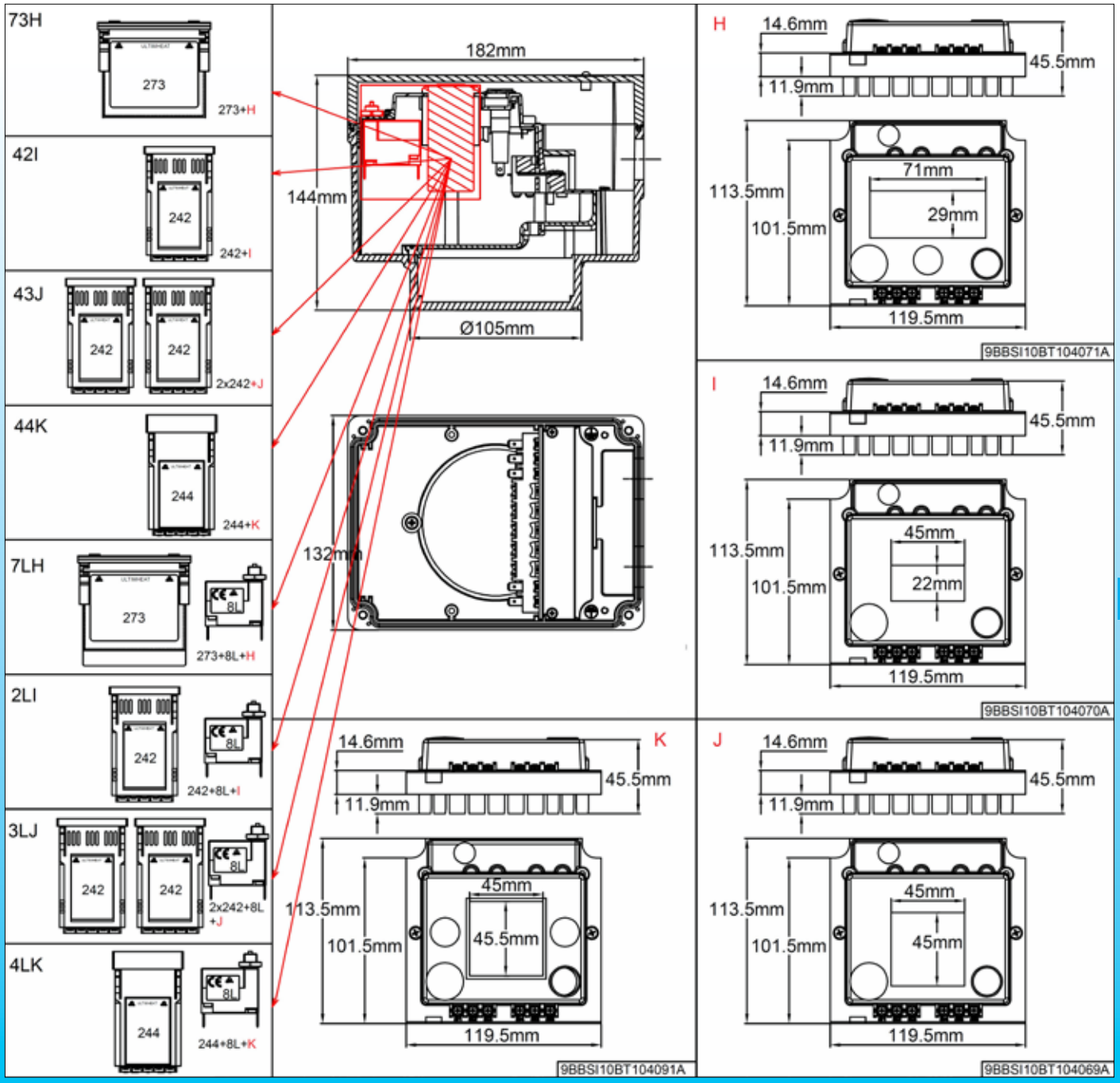
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
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Size 9



182x132x144 mm Universal with ring

Dimensions: 182x132x148 mm Universal
(4th section)
Electronic control mounting options on internal mounting boards



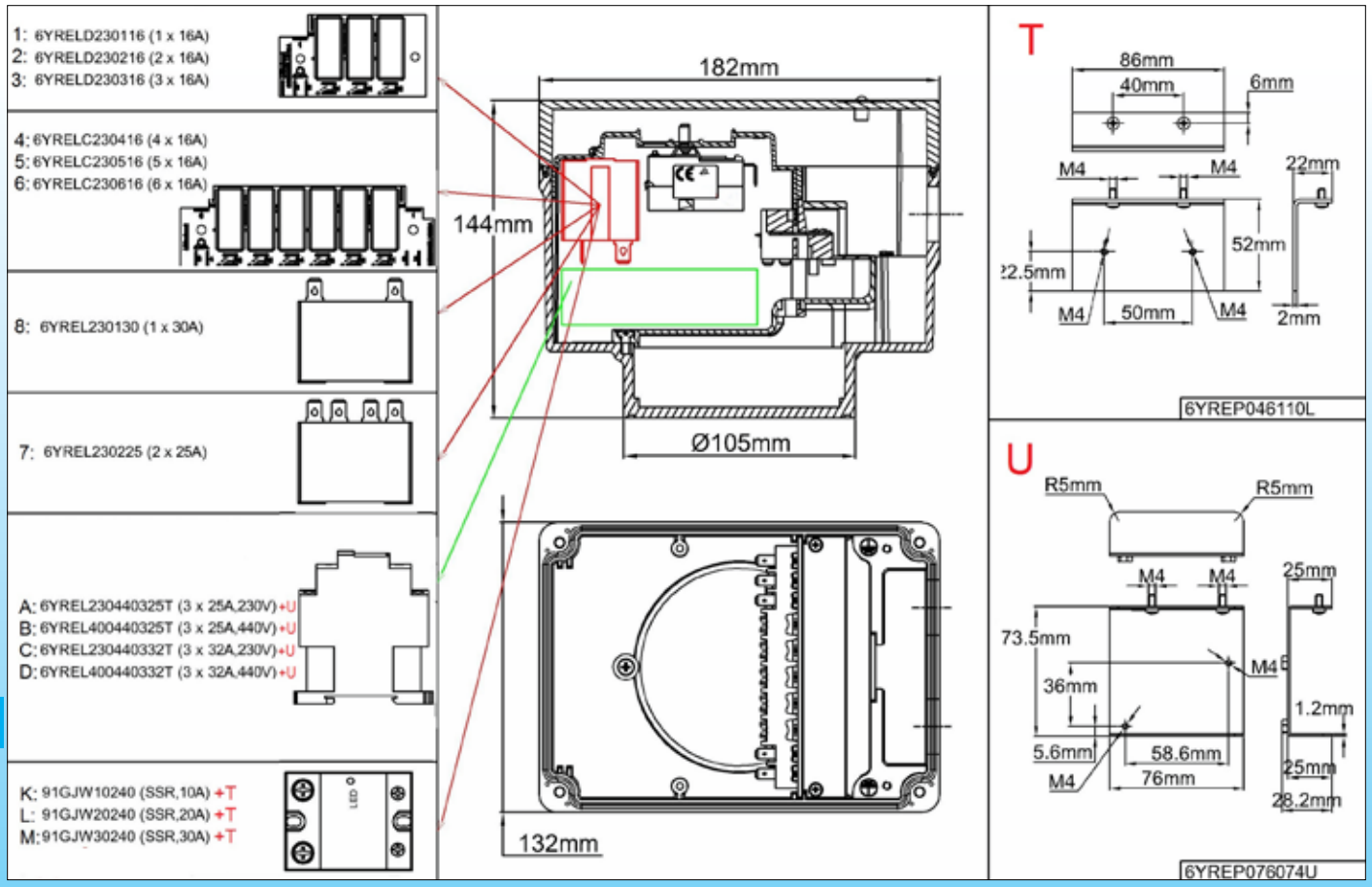
References : Replace the characters TTO in the basic reference by the 3 characters located in the selected electronic controller cell. **Attention :** Electronic controller must be ordered separately, see catalogue N°3 describing every possible version.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



Immersion heaters connection boxes

Dimensions: 182x132x148 mm Universal
(5th section)
Relay and contactor internal mounting options



References : : Replace the character X in the basic reference by the character located in the selected relay cell.
Attention : relays must be ordered separately, see catalogue N°3 describing every possible version.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

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Immersion heaters connection boxes

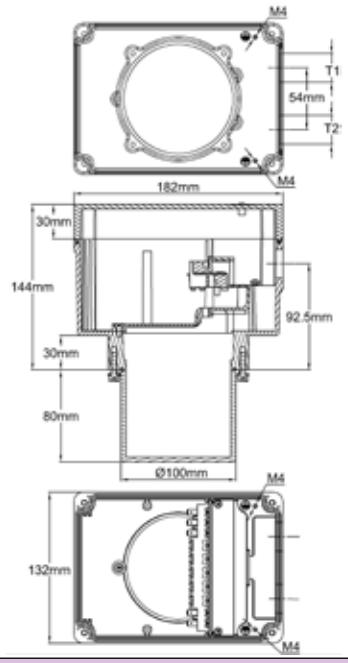


Dimensions: 182x132x224 mm Universal (1st section)
Material: Die cast aluminum
Type: Universal, unlosable stainless steel fasteners

This range is made with the 182x132x144mm, but a 80mm extension has been added, to fit high power industrial immersion heaters, main made with 16mm diameter tubes. This extension is mobile and it is possible to adjust the housing position without the need to open it.

Many versions of this box size, fully equipped and wired are described in the catalog No. 3, series Y7.

Basic references



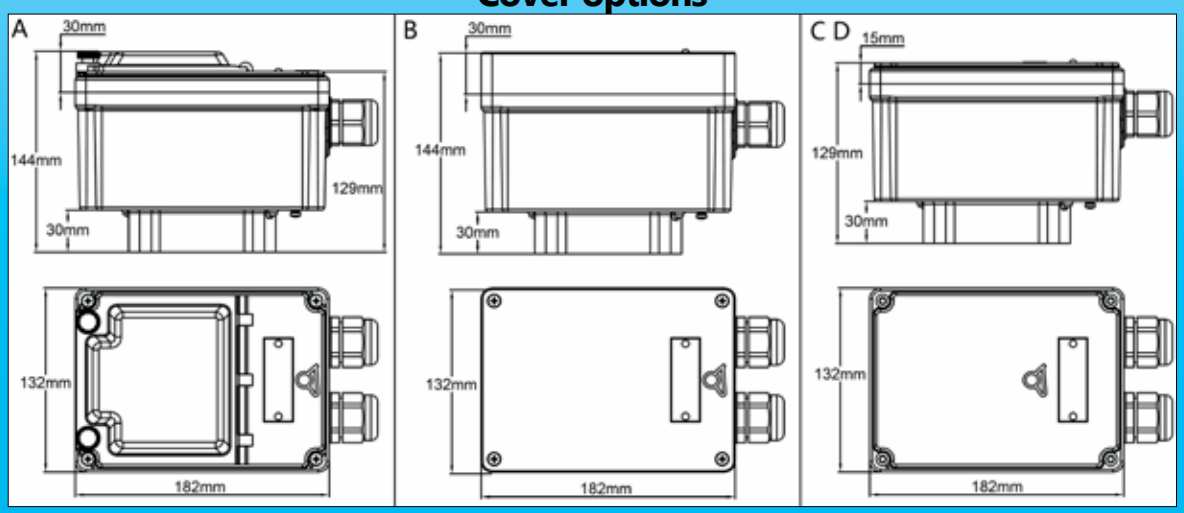


Basic references, with aluminum cover, no fitting holes, cable gland not included*

No cable gland hole.	Y310400B00TT0XA0
1 x M20 x 1.5 thread (T1).	Y3104M1B00TT0XA0
1 x M25 x 1.5 thread (T1).	Y3104M3B00TT0XA0
2 x M20 x 1.5 thread (T1+T2).	Y3104M8B00TT0XA0
2 x M25 x 1.5 thread (T1+T2).	Y3104M9B00TT0XA0
2x dia 20 holes for DIN 43650A connectors(T1+T2)**	Y3104GBB00TT0XA0

* This type, with EX-e cable gland, can be fitted with thermostats for explosive areas. See catalogue N°4
** This output is mandatory for models with 2 K thermostats

Cover options



View	Description	References
A	Plastic cover with window	Replace B in the basic reference by A
B	Aluminum cover. (standard)	See basic references
C	Plastic cover, black color.	Replace B in the basic reference by C
D	Plastic cover, clear.	Replace B in the basic reference by D

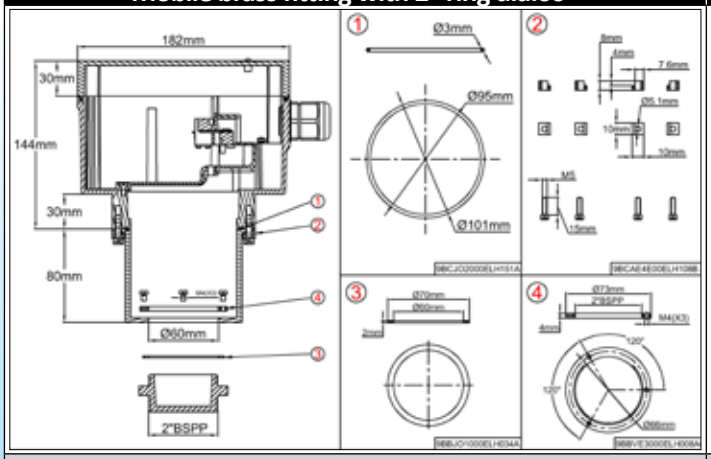
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Immersion heaters connection boxes

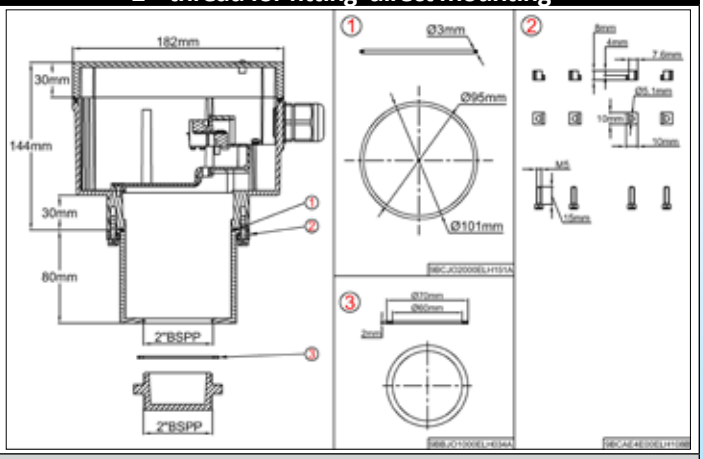
Dimensions: 182x132x224 mm Universal
(2nd section)
Main fitting configurations.
The 80 mm extension is requested only for industrial large size heaters. Therefore, small size fittings, even if they are possible, are not described.

Mobile brass fitting with 2” ring dia.60*



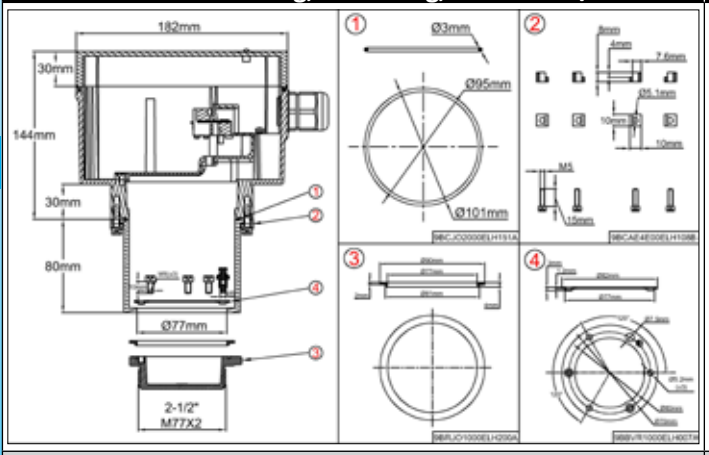
Reference : Replace B00 in the basic reference by B2R

2” thread for fitting direct mounting*



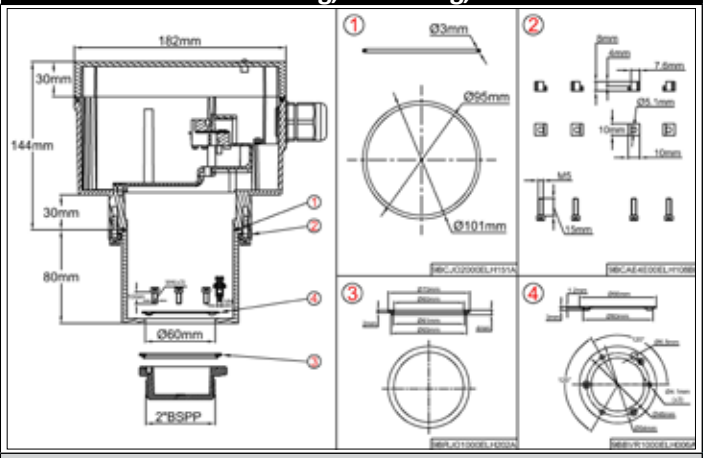
Reference : Replace B00 in the basic reference by B2I

Mobile brass fitting, 3 hole ring, M77 or 2”1/2*



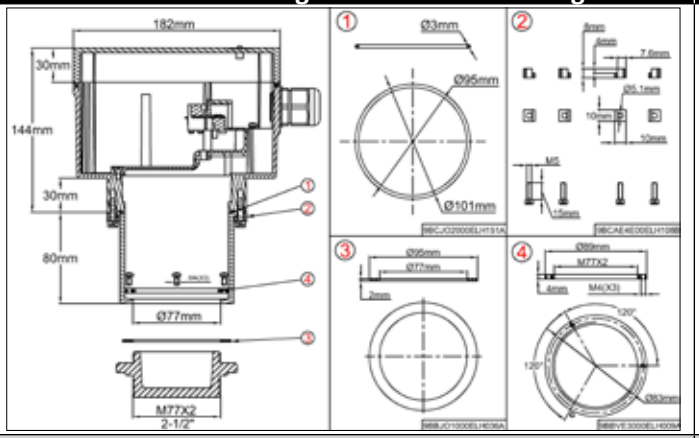
Reference : Replace B00 in the basic reference by B37

Mobile brass fitting, 3 hole ring, 2” dia.60*



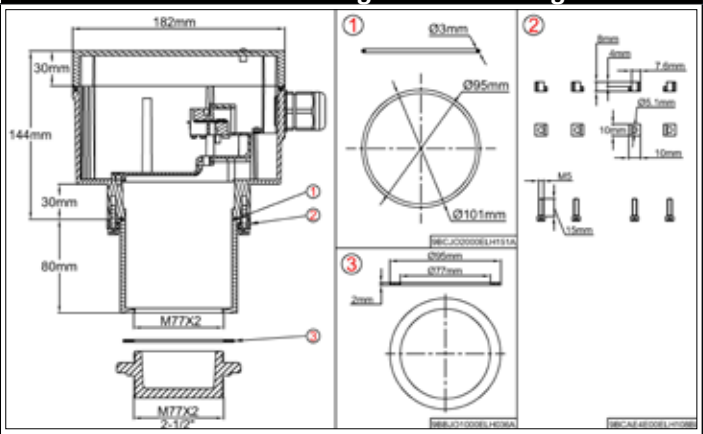
Reference : Replace B00 in the basic reference by B36

Mobile brass fitting with M77 threaded ring*



Reference : Replace B00 in the basic reference by B7R

M77 thread for fitting direct mounting*



Reference : Replace B00 in the basic reference by B77

* References do not include the brass fitting (See accessories at the end of this catalogue)

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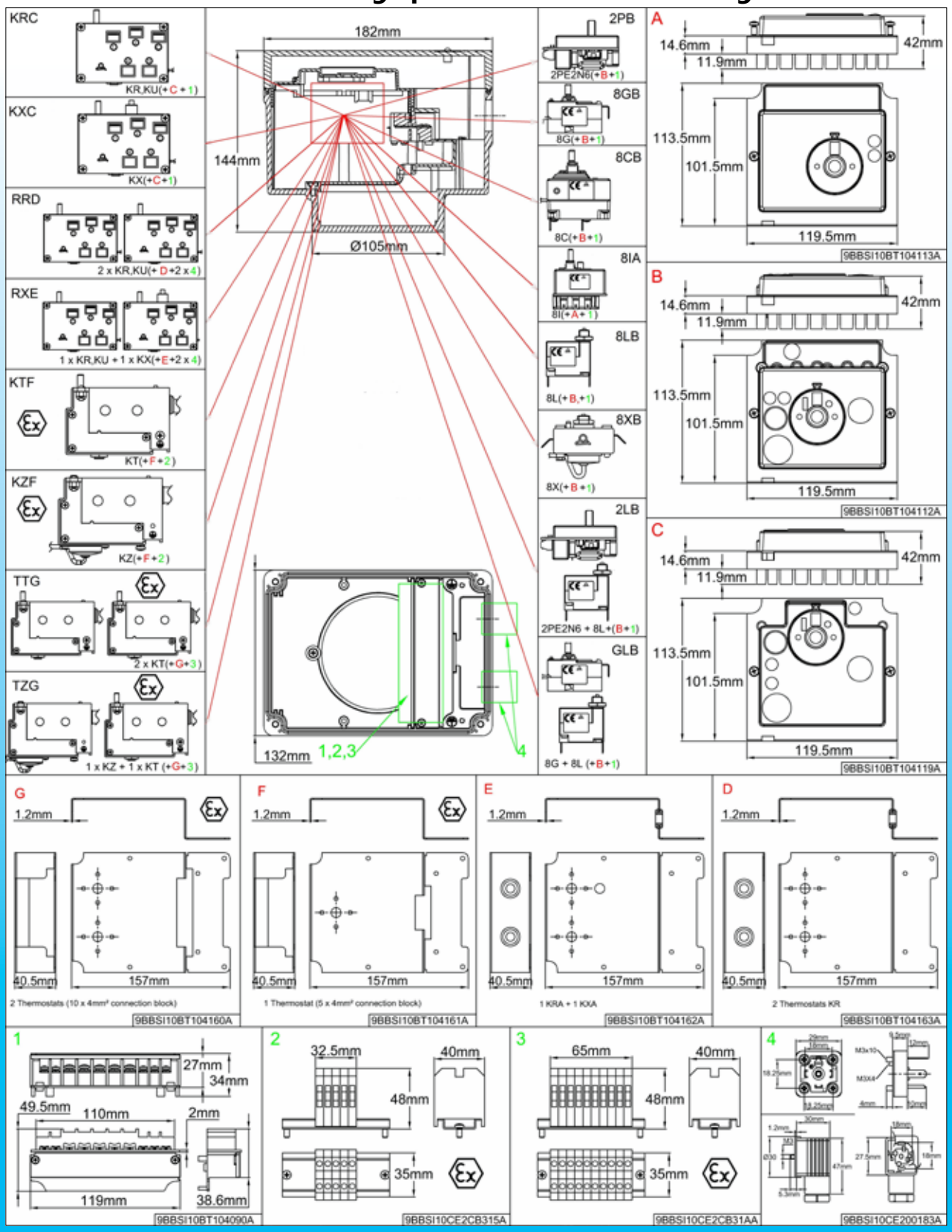
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Dimensions: 182x132x224 mm Universal (3th section)

Internal accessories: These models can receive thermostats, electronic controls, relays and contactors mounted on internal boards. They are not intended to receive accessories mounted directly on the cover(s)

Thermostats mounting options on internal mounting boards

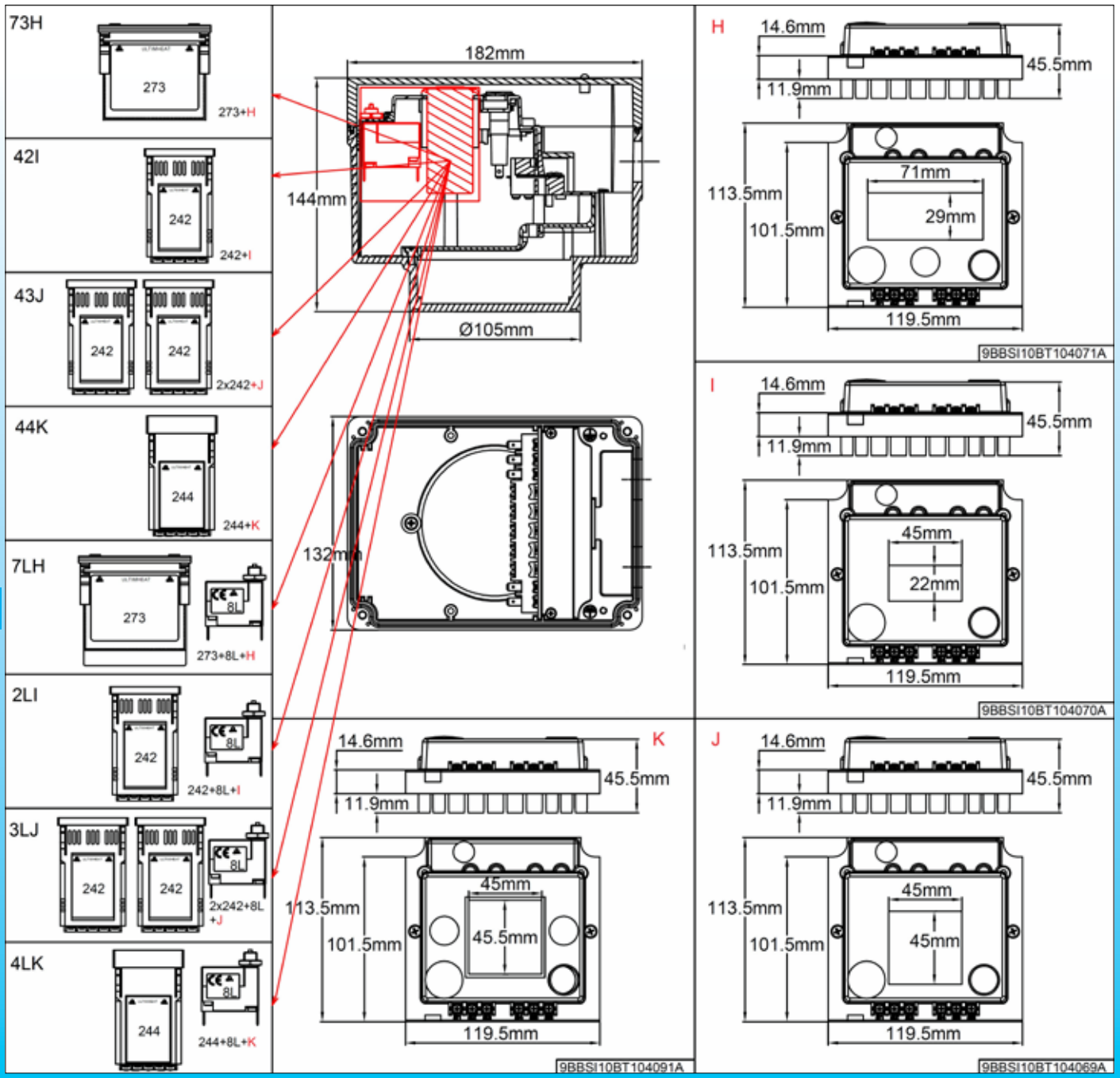


References : Replace the characters TT in the basic reference by the 3 characters located in the selected thermostat cell.
Attention : the thermostat and eventually the knob and bezel must be ordered separately, see catalogue N°1 for standard thermostats and catalogue N°4 for explosion proof EX thermostats.

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Immersion heaters connection boxes

Dimensions: 182x132x224 mm Universal
(4th section)
Electronic control mounting options on internal mounting boards



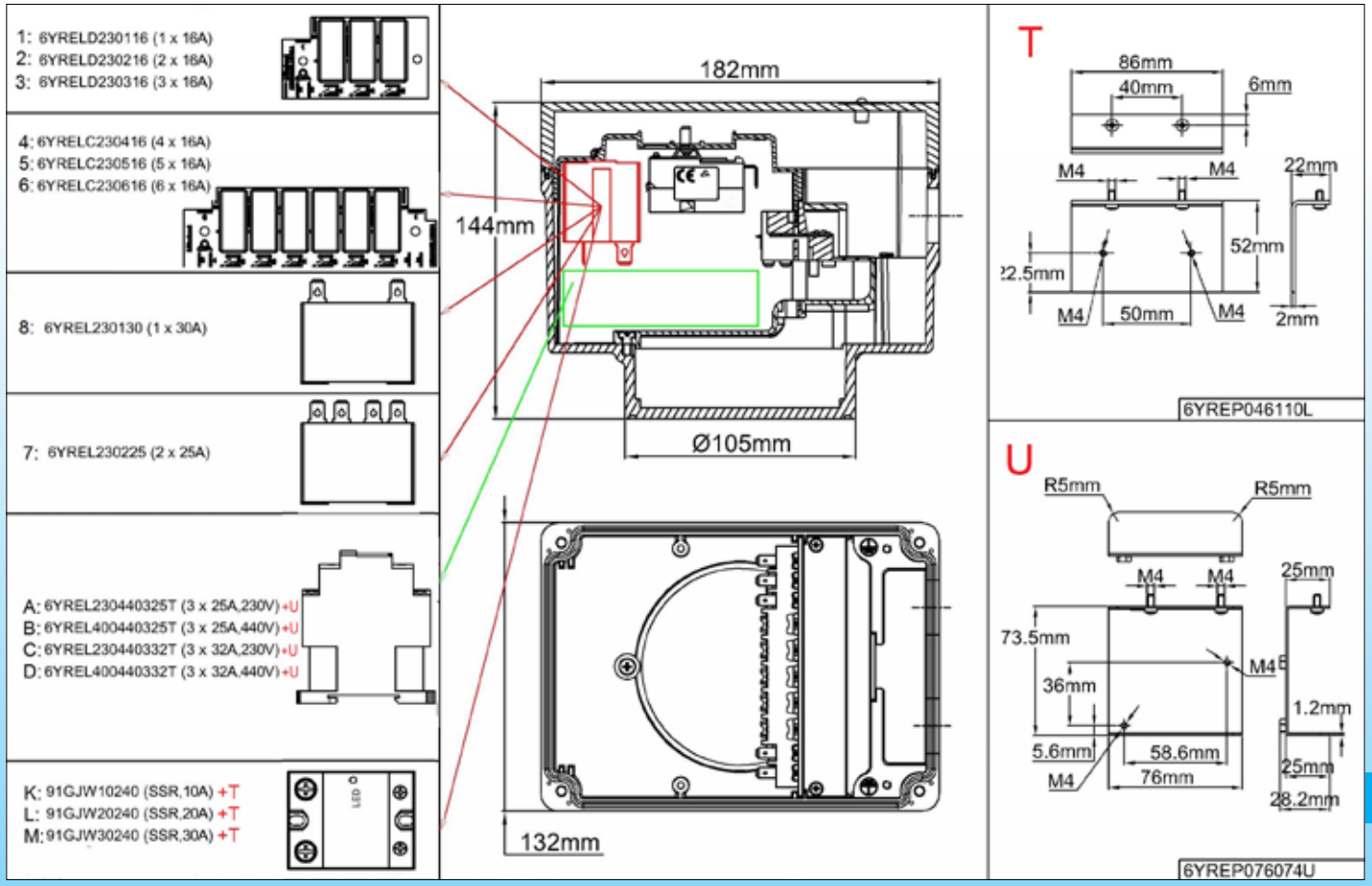
References : Replace the characters TTO in the basic reference by the 3 characters located in the selected electronic controller cell. **Attention:** Electronic controller must be ordered separately, see catalogue N°3 describing every possible version.

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Dimensions: 182x132x224 mm Universal (5th section)
Relay and contactor internal mounting options



References : Replace the character X in the basic reference by the character located in the selected relay cell.
Attention: relays must be ordered separately, see catalogue N°3 describing every possible version.

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Empty enclosures, Aluminum and plastic, general use Type Y4

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These aluminum and plastic housings are designed for receiving and mounting electronic or electromechanical components. They come bare without internal equipment and without holes or cable glands.
Similar housings, equipped with temperature controls are presented elsewhere in this catalog (see Y3 series: Enclosures for immersion heaters) and in the catalog N °3 (Industrial control series Y6, Y7 and Y8)

Aluminum housings

There are 4 different surface finishes for these aluminum housings

- As cast, deburred: Last character of the reference = 0
- As cast, vibration deburred and polished: smooth finish. Last character of the reference = 7
- Sand blasted finish: excellent adhesion of epoxy paint (Last character ofthe reference = 1)
- Epoxy-gray RAL7035 painted: last character of the reference = G (other colors on request)

			
As Cast	Vibration deburring and polishing	Sand blasted	Epoxy painting Ral 7035

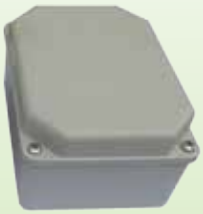
Housings in Plastic

- **Body:** ADC12 Aluminum
- **Transparent covers:** Polycarbonate
- **Opaque covers:** Polycarbonate
- **Covers with window:** Frame in PA66, glass fiber reinforced, and polycarbonate window.

The technical specifications of these plastic materials are described in the technical introduction of the catalogue N°3 (Industrial controls)
Wiring harness services: If you wish to get control housings fully equipped and wired, please specify desired combinations, our wiring division (UL approved) is at your disposal.
Machining of housings: On request, we can drill these housings upon your requirements.

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Main products of the Y4 range

Y4A	Page 173	Y4B	Page 173	Y4C	Page 173
 Aluminum box 64x84x104mm		 Aluminum box 66x89x114mm		 Aluminum box 93x124x159mm	

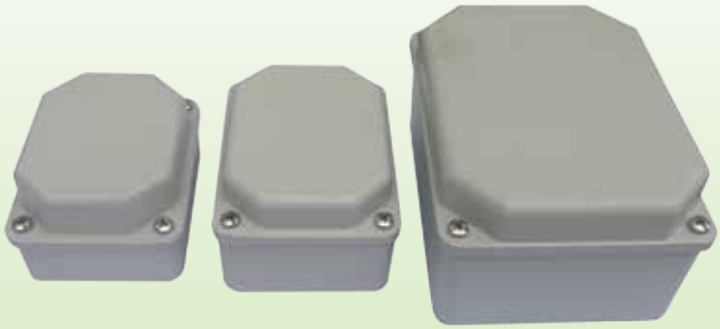
Y4D	Page 174	Y4E	Page 175	Y4F	Page 175
 Aluminum box 40x86x175mm		 Aluminum-plastic box with transparent polycarbonate cover 81x130x180mm		 Aluminum-plastic box with black polycarbonate cover 81x130x180mm	

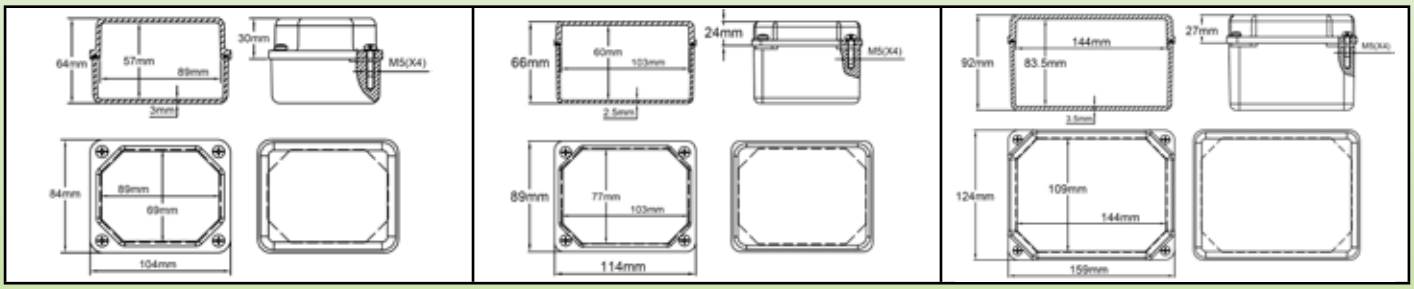
Y4G	Page 175	Y4H	Page 176
 Aluminum-plastic box with transparent window in polycarbonate 95x130x180mm		 Aluminum box 96x132x182mm	

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Empty aluminum boxes for controls, types Y4A, Y4B, Y4C





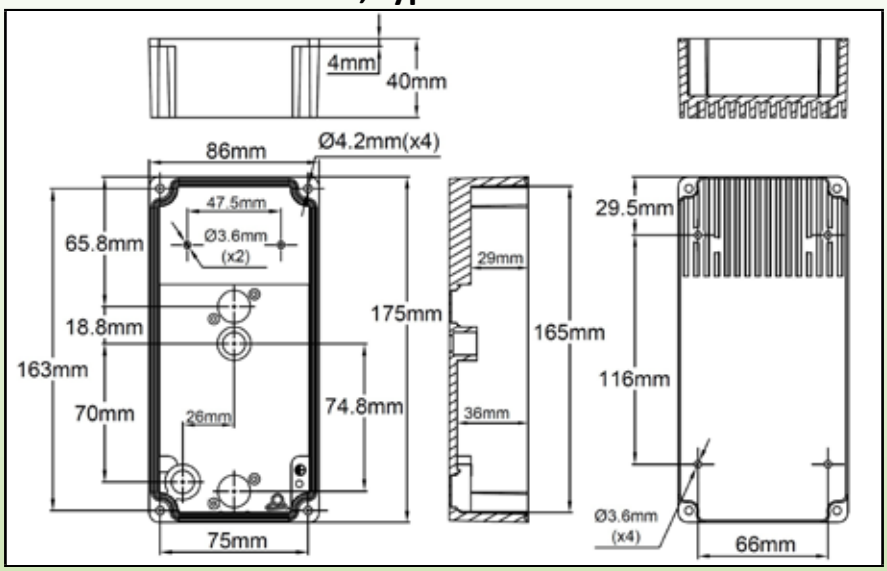
Material: Aluminum ADC12
Fasteners: M5, stainless steel
Cover gasket: NBR
Weight: Y4A : 345grs/ Y4B : 445grs/ Y4C : 980grs/

References	Size	Surface finish
Y4AA064084104000	64x84x104mm	As cast, deburred
Y4AA064084104007	64x84x104mm	As cast, vibration deburred and polished
Y4AA064084104001	64x84x104mm	Sand blasted finish
Y4AA06408410400G	64x84x104mm	Epoxy-gray RAL7035 painted
Y4BA066089114000	66x89x114mm	As cast, deburred
Y4BA066089114007	66x89x114mm	As cast, vibration deburred and polished
Y4BA066089114001	66x89x114mm	Sand blasted finish
Y4BA06608911400G	66x89x114mm	Epoxy-gray RAL7035 painted
Y4CA092124159000	92x124x159mm	As cast, deburred
Y4CA092124159007	92x124x159mm	As cast, vibration deburred and polished
Y4CA092124159001	92x124x159mm	Sand blasted finish
Y4CA09212415900G	92x124x159mm	Epoxy-gray RAL7035 painted

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Empty aluminum box for controls, type Y4D





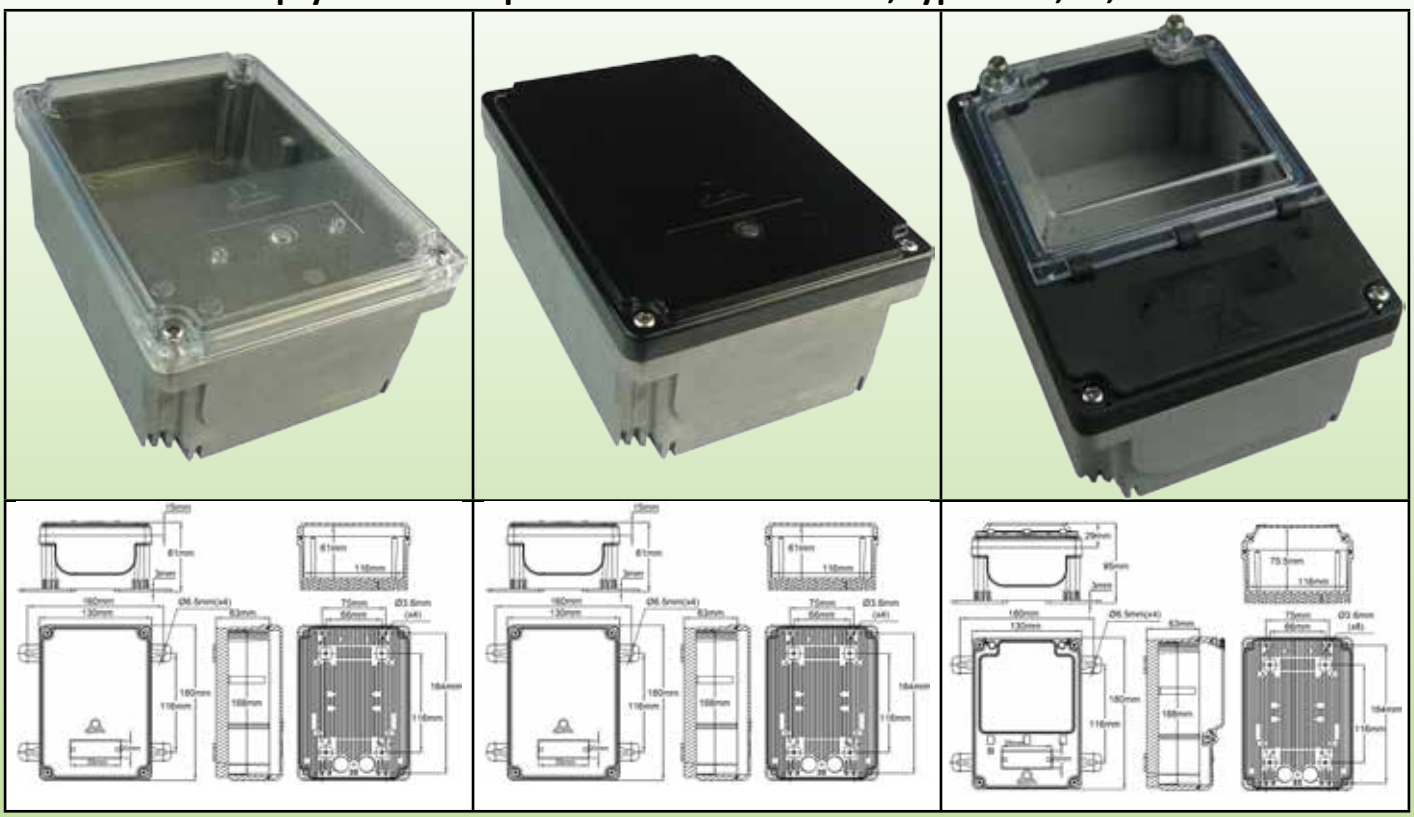
Material: Aluminum ADC12
Fasteners: Not supplied.4 holes di 4.2 mm allows to mount a cover
Cover gasket: Not supplied
Specific feature: Rear side with cooling fins on ¼ of the surface
Weight: 386 grs

References	Surface finish
Y4DA040086175000	As cast, deburred
Y4DA040086175007	As cast, vibration deburred and polished
Y4DA040086175001	Sand blasted finish
Y4DA04008617500G	Epoxy-gray RAL7035 painted

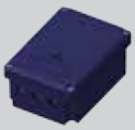
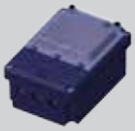
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Empty aluminum-plastic boxes for controls, types Y4E, YF, Y4G



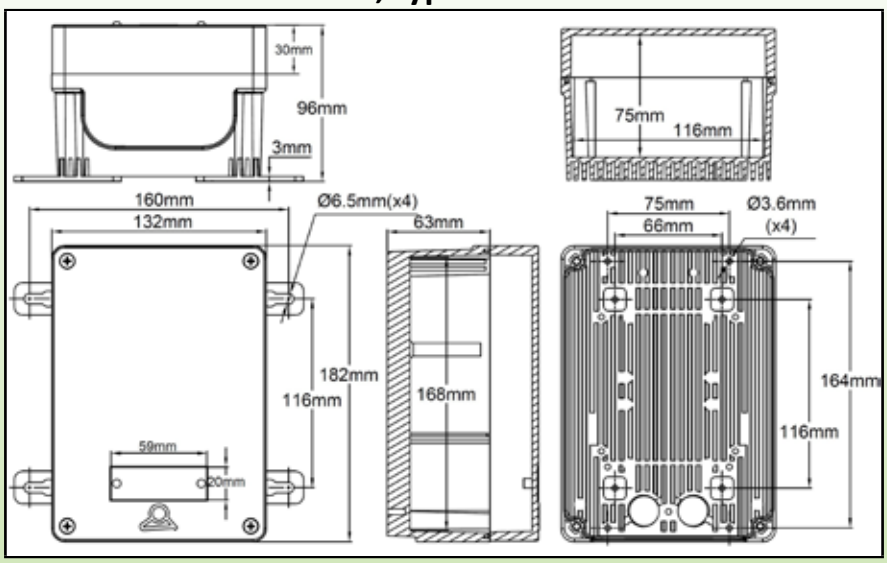
Material: Body Aluminum ADC12, cover polycarbonate (PA66+ Polycarbonate for window model)
Identification: Recess for identification label, adhesive or riveted
Fasteners: M5, stainless steel
Specific feature: Rear side with cooling fins
Mounting: 4 removable mounting legs on rear side
Cover gasket: Silicone foam
Weight with flat cover: 990 grs
Weight with window cover: 1076 grs

Cover	Surface finish	References
Transparent polycarbonate 	As cast, deburred	Y4EM081130180000
	As cast, vibration deburred and polished	Y4EM081130180007
	Sand blasted finish	Y4EM081130180001
	Epoxy-gray RAL7035 painted	Y4EM08113018000G
Black polycarbonate 	As cast, deburred	Y4FN081130180000
	As cast, vibration deburred and polished	Y4FN081130180007
	Sand blasted finish	Y4FN081130180001
	Epoxy-gray RAL7035 painted	Y4FN08113018000G
Transparent polycarbonate window 	As cast, deburred	Y4GH081130180000
	As cast, vibration deburred and polished	Y4GH081130180007
	Sand blasted finish	Y4GH081130180001
	Epoxy-gray RAL7035 painted	Y4GH08113018000G

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Empty aluminum boxes for controls, type Y4H





Protection rating: IP65, IK10 (Can be rated IP69K on request)
Material: Aluminum ADC12
Identification: Recess for identification label, adhesive or riveted
Fasteners: M5, stainless steel
Specific feature: Rear side with cooling fins
Mounting: 4 removable mounting legs on rear side
Cover gasket: Silicone foam
Weight: 1377 grs

References	Surface finish
Y4HA096132182000	As cast, deburred
Y4HA096132182007	As cast, vibration deburred and polished
Y4HA096132182001	Sand blasted finish
Y4HA09613218200G	Epoxy-gray RAL7035 painted

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Y5 Hand held miniature temperature controls



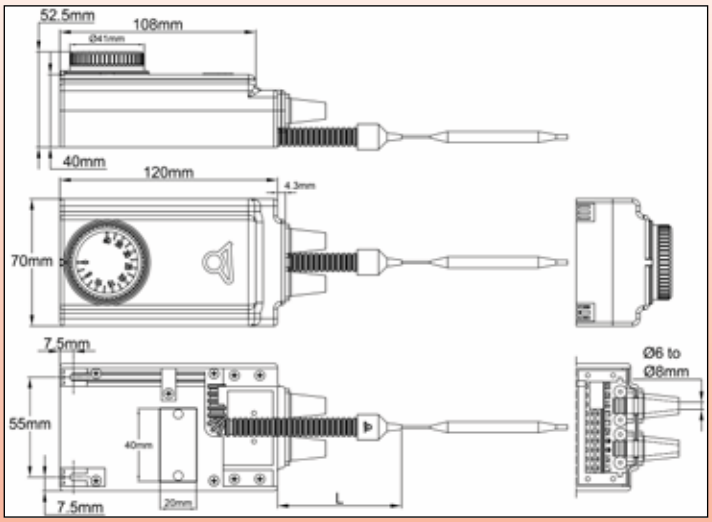
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IP54, Y5 Hand held or wall mounting thermostat

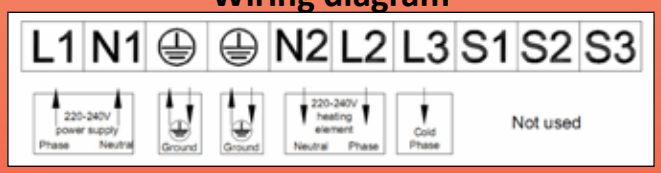
Distance temperature measurement





This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 53 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color, small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262)
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: Printed knob, with min or max position adjustment.
Temperature sensing element: bulb with 1.5 m long capillary. 2 versions are available: unprotected capillary or capillary protected by corrugated plastic tube.
Adjustment ranges: -35+35°C (-30+95°F); 4-40°C (40-105°F); 30-90°C (85-195°F); 30-110°C (85-230°F); 50-200°C (120-390°F); 50-300°C (120-570°F)
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
Electrical contact:
- Open on temperature rise contact: 16(2,6)A , 250V AC.
- Close on temperature rise contact:6(0.6)A, 250V

Wiring diagram



Main references without cords*

Temperature range °C (°F)	Differential °C (°F)	°C		°F	
		Reference with un-protected capillary, °C knob	Reference with protected capillary, °C knob	Reference with un-protected capillary, °F knob	Reference with protected capillary , °F knob
-35+35°C (-30+95°F)	4±2°C (7±3.6 °F)	Y5U3BC70000CUAF2	Y5U3BB70000CUAF2	Y5U3BC70000FUAF2	Y5U3BB70000FUAF2
4-40°C (40-105°F)	3±2°C (5.5±3.6 °F)	Y5U3CC70000CUAF2	Y5U3CB70000CUAF2	Y5U3CC70000FUAF2	Y5U3CB70000FUAF2
30-90°C (85-195°F)	4±3°C (7±5.5 °F)	Y5U3EC70000CUAF2	Y5U3EB70000CUAF2	Y5U3EC70000FUAF2	Y5U3EB70000FUAF2
30-110°C (85-230°F)	5±3°C (9±5.5 °F)	Y5U3GC70000CUAF2	Y5U3GB70000CUAF2	Y5U3GC70000FUAF2	Y5U3GB70000FUAF2
50-200°C (120-390°F)	5°~13°C (9~24 °F)	Y5U3IC70000CUAF2	Y5U3IB70000CUAF2	Y5U3IC70000FUAF2	Y5U3IB70000FUAF2
50-300°C (120-570°F)	5~15°C (9 ~27°F)	Y5U3KC70000CUAF2	Y5U3KB70000CUAF2	Y5U3KC70000FUAF2	Y5U3KB70000FUAF2

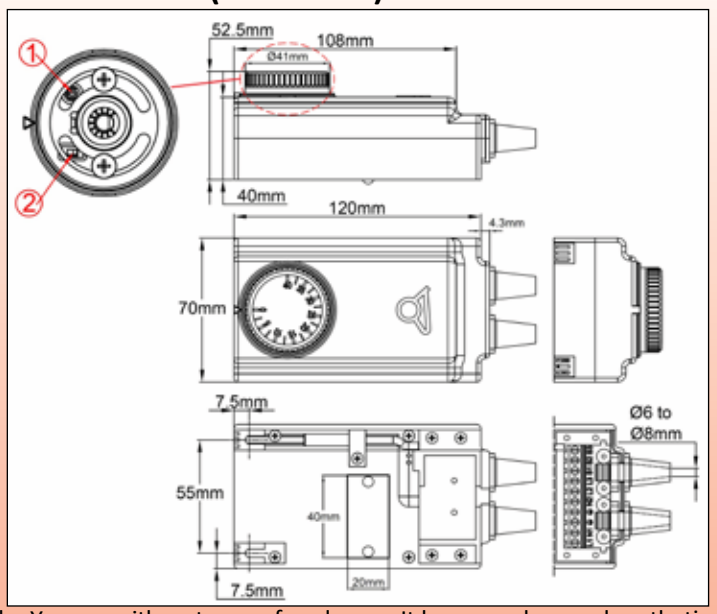
* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

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IP54, Y5 Hand held or wall mounting electronic thermostat

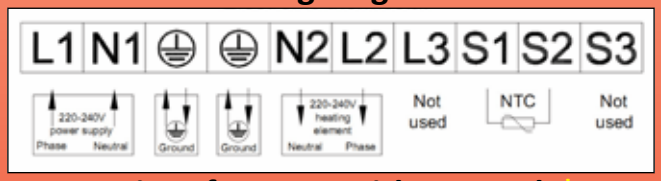
Ambient temperature measurement (electronic)





This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 53 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color, small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262)
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: Printed knob, with min or max position adjustment.
Temperature sensing bulb: The temperature sensing bulb is located backside, in a vented and protected cavity
Adjustment ranges: -35+35°C (-30+95°F) 0-10°C (+32+50°F); 4-40°C (40-105°F)
Differential: adjustable by potentiometer located under the knob(1)
Temperature sensor: NTC sensor, located backside, in a vented and protected cavity
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
Power supply: 90-250VAC, 50 or 60Hz
Electrical contact: SPST 16A 250V - Electronic thermostat: SPST+ ground terminal. Open on rise or close on rise action can be set by switch located under the knob(2).

Wiring diagram



Main references without cords*

Temperature range	References with knob in °C	References with knob in °F
-35+35°C (-30+95°F)	Y5UM1AA0000CUCF2	Y5UM1AA0000FUCF2
0-10°C (+32+50°F)	Y5UM2AA0000CUCF2	Y5UM2AA0000FUCF2
-40°C (40-105°F)	Y5UM3AA0000CUCF2	Y5UM3AA0000FUCF2

* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

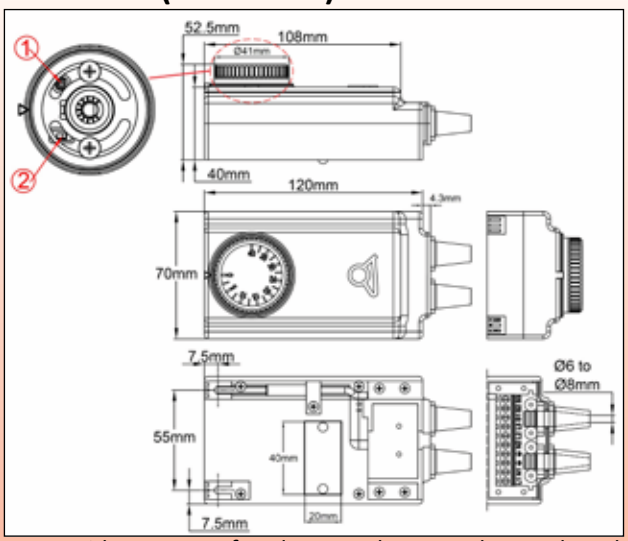
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IP54, Y5 Hand held or wall mounting electronic thermostat

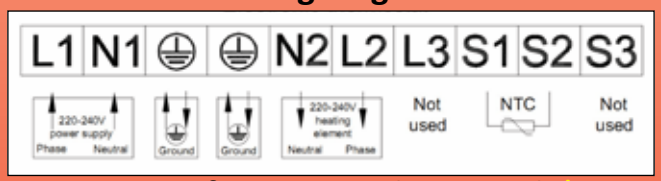
Distance temperature measurement (electronic)





This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 53 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color, small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262)
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: Printed knob, with min or max position adjustment.
Adjustment ranges: -35+35°C (-30+95°F); 0-10°C (+32+50°F); 4-40°C (40-105°F); 30-90°C (85-195°F); 30-110°C (85-230°F); 50-200°C (120-390°F); 50-300°C (120-570°F)
Differential: adjustable by potentiometer located under the knob(1)
Temperature sensor: NTC sensor, with 2 m long cable, probe protected by 30 mm stainless steel tube. 2 versions are available: unprotected cable or cable protected by corrugated plastic tube. Can also be supplied without temperature sensor, when standard temperature sensor is not adapted to the application.
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
Power supply: 90-250VAC, 50 or 60Hz
Electrical contact: SPST 16A 250V - Electronic thermostat: SPST+ ground terminal. Open on rise or close on rise action can be set by switch located under the knob manette(2).

Wiring diagram



Main references without cords*

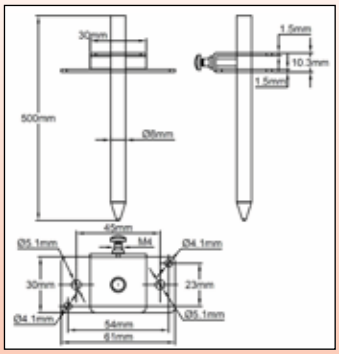
Temperature range	°C knob			°F knob		
	Reference without NTC sensor	Protected sensor cable reference	Un-protected sensor cable reference	Reference without NTC sensor	Protected sensor cable reference	Un-protected sensor cable reference
-35+35°C (-30+95°F)	Y5U010A0000CUCF2	Y5UN1BA0000CUCF2	Y5UN1CA0000CUCF2	Y5U010A0000FUCF2	Y5UN1BA0000FUCF2	Y5UN1CA0000FUCF2
0-10°C (+32+50°F)	Y5U020A0000CUCF2	Y5UN2BA0000CUCF2	Y5UN2CA0000CUCF2	Y5U020A0000FUCF2	Y5UN2BA0000FUCF2	Y5UN2CA0000FUCF2
4-40°C (40-105°F)	Y5U030A0000CUCF2	Y5UN3BA0000CUCF2	Y5UN3CA0000CUCF2	Y5U030A0000FUCF2	Y5UN3BA0000FUCF2	Y5UN3CA0000FUCF2
30-90°C (85-195°F)	Y5U040A0000CUCF2	Y5UN4BA0000CUCF2	Y5UN4CA0000CUCF2	Y5U040A0000FUCF2	Y5UN4BA0000FUCF2	Y5UN4CA0000FUCF2
30-110°C (85-230°F)	Y5U050A0000CUCF2	Y5UN5BA0000CUCF2	Y5UN5CA0000CUCF2	Y5U050A0000FUCF2	Y5UN5BA0000FUCF2	Y5UN5CA0000FUCF2
50-200°C (120-390°F)	Y5U060A0000CUCF2	Y5UR6BA0000CUCF2	Y5UR6CA0000CUCF2	Y5U060A0000FUCF2	Y5UR6BA0000FUCF2	Y5UR6CA0000FUCF2
50-300°C (120-570°F)	Y5U070A0000CUAF2	Y5UR7BA0000CUCF2	Y5UR7CA0000CUCF2	Y5U070A0000FUAF2	Y5UR7BA0000FUCF2	Y5UR7CA0000FUCF2

* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

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Accessories and options





Stopper pocket for liquid temperature measurement inside bottles, carboys and other containers. Dia. 8 mm, length adjustable from 100 to 500 mm.

Reference	66DI08500FL

Knob printings

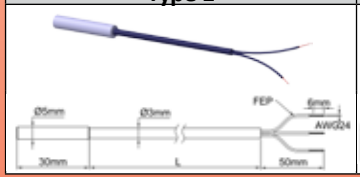
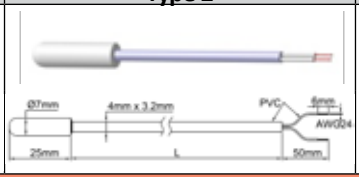
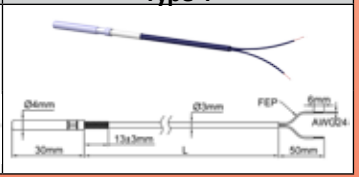
°C Printing

-35+35°C	0-10°C	4-40°C	30-90°C	30-110°C	50-200°C	50-300°C
						

°F Printing

NTC Thermistor

Type 1	Type 2	Type 4
		

References	Temperature ranges	R	B	Protection pocket	Cable, (L)	applications	Model
TNR60030C20001F6	-20+120°C	R25°C: 10KΩ +/- 1%	B25/50°C: 3380 +/- 1%	Nickel plated copper	200°C FEP insulated, L=2m	Usual, from ambient to 120°C	1
TNR70025P20001F6	-30+50°C	R25°C: 10KΩ +/- 1%	B25/50°C: 3380 +/- 1%	PVC, waterproof	80°C PVC insulated L=2m	Cold rooms and ambient	2
TPR40030C20001F6	50-300°C	R25°C: 500K +/-2.5%	B25/50°C: 4260+/-2	Stainless steel	200°C FEP insulated, L=2m	200 and 300°C temperature ranges	4

Options



Standard version: grommet cable output for cables from 4 to 8.6 mm OD



SJT 3 x AWG16 cord, length 1m, with 15A UL receptacle



SJT 3 x AWG16 cord , length 1m, with 15A UL plug



SJT 3 x AWG16 cord, length 1m, without plug



H05VV-F 3G1.5 cord, length 1m, with Euro plug



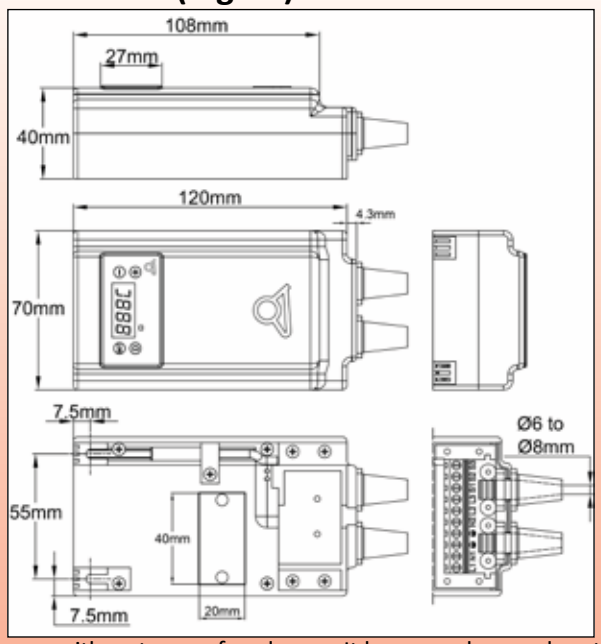
H05VV-F 3G1.5, length 1m, cord without plug

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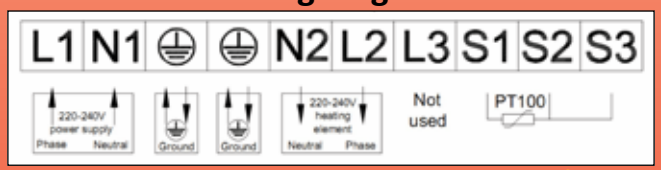
Ambient temperature measurement (digital)





This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 53 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color,small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262) Digital display not included.
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: by up, down and set keys
Display: selectable in °C or °F (4 digits)
Power supply: 90-250VAC, 50 or 60Hz
Temperature sensor: Pt100 RTD, located backside, in a vented and protected cavity
Temperature control action: ON-OFF or PID with auto-tune function
Differential: adjustable when on-Off action is selected
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
Electrical contact: SPST, 16A 250V. Open on rise or close on rise action can be selected

Wiring diagram



Main references without cords*

Référence	Y5FQ9AA0000NUDF2

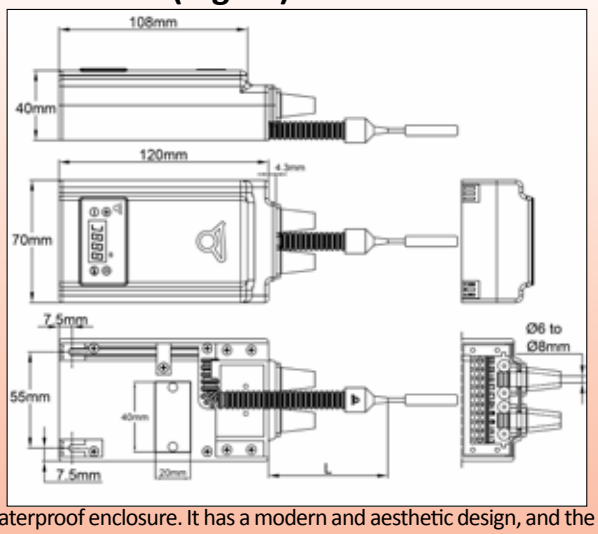
* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

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IP54, Y5 Hand held or wall mounting digital controller

Distance temperature measurement (digital)

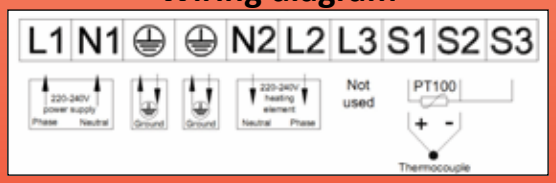




This control box has the smallest footprint and the lowest price of the Y range with waterproof enclosure. It has a modern and aesthetic design, and the same professional concept than other products of this range.
Because of their small size (120 x 70 x 40 mm), these controls can be wall mounted with 2 screws 55 mm distance, hand held or just simply laid on the working table.
Enclosure: PC-ABS, black color,small footprint , can be hand held of wall mounted
Ingress protection rating: IP54 (IEC 60529)
Mechanical impact resistance: IK05 (EN 62262) Digital display not included.
Flammability: UL94-V0
Electrical connection: on a closed screw terminal connection block cavity located backside, for wire gauges up to 2.5 mm². Cables are secured by a saddle retainer, and grommets. Ground, neutral and phase can be connected in input and output.
Power inlet and outlet: through grommets for cables dia. 6 to 8 mm. Over-molded cables on request (MOQ apply)
Adjustment: by up, down and set keys
Display: selectable in °C or °F (4 digits)
Power supply: 90-250VAC, 50 or 60Hz
Temperature control action: ON-OFF or PID with auto-tune function
Differential: adjustable when on-Off action is selected
Mounting: Wall mounting, for screws dia. 4 to 6 mm, 55 mm distance
Identification: Location backside for 20 x 40 mm identification label, adhesive or riveted
Electrical contact: Relay output, 10A 250V AC res (15 A120V AC). Open on rise or close on rise action can be selected
Temperature sensor: This control can be supplied with or without sensor. The cable can be protected by a plastic flexible corrugated tube.
This controller is multi sensor type, user settable with the following input choice:

Parameters	Sensor	Temperature range (°C)
t	Type T Thermocouple	-200~400
J	Type J Thermocouple	-200~700
E	Type E Thermocouple	-200~900
K	Type K Thermocouple	-200~1300
r	Type R Thermocouple	-50~1600
S	Type S Thermocouple	-50~1600
b	Type B Thermocouple	350~1800
W	Type WRE Thermocouple	0~2300
Cu50	Cu50	-50.0~150.0
Pt100	P100	-199~600
Pt10.0	P10	-199.9~600.0

Wiring diagram



Main references without cords*

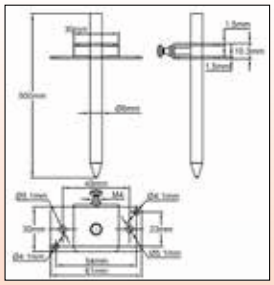
Main features	Reference
Without temperature sensor	Y5F090A0000NUDF2
With PT100 RTD, 5 x 30 mm SS probe, 2 m protected cable	Y5FR9BA0000NUDF2
With PT100 RTD, 5 x 30 mm SS probe, 2 m un- protected cable	Y5FR9CA0000NUDF2
With K thermocouple, 5 x 30 mm SS probe, 2 m protected cable	Y5FK9BA0000NUDF2
With K thermocouple, 5 x 30 mm SS probe, 2 m un-protected cable	Y5FK9CA0000NUDF2

* Reference with Male Euro 1m H05-VVF-3G1 cord+ no connector euro1m H05-VVF-3G1 cord: replace 0000 by EJHJ
Reference with 2 euro cords 1m H05-VVF-3G1 without connector or plug: replace 0000 by HJHJ
Reference with UL SJT 3 x AWG16, 1m Male cord + SJT 3 x AWG16, 1m Female cords: replace 0000 by UJVJ
Reference with Male UL SJT 3 x AWG16, 1m cord + no connector UL SJT 3 x AWG16, 1m cord: replace 0000 by UJSJ
Reference with 2 UL SJT 3 x AWG16 1m cords without connector or plug: replace 0000 by SJSJ

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IP54, Y5 Hand held or wall mounting digital controller



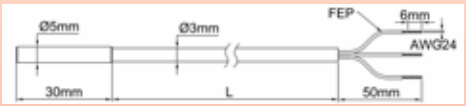


Stopper pocket for liquid temperature measurement inside bottles, carboys and other containers. Dia. 8 mm, length adjustable from 100 to 500 mm.

Reference	66DI08500FL

Standard temperature sensors

PT100

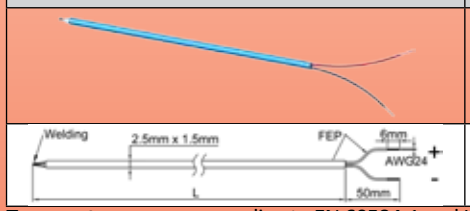
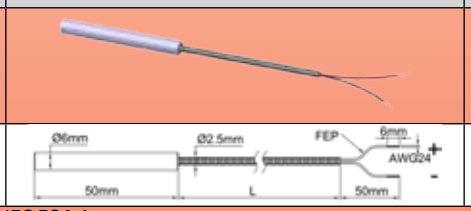
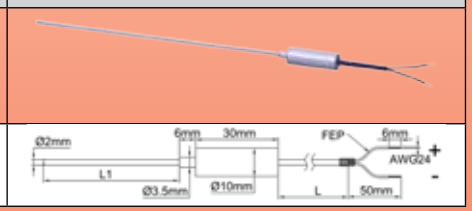




Reference	Class	Cable length	Applications
TSR50030I2000AK6	A	2000 mm	Remote sensing
TSR50030I2000BK6	B	2000 mm	Remote sensing
TSR50030I0070AK6	A	70 mm	Room temperature sensing
TSR50030I0070BK6	B	70 mm	Room temperature sensing
TSR50030I0150AK6	A	150 mm	Room temperature sensing
TSR50030I0150BK6	B	150 mm	Room temperature sensing

Temperature range: -50 to 550°C (-60 to 1020°F) on the ceramic substrate, but temperature in use limited to 200 ° C due to the FEP connecting cable
Temperature curve: EN 60751 (100 ohms @ 0°C, 138.5 Ohms @ 100°C)
Accuracy and tolerances: (according to EN 60751)
Class A, ±0.15°C @ 0°C; (±0.06 Ω @ 0°C)
Class B, ±0.3°C @ 0°C. (±0.12 Ω @ 0°C).
Protection pocket: Stainless Steel 304, dia. 5mm x 30 mm
Temperature range: -50C, +200°C
Connection cable:
• 3 wires, 0.35 mm², FEP insulation + silver-plated copper braid + FEP, temperature resistance 200°C, external diameter 2.7 mm (0.127").
• Ends: stripped
Polarity: The two red wires are connected together at their welded junction to one of the chips ceramic substrate terminal and the white wire is connected to the other terminal.

K Thermocouple

Type 1	Type 2	Type 3
		

Temperature curve: according to EN 60584-1 and IEC 584-1
Accuracy and tolerances: Class 2 according to EN 60584-1 and 2, ±2.5°C within -40 °C and 333 °C
Polarity (according to DIN 43714): red = positive, blue= negative

Reference	Probe type	Probe temperature range	Cable	Type
TPR00060W10002F4	bare	-50+200°C	2 x 0.35mm², 200°C FEP insulated L= 1m	1
TPR00060W20002F4	bare	-50+200°C	2 x 0.35mm², 200°C FEP insulated L= 2m	1
TPR60050I10002E4	SS 304 dia. 6mm x 50 mm	-50C, +200°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L = 1 m	2
TPR60050I20002E4	SS 304 dia. 6mm x 50 mm	-50C +200°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L = 2 m	2
TPR20200R20002E4	Refractory SS, dia. 2 mm L1= 200 mm sheathed probe	-40+800°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L2 = 2 m	3
TPR20400I20002E4	Refractory SS, dia. 2 mm L1= 200 mm sheathed probe	-40+800°C	2 x 0.35mm2, O.D 2.7 mm nickel plated braid L2 = 2 m	3

Options



Standard version: grommet cable output for cables from 4 to 8.6 mm OD



SJT 3 x AWG16 cord, length 1m, with 15A UL receptacle



SJT 3 x AWG16 cord , length 1m, with 15A UL plug



SJT 3 x AWG16 cord, length 1m, without plug



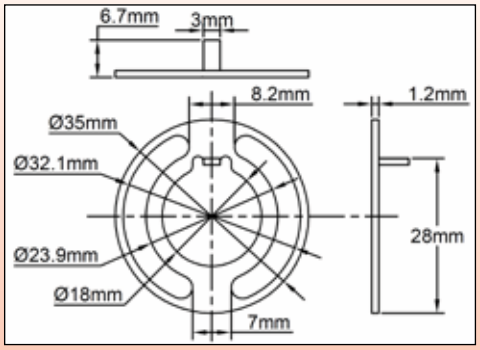
H05VV-F 3G1.5 cord, length 1m, with Euro plug



H05VV-F 3G1.5, length 1m, cord without plug

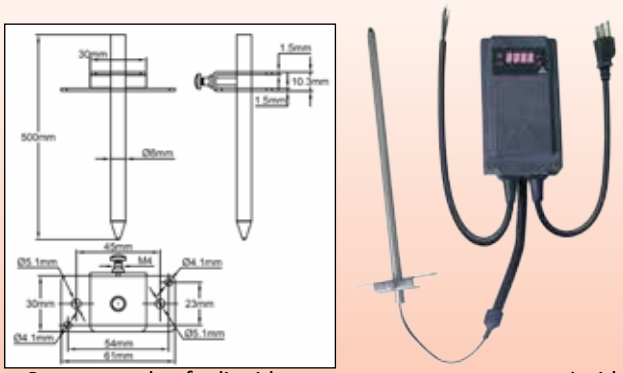
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Accessories



Knob high/ low limit stop setting.
Can be used on mechanical thermostat or electronic thermostat types

Reference	6YBUR001



Stopper pocket for liquids temperature measurement inside bottles, carboys and other containers. Dia 8 mm, length adjustable from 100 to 500 mm. Not usable on room temperature measurement types.

Reference	66DI08500FL

Options



Standard version: grommet cable output for cables from 4 to 8.6 mm OD



SJT 3 x AWG16 cord, length 1m, with 15A UL receptacle



SJT 3 x AWG16 cord , length 1m, with 15A UL plug



SJT 3 x AWG16 cord, length 1m, without plug



H05VV-F 3G1.5 cord, length 1m, with Euro plug



H05VV-F 3G1.5, length 1m, cord without plug

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Silicone boots, caps and grommets for heating appliances and electrical heaters

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INTRODUCTION

Hundreds of specific silicone boots have been developed during the last decade, to cover various customer requirements. This catalogue shows some of them. It is a routine for our engineering department to develop new models and proprietary products. We can make prototype or production molds, and we blend our own silicone compound to comply with specific requirements. Of course, we also mold them. Your requirements are welcome.

MOLDED SILICONE PARTS TYPICAL PROPERTIES. For indication only, properties may vary upon parts and additives used. (Test standard: JIS K6249)

Density Hardness Tensile strength Elongation Tear strength, angle Volume resistivity Dielectric strength (RT)	1.36 gR/cm^3 54 A 7.3 Mpa 520% 23 N/mm 6E+15 Ohm.cm 29 kV/mm
Flammability	UL94-V0 in 0.75, 1.5 and 3mm
RTI electrical, upon UL RTI mechanical (Impact) , upon UL RTI mechanical (Stress), upon UL	150°C 150°C 150°C
ROHS and WEEE - European Commission Directive 2002/96/EC relating to Waste Electrical & Electronic Equipment (WEEE Directive); - European Commission Directive 2002/95/EC relating to the Restriction of the use of certain Hazardous Substances in electrical & electronic equipment (RoHS Directive), - European Commission Directive 2003/11/EC relating to restrictions on the marketing and use of certain dangerous substances and preparations (penta-bromo-diphényl-éther, octa-bromo-diphényl-éther).	Substances prohibited in accordance with Directive 2002/95/EC and Directive 2003/11/EC, as later amended, are not normally present at or above the specified concentrations* 0.1% (by weight) for lead, mercury, hexavalent chromium, PBB, PBDE, (including decaBDE, PentaBDE or OctaBDE) and 0.01% (by weight) for cadmium.

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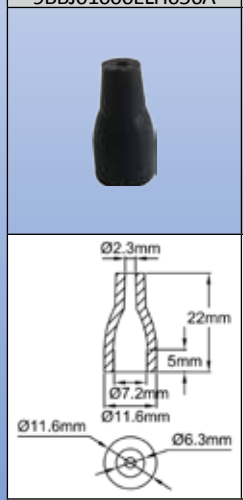
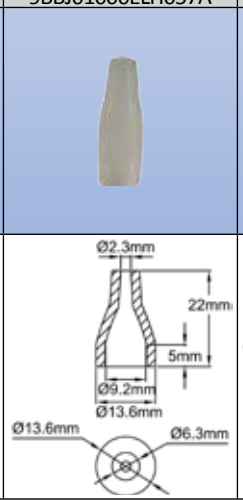
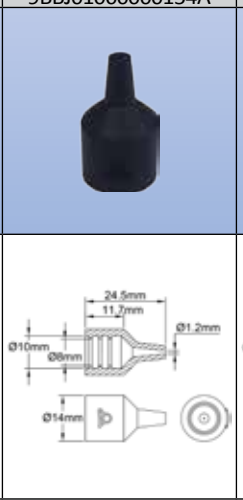
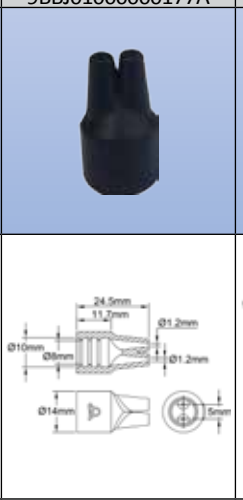
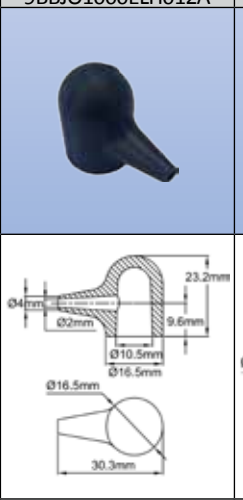
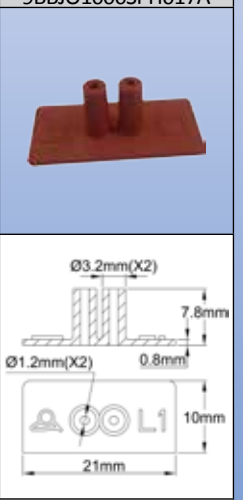
Silicone boots for heating elements terminals output (1)

These caps and boots are designed to protect heating elements electrical terminals against accidental contact. When properly filled with a sufficiently fluid silicone resin or epoxy resin, they provide an ingress protection level up to IP67. They can be designed for heating elements diameter 6.5, 8, 8.5, 10, 12, 14, 16 mm, and wire gauges from 0.75 to 10 mm². 90° angled outputs allow a connection with an unprotected crimped ring terminal

Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)

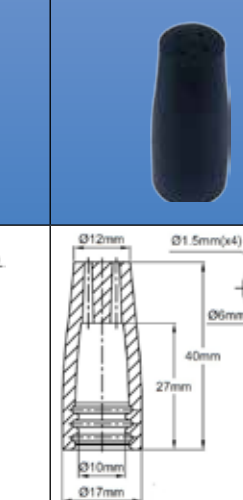
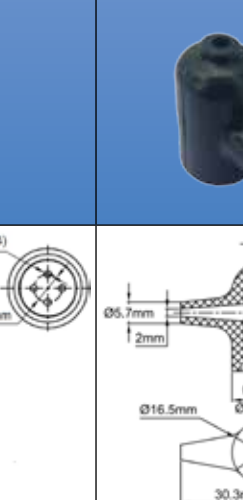
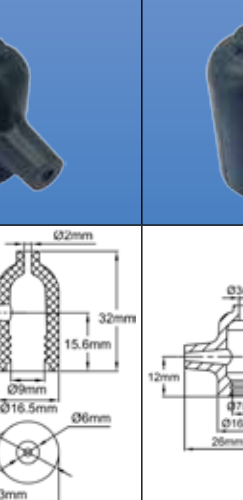
Accidental mechanical and electrical contacts protection caps

The optional filling of the cap with resin must be made after connecting the wire to the terminal and prior to its placement thereon. Resin filling on these models provides only an extra mechanical strength. Ingress protection level IP 64 to IP 67 cannot be achieved on these models.

9BBJ01000ELH056A	9BBJ01000ELH057A	9BBJ01000000154A	9BBJ01000000177A	9BBJO1000ELH012A	9BBJO1000SPH017A
					
Vertical output. For tubes dia. 8 to 10mm and wires dia. from 2.5 to 4.5mm	Vertical output. For tubes dia. 10 to 12mm and wires dia. from 2.5 to 4.5mm	Vertical output. For tubes dia. 9 to 11mm and wires or capillaries dia. from 1.5 to 3mm	Vertical output. For tubes dia. 9 to 11mm and 2 wires or capillaries dia. from 1.5 to 3mm	Side output. For tubes dia. 11 to 13mm and wires dia. from 2.2 to 4mm	Orthogonal wires output for flexible silicone heating elements. For 2 wires dia. 1.5 to 2 mm

Caps with syringe filling (1)

Resin filling is made after making the connection to the terminals of the heating element, and after fitting the cap. This system, when the filling is done correctly with a sufficiently fluid resin, provides an IP64 to IP65 ingress protaction level.

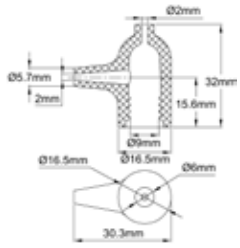
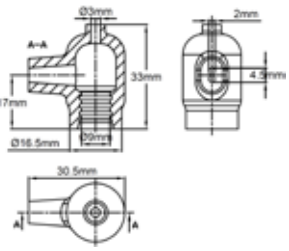
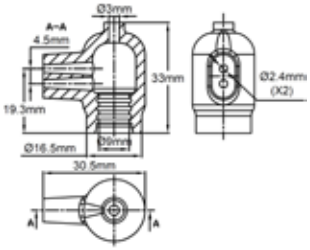
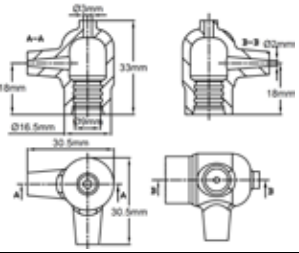
9BBJO1000004014A	9BBJO1000004034A	9BBJO1000ELH104A	9BBJO1000ELH105A	9BBJO1000ELH106A
				
One wire vertical output. For tubes dia. 11 to 13mm and wire dia. 2.2 to 4mm	2 or 3 wires vertical output. For tubes dia. 11 to 13mm and wire dia. 1.7 to 3.5mm. For simple heating element with jumper wire or cartridge heater	One wire side output. For tubes dia. 8 to 10mm and wire dia. 2.8 to 4.5mm.	2 wires side by side output. For tubes dia. 8 to 10mm and 2 wire dia. 2.8 to 3mm, or one wire dia. 4 to 6 mm, circular or flat. For simple heating element or cartridge heater	3 wires side output. For tubes dia. 8 to 10mm. - One output for 2 wire dia. 2.8 to 3mm, or one wire dia. 4 to 6 mm, circular or flat. - One output for wire dia. 5 to 7 mm For simple heating element or cartridge heater with temperature sensor

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Tel: +33(0)1 60046644 Fax: +33(0)1 60048444 E-Mail: info@jpcfrance.fr Web: www.jpcfrance.fr

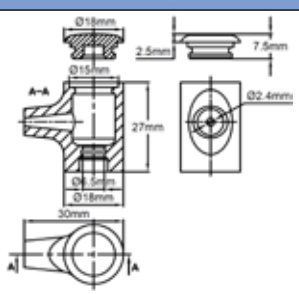
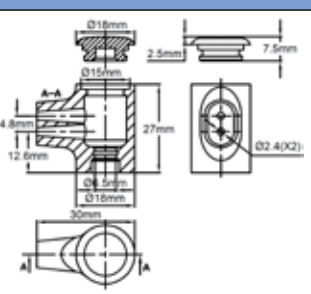
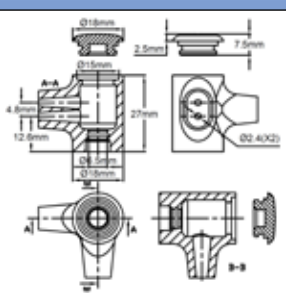
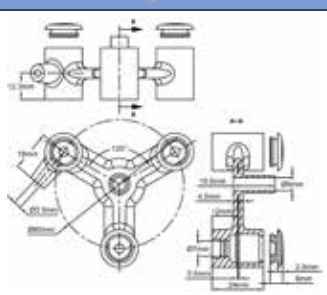
Silicone boots for heating elements terminals output (2)

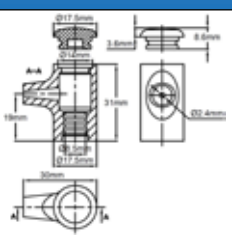
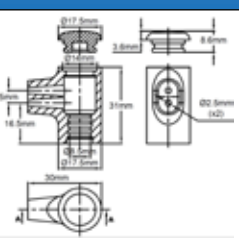
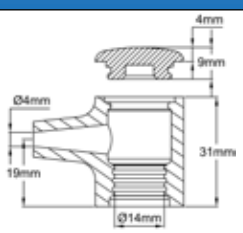
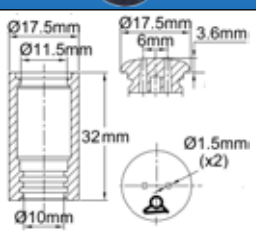
Caps with syringe filling (2)

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Side output for tubes dia. 10 to 12mm and one wire dia. 2.2 to 4 mm	Side output for tubes dia. 10 to 12mm and 2 wire dia. 2.2 to 4 mm superimposed. For simple heating element or cartridge heater.	Side output for tubes dia. 10 to 12mm and 2 wire dia. 2.2 to 4 mm. For simple heating element or cartridge heater.	Two side output angled 90° for tubes dia. 10 to 12mm and 2 wire dia. 2.2 to 4.5mm. For simple heating element or cartridge heater.

Caps with removable cap, syringe filling or potting

Resin filling is made after making the wire connection to the heating element terminals, after fitting the cap and removed its cover. After filling and evacuation of any air bubbles, the cover is snapped on while the resin is still fluid. This system, when the filling is done correctly with a sufficiently fluid resin, provides an ingress protection level IP67.

9BBJO1000ELH118A + 9BBJO1000ELH121A	9BBJO1000ELH119A + 9BBJO1000ELH121A	9BBJO1000ELH120A + 9BBJO1000ELH121A	9BBJO1000ELH127A + 9BBJO1000ELH128A
			
			
Side output, for tubes dia. 8 to 10mm and one wire dia. 2.6 to 4.5 mm	Side output, for tubes dia. 8 to 10mm and two wire dia. 2.6 to 4.5 mm. For simple heating element with jumper wire or cartridge heater	2 side outputs angled 90°, for tubes dia. 8 to 10mm. - One output for two wire dia. 2.6 to 4.5 mm. - One output for wire dia. 5to 7 mm For simple heating element with jumper wire or cartridge heater with temperature sensor	For tubes dia. 8 to 10mm. Neutral wire connection on star wired heating elements output on dia. 60mm diameter. One side output for wire dia. 4 to 6mm. Over-molded nickel plated jumper. Electrically insulated center hole for cover screw.

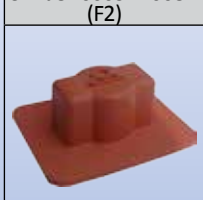
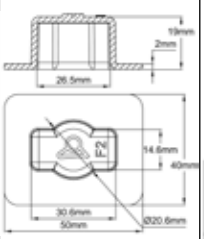
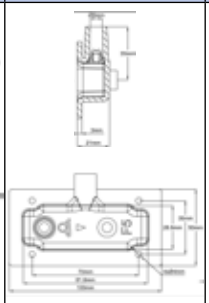
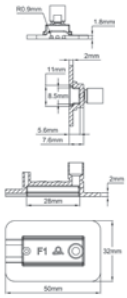
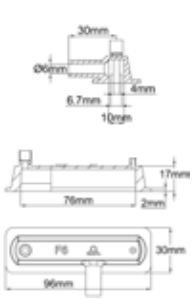
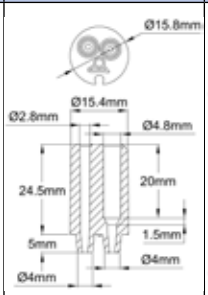
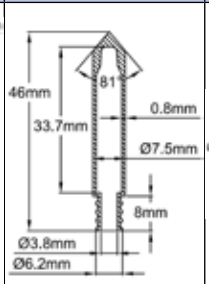
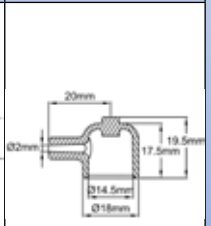
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Side output for tubes dia. 10 to 12 mm and wire dia. 2.2 to 4 mm	Side output for tubes dia. 10 to 12 mm and 2 wires dia. 3 to 4 mm. For simple heating element with jumper wire or cartridge heater.	Side output for tubes dia. 15 to 16 mm and wires dia. 4.5 to 7 mm	Vertical output for tubes dia. 11 to 14 mm and 2 wires dia. 1.6 to 2.5 mm. For simple heating element with jumper wire or cartridge heater.

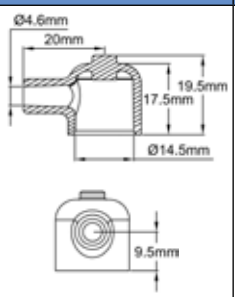
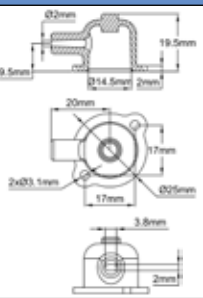
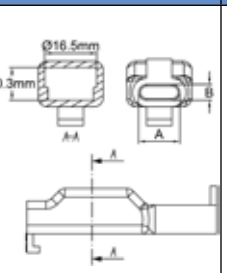
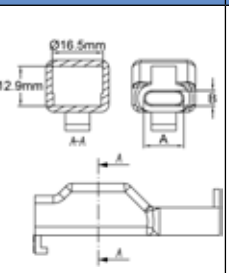
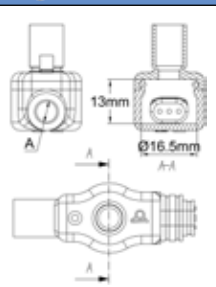
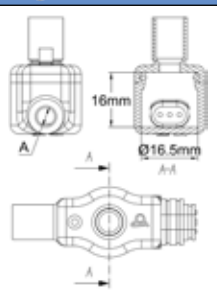
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Thermostats boots

They are designed to protect thermostats against accidental contact or liquids ingress. Depending on the model, they can be filled with resin or simply be glued or vulcanized on their support

Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black or red depending on the model. Other colors available (MOQ apply)

9BBJO1000SPH008A (F2)	9BBJO1000SPH006A (F5)	9BBJO1000SPH016A (F1)	9BBJO1000SPH018A (F6)	9BBJO1000ELH025A	9BBJ01000ELH058A	9BBJ01000004015A
						
						
Silicone boot for ½ » disc thermostat mounting on flexible silicone heater	Silicone boot for adjustable bimetal strip thermostat, surface mounting on flexible silicone heater, with pilot light.	Silicone boot with resin filling orifice, for miniature limit thermostat, PT100 and NTC sensors, for surface mounting on flexible silicone heater.	Silicone boot with resin filling orifice, for miniature limit thermostat, PT100 and NTC sensors, for surface mounting on flexible silicone heater, with cable output	Thermal fuse protection and wire output boot on 16 mm cartridge heaters	Protection boot for thermal cut out mounting inside 8 to 8.5 mm I.D. pockets	Protection boot for ½" disc thermostat. For flat cable 2.5x4.3mm to 3 to 4.8mm. Allows manual reset

9BBJ010000004017A	9BBJO1000004019A	6YTMA********** (Many references depending of cable size: dimensions A and B)	6YTNA********** (Many references depending of cable size : dimensions A and B)	6YTU********** (Many references depending of cable diameter A)	6YTT********** (Many references depending of cable diameter A)
					
					
Protection boot for ½" disc thermostat. For cable dia. 5 to 8 mm. Allows manual reset.	Protection boot for ½" disc thermostat. For flat cable 2.5x4.3mm to 3 to 4.8mm. Locked in place by stainless steel flange. Allows manual reset	Small thickness (9mm) ½" disc thermostat boot, for silicone filling. Flat heat tracing cable output.See catalogue N°3	Standard thickness (12mm) ½" disc thermostat boot, for silicone filling. Flat heat tracing cable output.See catalogue N°3	Small thickness (9mm) ½" disc thermostat boot, for silicone filling. Flat heat tracing cable output and round cable power supply input (4 parts). See catalogue N°3	Standard thickness (12mm) ½" disc thermostat boot, for silicone filling. Flat heat tracing cable output and round cable power supply input (4 parts). See catalogue N°3

The filling silicone



Reference	6YTMC2000ELH062A

Silicone Vulcanizing at room temperature. Very smooth, fills the caps well and without bubbles. Comes with a special nozzle that directs the liquid silicone in the desired location without spilling.
Color: red
Packaging: 45 ml tube.
Temperature resistance: 280°C.
Vulcanization time at room temperature: 12 to 24 hours depending on thickness
Vulcanized hardness: 35 Shore A
Volume resistivity: 4*1015 ohms/cm.
Displacement: 150%.
Breakdown voltage: 16KV/mm.
To be used on clean surfaces

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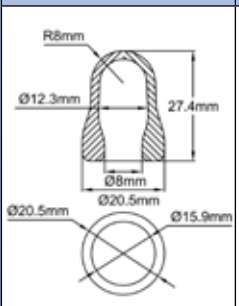
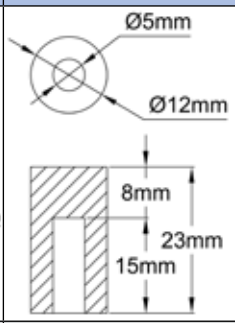
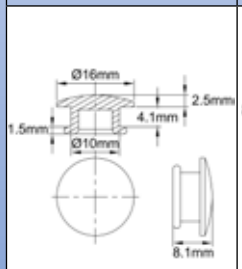
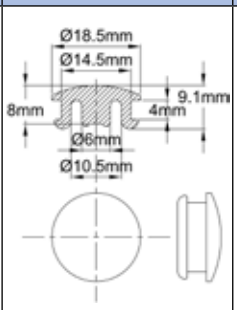
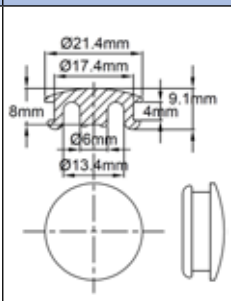
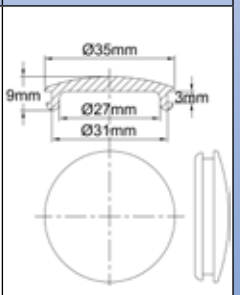
Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Tube end caps

Used to protect the open end of tubes or heat trace wire end. They can receive a filling resin before fitting
Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)

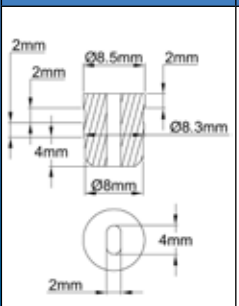
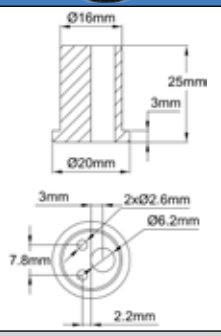
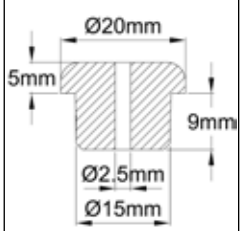
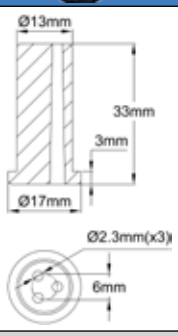
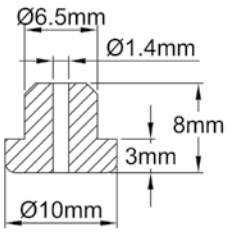
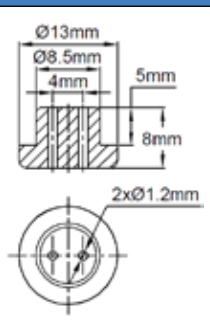
Holes caps

Used to seal a hole in aluminum or plastic enclosure
Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)

9BBJO1000ELH017A	9BBJO1000ECS001A	9BBJO1000000150A	9BBJO1000004035A	9BBJO1000004009A	9BBJO1000CAP007A
					
					
Protection cap with 8mm dia. hole	Protection cap with 5mm dia. hole	Hole cap for holes dia. 9 to 10mm on 4mm thickness walls	Hole cap for holes dia. 14 to 14.5mm (M16 cable gland) on 4mm thickness walls. Allows to operate from outside an inside manual reset thermostat with IP65 ingress protection level	Hole cap for holes dia. 17 to 11.5mm (PG11 cable gland) on 4mm thickness walls. Allows to operate from outside an inside manual reset thermostat with IP65 ingress protection level	Hole cap for holes dia. 29 to 31mm on 4mm thickness walls

Pockets output grommets

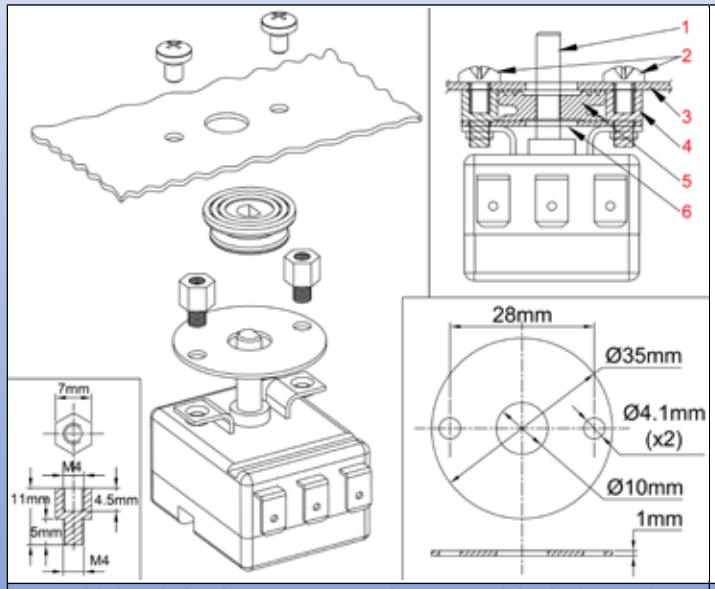
They are used to hold probes or electronic thermostats bulbs inside a pocket or a tube, while protecting them against the sharp edges of the tip.
Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)

9BBJO10000ELH024A	9BBJO1000SPH012A	9BBJ0100004008A	9BBJO1000SPH002A	9BBJ01000ELH095A	9BBJO1000000186A
					
					
Pocket grommet for dia. 8mm ID tube and flat cable 4x2mm	Pocket grommet for dia. 16mm ID tube and 2 wires or capillaries dia. 2.6 and one dia. 6mm cable	Pocket grommet for dia. 15mm ID tube and 1 wire or cable dia. 2.6mm	Pocket grommet for dia. 13mm ID tube and 1 wire or cable dia. 2.4mm	Pocket grommet for dia. 6.5 mm ID tube and 1 wire or cable dia. 1.5mm	Pocket grommet for dia. 8.5 mm ID tube and 2 wire or capillaries dia. 1.2 mm

Water ingress protection gaskets for thermostats shafts

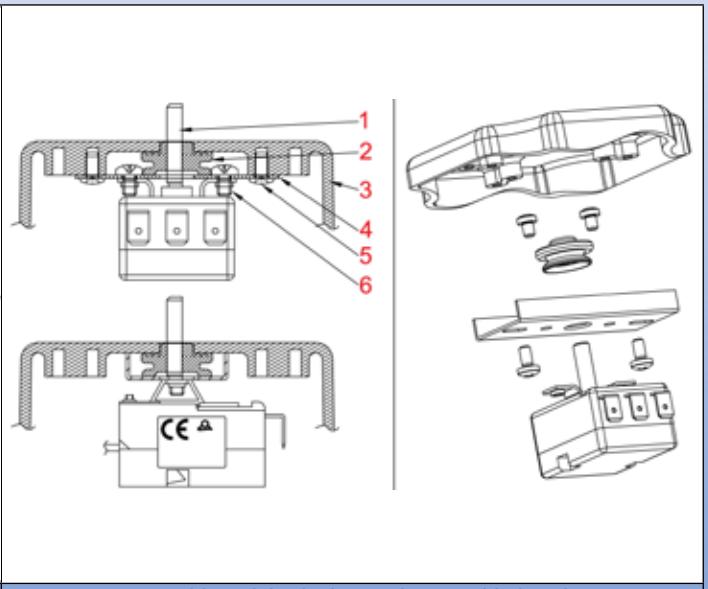
Used to mount a thermostat or switch shaft through its mounting panel, ensuring a good water ingress protection resistance. The gasket, sleeved on the shaft, is compressed between the front panel and a counter-plate. A light lubrication of the counter-plate and of the inner face of front panel is recommended.

Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)



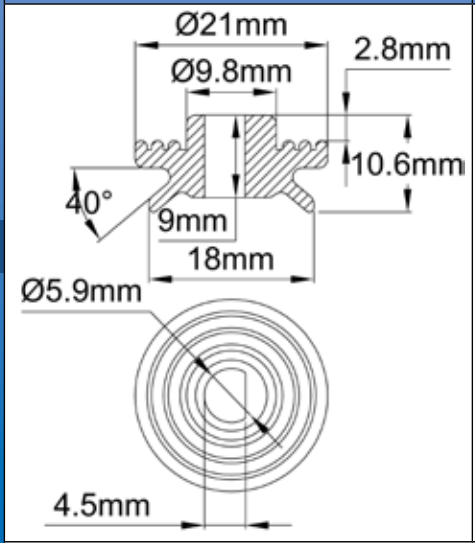
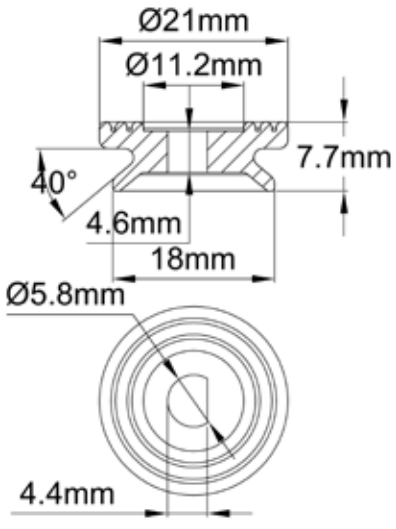
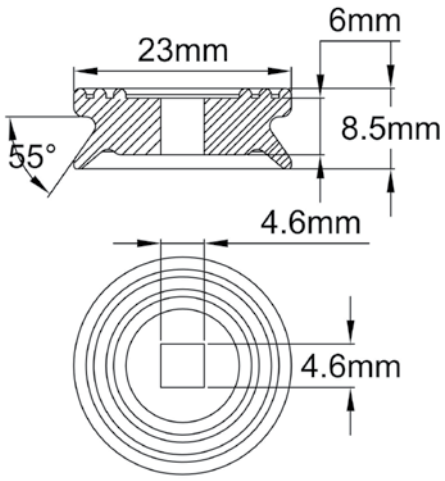
Assembly by 2 holes dia. 4mm, 28 mm distance, with back-plate and M4 spacers

1: Thermostat shaft
2: M4 x 6 front panel mounting screws
3: Front mounting panel or enclosure wall
4: M4 spacers
5: Gasket
6: Stainless steel washer



Assembly with back-plate and M4 molded studs (immersion heaters housings)

1: Thermostat shaft
2: Gasket
3: Enclosure wall with M4 molded studs
4: Back-plate
5: M4 Back-plate mounting screws
6: M4 x 6 thermostat mounting screws

9BBJO1000004010A	9BBJO1000004033A	J09BBJO3000RSI001AR
		
		
Thermostat shaft output gasket, for shaft dia. 6mm with 4.6mm flat. Extended lip. Recommended distance between mounting panel and back-plate: 5.5 to 6.5mm	Thermostat shaft output gasket, for shaft dia. 6mm with 4.6mm flat. Short lip. Recommended distance between mounting panel and back-plate: 5.5 to 6.5mm	Rotary switch shaft output gasket, for 4 mm square shaft. Short lip. Recommended distance between mounting panel and back-plate: 6.5 to 7.5mm

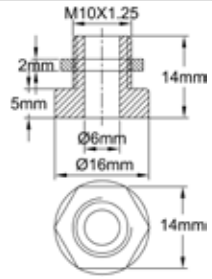
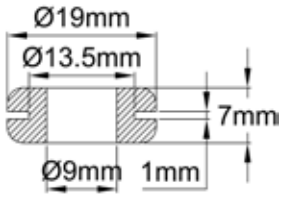
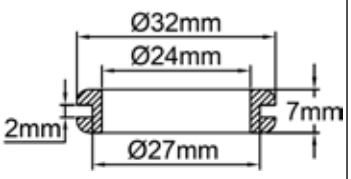
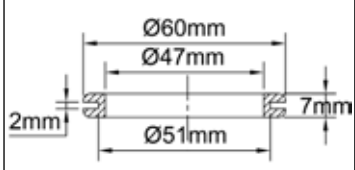
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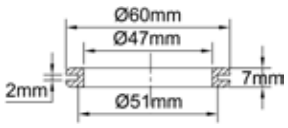
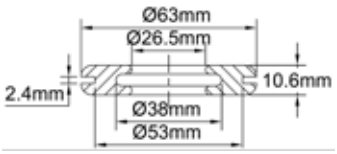
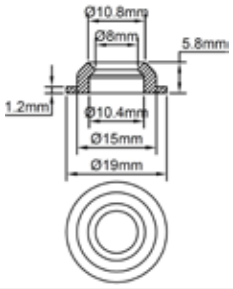
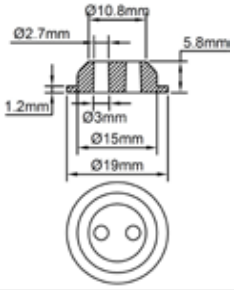
JPC sas, 2 voie Gallo Romaine, ZAC de la Bonne Rencontre, 77860 Quincy Voisins, France
Tel: +33(0)1 60046644 Fax: +33(0)1 60048444 E-Mail: info@jpcfrance.fr Web: www.jpcfrance.fr

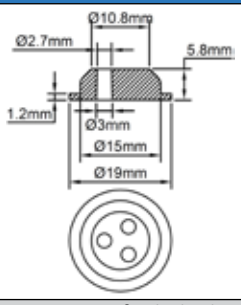
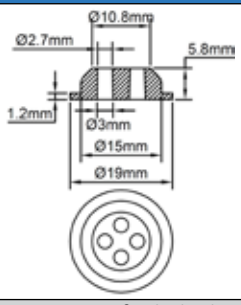
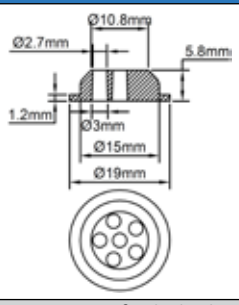
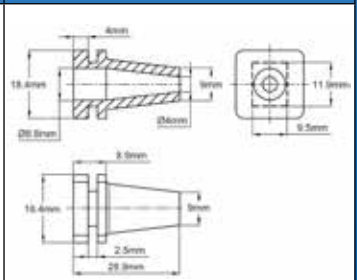
High temperature edge grommets and sleeved grommets

Flammability: UL 94-V0
Hardness: 60 Shore A
Color: black. Other colors available (MOQ apply)

For temperatures higher than 200°C, see ceramic grommets (Ceramic connection blocks Catalogue N°10)	 600°C ceramic edge grommet

9BBCE1000000025A	9BBCE1000000025A	9BBJO1000CAB004A	9BBJO1000CAB002A
			
			
Edge grommet for hole dia. 12.5 to 13 mm, wall thickness 1mm, cable diameter 9mm max.	Edge grommet for holedia. 12.5 to 13 mm, wall thickness 1mm, cable diameter 11mm max.	Edge grommet for hole dia. 26 to 27 mm, wall thickness 2mm, cable diameter 24mm max.	Edge grommet for hole dia. 50 to 51 mm, wall thickness 2mm, cable diameter 47 mm max.

9BBJO1000CAP002A	9BBJO1000004039A	9BBJO1000004038A	9BBJO1000004040A
			
			
Edge grommet for hole dia. 52 to 53 mm, wall thickness 2.5mm, cable diameter 28 mm max. Double ingress protection lips on cable.	Edge grommet for hole dia. 15mm mm, wall thickness 2 mm, cable diameter 9 to 10 mm max.	Edge grommet for hole dia. 15mm mm, wall thickness 2 mm, cable diameter 11 to 12 mm max.	Edge grommet for hole dia. 15 mm, wall thickness 2 mm, 2 wires diameter 3 mm max.

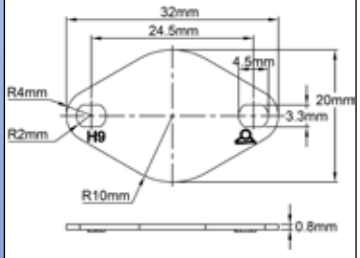
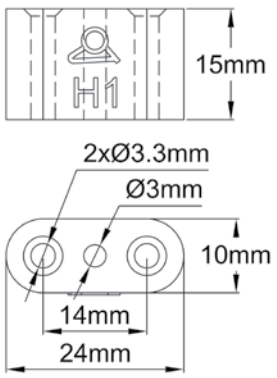
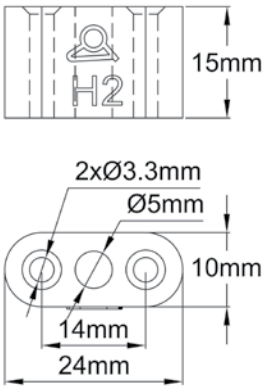
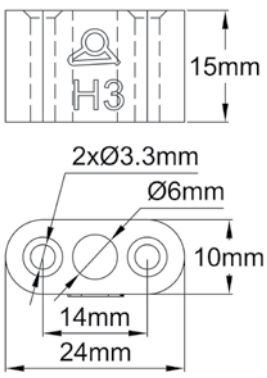
9BBJO1000004041A	9BBJO1000004042A	9BBJO1000004043A	9BBJO1000AFS002A
			
			
Edge grommet for hole dia. 15 mm, wall thickness 2 mm, 3 wires diameter 3 mm max.	Edge grommet for hole dia. 15 mm, wall thickness 2 mm, 4 wires diameter 3 mm max.	Edge grommet for hole dia. 15 mm, wall thickness 2 mm, 6 wires diameter 3 mm max.	Sleeve grommet for square hole 12x12mm, wall thickness 2.5mm, dia. 5 to 8 mm cable.

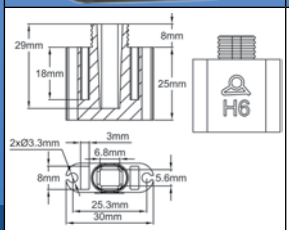
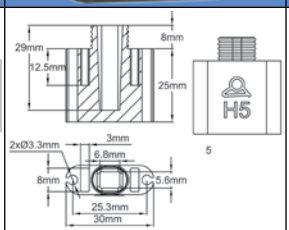
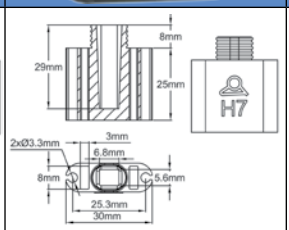
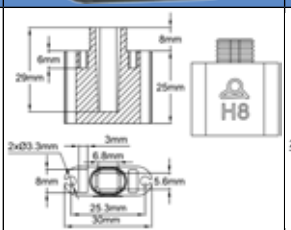
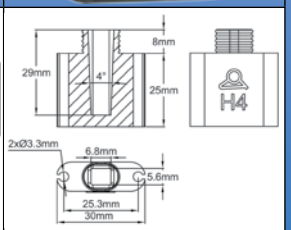
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Heat conductive silicone parts (Thermal bridges)

These parts, made in thermally conductive silicone are designed to transfer heat from a heating element to an electronic sensor, thermostat bulb, or bimetal. Their use limits the thermal overshoots.

Flammability: UL94VO
Held in temperature: 220 ° C
Hardness Shore A: 80
Color: Grey
Thermal conductivity: 2.2W / m. °K

9BBJO1000000181A (H9)	9BBJO1000000161A (H1)	9BBJO1000000162A (H2)	9BBJO1000000163A (H3)
			
			
Thermal bridge for ½" thermostat, sandwiched between thermostat and mounting board	Dia. 3.1 to 3.3mm heating wires thermal bridge, dia. 3 mm temperature sensor	Dia. 3.1 to 3.3mm heating wires thermal bridge, dia. 5 mm temperature sensor	Dia. 3.1 to 3.3mm heating wires thermal bridge, dia. 6 mm temperature sensor

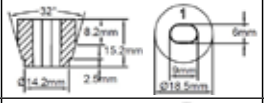
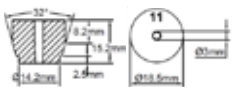
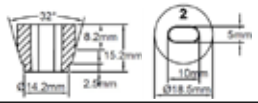
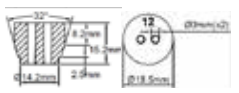
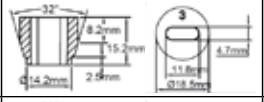
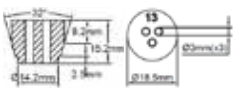
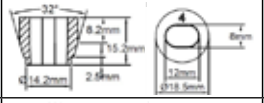
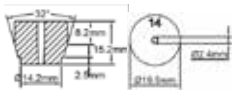
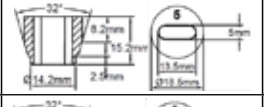
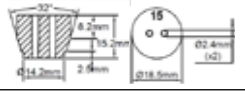
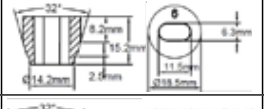
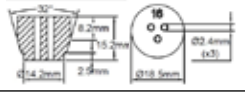
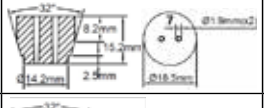
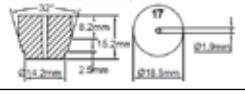
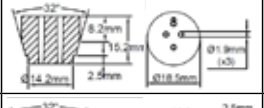
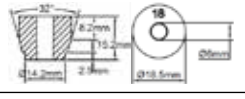
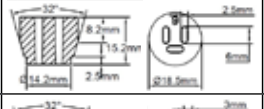
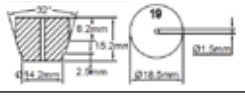
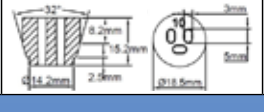
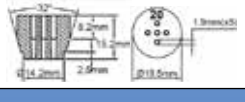
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Dia. 3.1 to 3.3mm heating wires thermal bridge, 6.8x5.6mm thermostat or temperature sensor Minimum heat transfer	Dia. 3.1 to 3.3mm heating wires thermal bridge, 6.8x5.6mm thermostat or temperature sensor 3/4 heat transfer	Dia. 3.1 to 3.3mm heating wires thermal bridge, 6.8x5.6mm thermostat or temperature sensor 1/2 heat transfer	Dia. 3.1 to 3.3mm heating wires thermal bridge, 6.8x5.6mm thermostat or temperature sensor 1/4 heat transfer	Dia. 3.1 to 3.3mm heating wires thermal bridge, 6.8x5.6mm thermostat or temperature sensor Full heat transfer.

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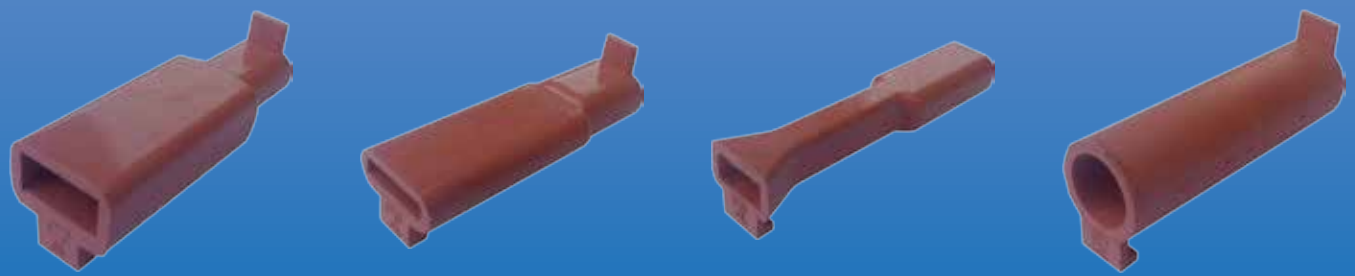
Cable gland silicone gaskets for heat tracing and flat cables

These gaskets are used on M24 Polyamide cable glands and on M20 built-in cable glands of Y6, Y7, Y8 industrial control boxes of catalogue N°3. See this catalogue for references with stainless steel washers and fully assembled cable glands.

Picture	Drawing	Nr	Holes size	References	Picture	Drawing	Nr	Holes size	References
		1	1 x (6 x 9)	9BBJO1000000100A			11	1 x 3	9BBJO1000000110A
		2	1 x (5 x 10)	9BBJO1000000101A			12	2 x 3	9BBJO1000000111A
		3	1 x (4.7 x 11.8)	9BBJO1000000102A			13	3 x 3	9BBJO1000000112A
		4	1 x (8 x 12)	9BBJO1000000103A			14	1 x 2.4	9BBJO1000000113A
		5	1 x (5 x13.5)	9BBJO1000000104A			15	2 x 2.4	9BBJO1000000114A
		6	1 x (6.3 x 11.5)	9BBJO1000000105A			16	3 x 2.4	9BBJO1000000115A
		7	2 x 1.9	9BBJO1000000106A			17	1 x 1.9	9BBJO1000000148A
		8	3 x 1.9	9BBJO1000000107A			18	1 x 6	9BBJO1000000149A
		9	3 x (2.5 x 6)	9BBJO1000000108A			19	1 x 1.5	9BBJO1000000165A
		10	3 x (3 x 5)	9BBJO1000000109A			20	5 x 1.9	9BBJO1000000164A

Other silicone molded products

Many other silicone boots for wire end connection or wire end termination have been developed for heat tracing applications. See our catalogue N°3.



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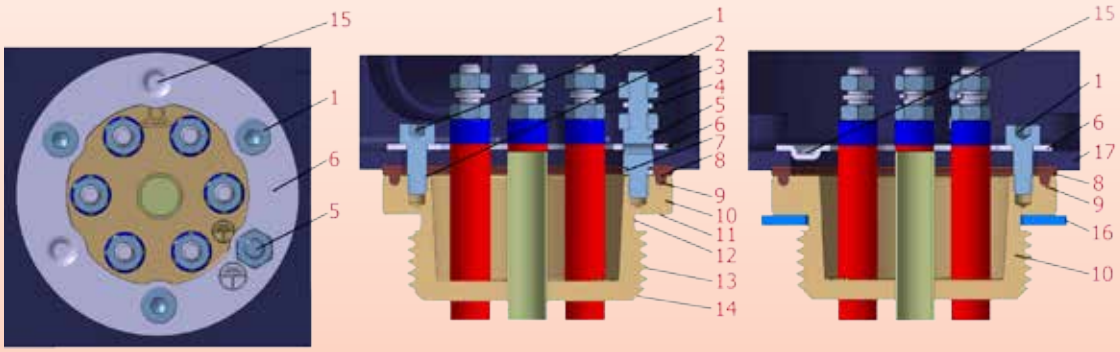
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Fittings and threaded accessories for immersion heaters

Immersion heaters brass fittings





1: Assembly screw, M4 or M5
2: Machined flat surface
3: Grounding nuts
4: Dented washer and saddle
5: Grounding stud M4 or M5
6: Rotation ring
7: Dented washer
8: Silicone waterproof gasket
9: Anti-creep groove
10: Fitting
11: Machined flat surface
12: Unlosable gasket groove
13: Metric or BSPP thread
14: Large chamfer
15: Centering embossing
16: Unlosable gasket
17: Enclosure

Design:
- Fittings for incorporation by immersion heater manufacturers
- Fit the full range of immersion heater enclosures
- Compact size and short length result in reduced weight (save + / -30% compared to double thread fittings)
- The fitting thread lengths allow throw wall mounting with fiber gasket and nut on wall of 6 mm thickness (9 mm for 2" and above) or on threaded socket with gasket
- Allows a 360° rotation of enclosure when mounted with their rotation ring

Range: complete, covering all usual diameters from 1 1/4" to M77x2

Threads:
- Threads machined after forging according to:
  - ISO965-1 and 2 for metric threads
  - ISO228-1 (Pipe threads without sealing in the thread) for thread called "Gas Thread", also known as BSPP.
- Thread clearance for captive gasket
- Large chamfer facilitating correct assembly
- Large machined gasket seat

Manufacturing process:
Hot forged, followed by lathe machining.
This technique allows a limited machining and reduces material losses, significantly improves the mechanical properties and provides a good surface without porosity.

Assembly on enclosures:
- Through a hole in the enclosure. The enclosure is sandwiched between the fitting and a stamped inner ring. Bumps in the ring provide self-centering. This stamped ring costs only 10% of the conventional threaded inner rings.
On 2", M77x2 and 2 ½" diameters, the drilling diameter is identical to models using a threaded ring. Therefore, no special drill diameter is needed.

Gasket between fitting and enclosure:
- 4 x 2 mm section, 50 Shore silicone gasket with anti-creep rib, absorbs flatness differences, and remains in place during tightening.
- Guaranteed IP65 ingress protection up to 200 ° C between fitting and enclosure, provided it has a flat bottom without asperities.

Grounding (earthing):
The grounding terminal does not impinge on the surface used for the heating elements brazing, allowing the larger diameter heating elements tubes and larger bending radius, and room for a center pocket tube. See general design of the grounding hereunder.

Fitting gasket:
Three models of captive gaskets can cover all applications
- Non-asbestos fiber gasket, thickness 2 mm
- NBR O-ring, dia. 4 mm
- Flat PTFE gasket, thickness 2 mm

Inner stamped ring:
- The outside diameter less than or equal to the threaded rings allows to replace them without footprint problem.
- Its large inner diameter does not reduce the passage for heating elements
- The clamping with 3 BTR screws at 120° ensures a good pressure distribution and an excellent mechanical strength. These screw positions increase the clearances between the screw heads and live parts of the heating elements (If respecting the most favorable angle when drilling heating element holes)
- The recessed hexagonal hole screw heads allow easy and stable entry of hex wrench when adjusting angular position (M4 screw up to 2 "above M5)
- Ring made of stainless steel for better durability
- Unalterable stamped earthing logo

Brazed joint:
Wall thickness of 4 mm to ensure sufficient length of solder to minimize capillary leakage and provide good vibration resistance

Fitting clamping: 8mm wide hex part for easy passage of wrench

Pressure resistance: 2 MPa (Fitting undrilled and without heating elements). The minimum wall thickness meets the Schedule 10S specs.

Brazing and hard soldering ability:
Common brass alloys used for hot forging have a 2 to 3% lead content. This high percentage of lead weakens the brass when heated to high temperatures (as it happens in "Hard soldering" and brazing) and also makes them unsuitable for oxy-acetylene welding.
The alloy used for these connections has a low lead content, which improves its brazing ability.

Options:
- Hole drilling and chamfering for heaters according to customer drawing (MOQ apply)
- Customizing or customer references marking (MOQ apply)

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Brass raw material

GB/T5231-2001 designation	Nearest equivalences	Specific gravity	HB hardness	Tensile strength Rp0,2 (Mpa)	Extension %
H59Pb1	CuZn39-Pb2 (Afnor-51-104) CuZn37-Pb0.5, (Din 17760) C37000 (ASTM) CW617N (EN12165)	8.4	80-120	350	15-30%

Composition

Cu	Fe	Pb	Ni	Zn	Impurities total
57~60%	≤ 0.5%	0.08-1.9%	≤1 %	surplus	≤1%

Brass Rohs compliance

According to the Directive 2011/65/ dated June 8, 2011 (Rohs), copper alloys are allowed to have a maximum of 4% by weight of lead as an alloying element. (Provisions of Article 4 and paragraph 1 of Annex II, limit value set by 6c of Annex III)

Earthing (grounding) provisions, Stainless steel and brass models

Earthing (Grounding) continuity. EN60335-1 requirements)

The design of the grounding connections was scheduled to meet all the points of this standard, and to ensure a grounding line, including in boxes with plastic. It complies in particular with the following specifications (extracted from the standard) and our solutions

27.1 Accessible metal parts of class I appliances that may become live in the event of an insulation fault, shall be permanently and reliably connected to an earthing terminal within the appliance

Solution: fittings have a built-in earth terminal

27.2 The clamping means of earthing terminals shall be adequately secured against accidental loosening.

It shall not be possible to loosen the conductors without the aid of a tool.

Solution: earthing is made by nuts needing a wrench to screw and unscrew, and have dented washers

27.4 All parts of the earthing terminal intended for the connection of external conductors shall be such that there is no risk of corrosion resulting from contact between these parts and the copper of the earthing conductor or any other metal in contact with these parts.

Solution: The earthing terminal is made of nickel-plated brass or stainless steel that does not corrode with brass fitting and stainless steel

28.1 Earth connections which failures may provide a lack of earthing continuity shall withstand the mechanical stresses occurring in normal use.

Screws used for connections providing earthing continuity shall screw into metal.

Solution: The earth terminals withstand more than one and a half times the nominal torque required by the standards and are screwed into a threads made of brass or steel fittings

28.2 Connections providing earthing continuity shall be constructed so that contact pressure is not transmitted through insulating material that is liable to shrink or to distort

- Thread-cutting (self-tapping) screws shall not be used if they are likely to be operated by the user or installer.
- At least two screws must be used for each connection providing earthing continuity unless the screw forms a thread having a length of at least half the diameter of the screw

Solution:

- The earth terminals are provided that even if they are used with a plastic housing, tightening the earth connection has no plastic or elastomeric gasket interposed.
- No self-tapping screw used for earthing
- When the earthing is made by a screw in a thread, the length thereof is always greater than the value given by the standard

28.4 Screws and nuts that make a mechanical connection between different parts of the appliance shall be secured against loosening if they also make connections providing earthing continuity.

- Sealing compound that softens on heating provides satisfactory security only for screw connections not subject to torsion in normal use.

Solution: The ground terminals are blocked by dented lock washers. No thread sealing compound used

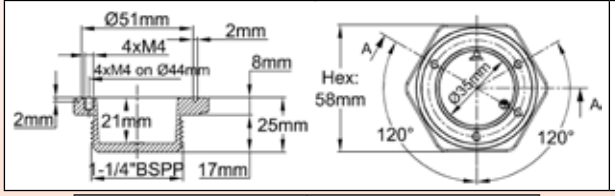
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Main products (Brass)



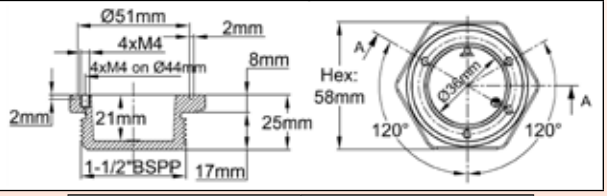
Orientable fittings

1"1/4



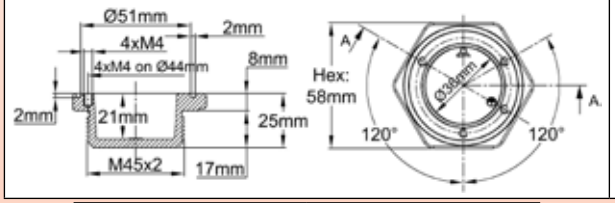
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1"1/2



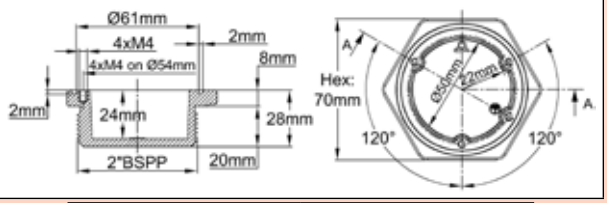
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M45x2



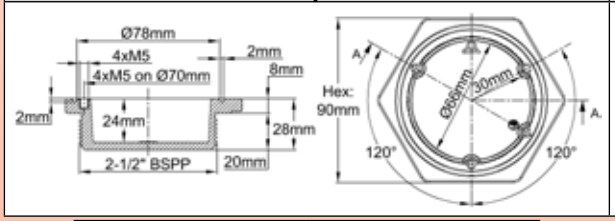
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2"



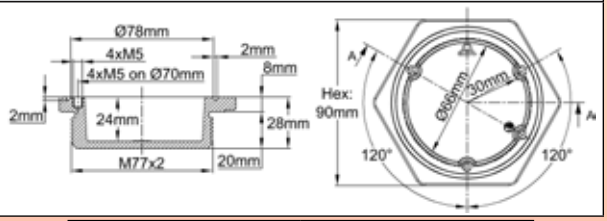
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2"1/2



Reference	9BBRA3000ELH141A

M77x2

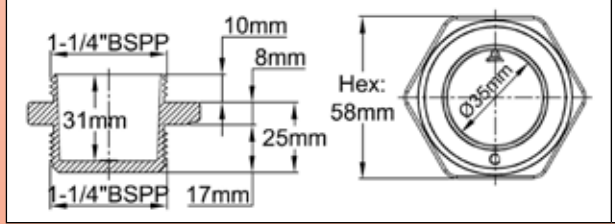


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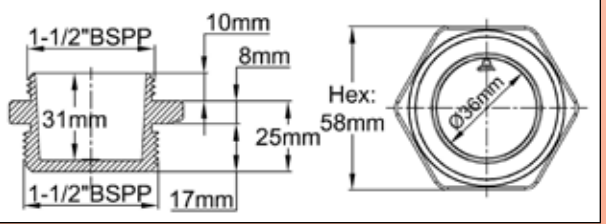
Traditional double threads fittings

1"1/4



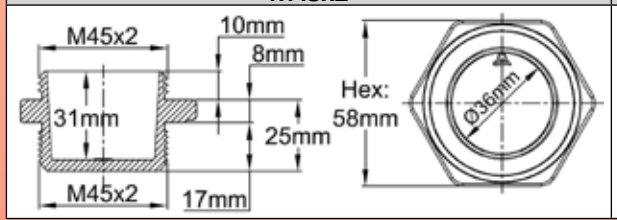
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1"1/2



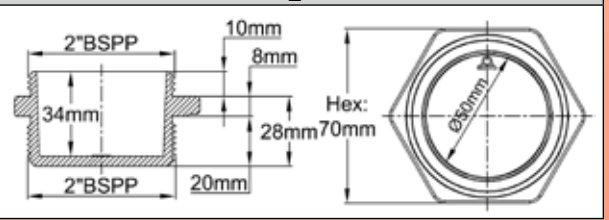
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M45x2



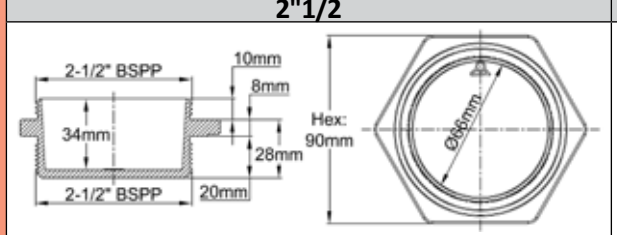
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2"



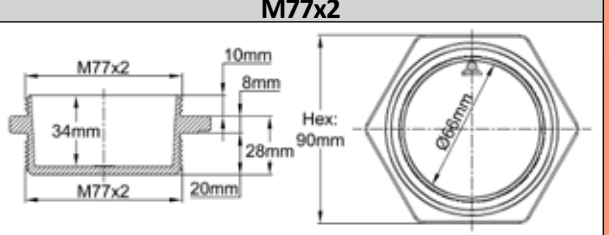
Reference	9BBRA3000ELH219A

2"1/2



Reference	9BBRA1000ELH225A

M77x2



Reference	9BBRA1000ELH226A

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Immersion heater stainless steel fittings

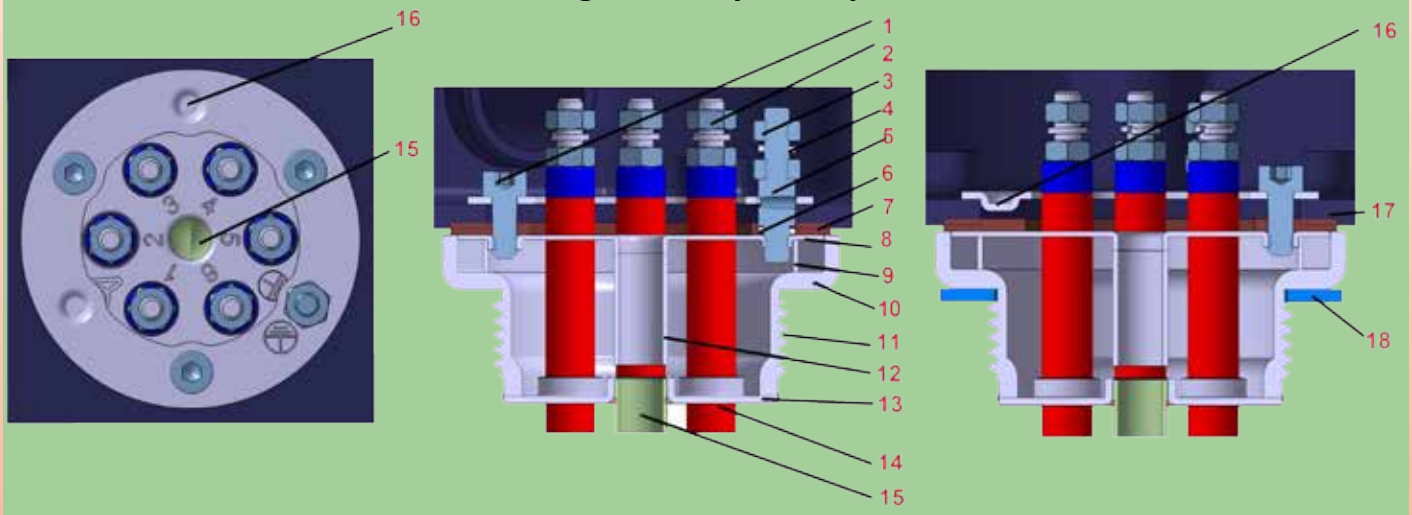


Set for brazing



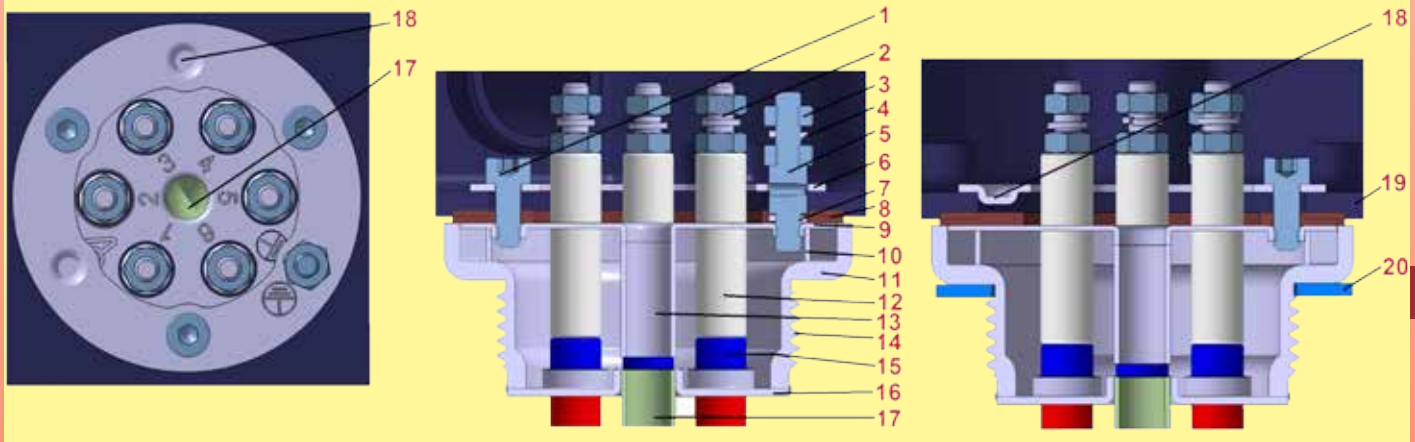
Set for TIG welding

Brazing assembly description



1: Assembly screw, M4
2: Heating element terminals
3: Grounding nuts
4: Dented washer
5: Grounding stud M4
6: Dented washer
7: Silicone waterproof gasket
8: Hexagonal top plate
9: Brace
10: Fitting with machined sealing surface
11: Thread with gasket groove
12: Pocket extension
13: Bottom plate
14: Heating element brazing
15: Pocket tube
16: Rotation ring with centering bossings
17: Enclosure
18: Unlosable fitting gasket

TIG welding assembly description



1: Assembly screw, M4
2: Heating elements terminals
3: Grounding nuts
4: Dented washer
5: Grounding stud M4
6: Rotation ring
7: Dented washer
8: Silicone waterproof gasket
9: Hexagonal top plate
10: Brace
11: Fitting with machined sealing surface
12: Ceramic spacer
13: Pocket extension
14: Thread with gasket groove
15: Standard ceramic insulator
16: Bottom plate
17: Pocket tube
18: Centering bossings
19: Enclosure
20: Unlosable fitting gasket

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Immersion heater stainless steel fittings

Design:
- Fittings for incorporation by immersion heater manufacturers
- Designed to make 100% stainless steel immersion heaters, TIG welded, without brazed joints at a price similar to brazed brass fittings
- **Exist in TIG version (unassembled) or brazed joint version (assembled)**
- Fit the full range of immersion heater enclosures
- Compact size and short length result in reduced weight (Save + / -70% compared to plain stainless steel fittings)
- The fittings thread length allows throw wall mounting with fiber gasket and nut on wall of 6 mm thickness or on threaded socket with flat gasket
- Allows a 360° rotation of enclosure when mounted with their rotation ring

Range: BSPP1"1/2 and M45x2
- Threads rolled according to:
  - ISO965-1 and 2 for metric threads
  - ISO228-1 (Pipe threads without sealing in the thread) for thread called "Gas Thread", also known as BSPP.
- Thread clearance for captive gasket
- Large chamfer facilitating correct assembly
- Large machined gasket seat

Manufacturing process:
Deep stamping, followed by threads rolling.
This technique allows a very limited machining, without material losses, and provides a good surface without porosity.

Assembly on enclosures:
- Through a hole in the enclosure. The enclosure is sandwiched between the fitting and a stamped inner ring. Bumps in the ring provide self-centering. This stamped ring costs only 10% of the conventional threaded inner rings.

Gasket between fitting and enclosure:
- The 3 mm thickness, ribbed, 50 Shore silicone gasket, absorbs flatness differences, and remains in place during tightening.
- Guaranteed IP65 ingress protection up to 200 ° C between fitting and enclosure, provided it has a flat bottom without asperities.

Grounding (earthing):
The grounding terminal does not impinge on the surface used for the heating element brazing, allowing the larger diameter heating element tubes and larger bending radius, and room for a center pocket tube. See general design of the grounding hereunder.

Heating element terminal numbering:
Heating element terminal numbers are stamped on the hexagonal top bracket.

Fitting gasket:
Three models of captive gaskets can cover all applications
- Non-asbestos fiber gasket, thickness 2 mm
- NBR O-ring, dia. 4 mm
- Flat PTFE gasket, thickness 2 mm

Inner stamped ring:
- The outside diameter less than or equal to the threaded rings allows to replace them without footprint problem.
- Its large inner diameter does not reduce the passage for heating elements
- The clamping with 3 BTR screws at 120° ensures a good pressure distribution and an excellent mechanical strength. These screw positions increase the clearances between the screw heads and live parts of the heating elements (If respecting the most favorable angle when drilling heating elements holes)
- The M4 recessed hexagonal hole screw heads allow easy and stable entry of hex wrench when adjusting angular position
- Ring made of stainless steel for better durability
- Unalterable stamped earthing logo

Fitting clamping: 9 mm wide hex part, 54 mm on flat for easy passage of wrench
Pressure resistance: 2 MPa (Fitting undrilled and without heating elements). Minimum wall thickness 1.2 mm
Fitting material:
Aisi 304L or Aisi316L stainless steel
Options:
- Special position or diameter of holes for heaters according to customer drawing (MOQ apply)
- Customizing or customer references marking (MOQ apply)

Stainless steel raw material

Designation	Nearest equivalences	Specific gravity (g/cm3)	HRB hardness	Tensile Strength, Stress, N/mm2	Elongation, %
Aisi 304L	SUS304L (JIL) X2CrNi1811 1.4306 (DIN) Z3CN18-10 (NF) 02Cr18Ni11 (GB) S30403 (ASTM)	7.93	<92	>485	>40
Aisi 316L	SUS316L (JIL) X2CrNiMo17132 1.4404 (DIN) Z3CND17-12-02 (NF) 02Cr17Ni12Mo2 (GB) S31603 (ASTM)	7.98	<95	>485	>40

Composition

	C	Si	Mn	P	S	Ni	Cr	Mo
SUS 304L	≤ 0.03%	≤1.00%	≤2%	≤0.045%	≤0.030%	9.00-13.00%	18.00-20.00%	-
SUS 316L	≤ 0.03%	≤1.00%	≤2%	≤0.045%	≤0.030%	16.00-18.00%	12.00-15.00%	2.00-3.00%

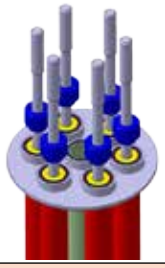
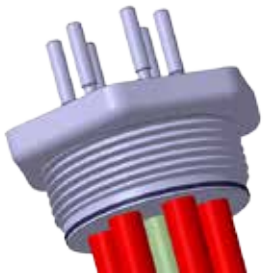
Stainless steel Rohs compliance

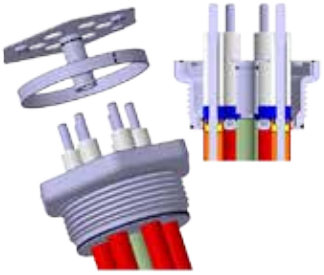
According to the Directive 2011/65/ dated June 8, 2011 (Rohs), stainless steel alloys are allowed to have a maximum of 0.1% by weight of lead, lead, mercury, hexavalent chromium, PBB (Polybrominated biphenyls), PBDE (Polybrominated Diphenyl Ethers) and 0.01% of Cadmium in weight. (Provisions of Article 4 and paragraph 1 of Annex II)

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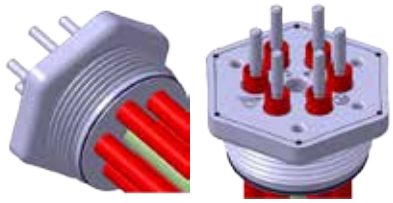
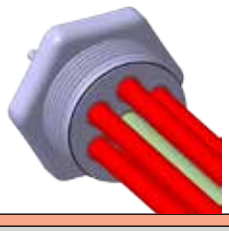
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Assembly process of stainless steel fittings on heating elements (TIG welding)

①	②	③	④
Make heating elements with extended terminals	TIG butt weld heating elements on the washer. Pocket must be welded first. (Welding lines are figured in black)	Fill with resin, and put usual ceramic insulators	Proceed to TIG weld of washer on fitting frame (Att.: for correct welding position, tentatively put hexagonal plate and ceramic spacers)
			

⑤	⑥	⑦	⑧
Assemble ceramic spacers	Assemble hexagonal plate and spacer ring on heating element outputs	TIG weld of hexagonal plate at the same level than the fitting frame edge	Fit terminals with nuts and washers and screw the grounding terminal
			

Assembly process of stainless steel fittings on heating elements (Brazed)

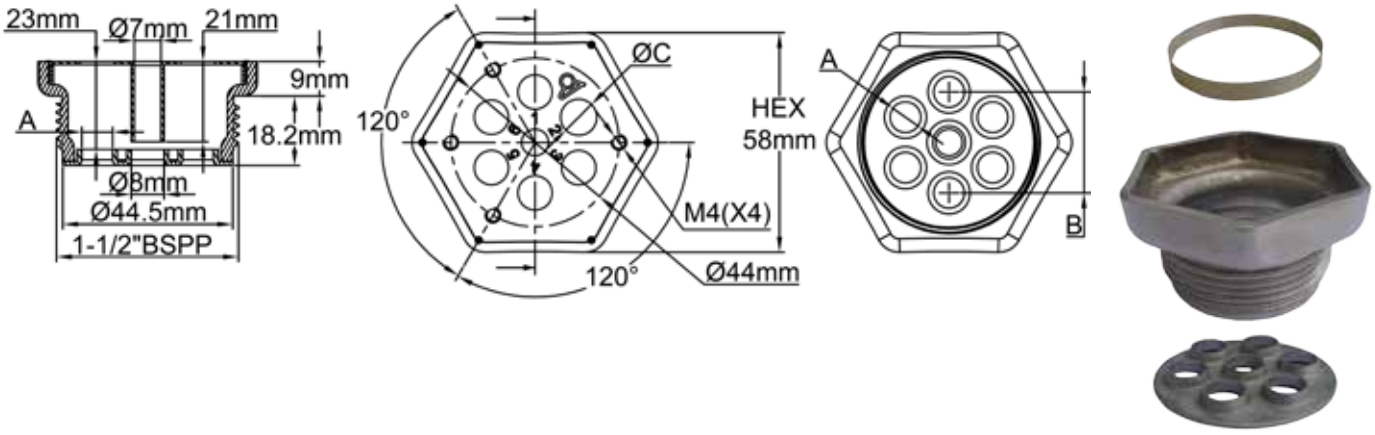
①	②	③
Make heating elements as usual	Insert heating element tubes in the bottom plate holes, until they protrudes from hexagonal plate of the insulation distance requested by standards	Proceed to brazing of heating elements on the bottom (Brazing lines shown in brown)
		

④	⑤	⑥
Fill with resin or elastomere and put usual ceramic insulators	Clean the brazing areas	Fit terminals with nuts and washers and screw the grounding terminal
		

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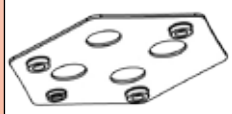
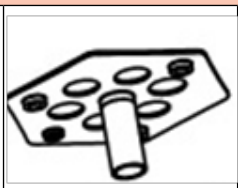
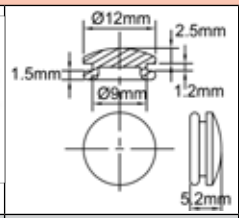
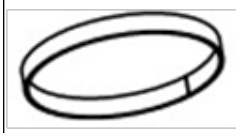
Main stainless steel fittings

1”1/2 for TIG welding

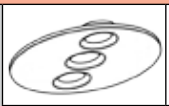
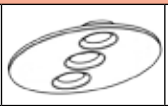
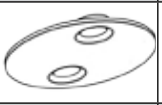
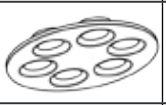
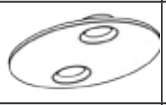
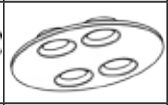
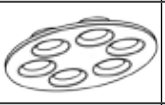
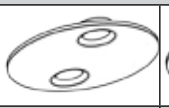


Heating element holes qty and dia. (A) mm	2 x 6.5	4 x 6.5	6 x 6.5	2 x 8	4 x 8	6 x 8	2 x 10	4 x 10
Hole distances (B) mm	26.5	26.5	26.5	26.5	26.5	26.5	25	25
Hexagonal top plate holes dia (C) mm	9	9	9	9	9	9	11	11

References of 1”1/2 fitting unassembled stainless steel parts NOT including ceramic spacers and not the earthing terminal*

 304L	 304L		 304L	 304L	 316L
Hexagonal top plate for 2x dia.10 or 4x dia.10 fittings (always has 4 holes dia 11mm)	Hexagonal top plate for 2x, 4x, 6x dia 6.5 and 8mm fittings (always has 6 holes dia 9mm+ pocket extension)	Silicone grommet to close unused hole(s) on hexagonal top plate	Extension ring	Fitting frame	Fitting frame
9BBAE1000ELH011A	9BBSI10AEELH011A	9BBJO1000ELH208A	9BBAE1000ELH012A	9BBRA1000ELH130A	9BBRA1000ELH221A

Bottom plate

With pocket hole								
	2x6.5	4x6.5	6x6.5	2x8	4x8	6x8		
304L	9BBVR1000ELH411A	9BBVR1000ELH412A	9BBVR1000ELH413A	9BBVR1000ELH414A	9BBVR1000ELH415A	9BBVR1000ELH416A		
316L	9BBVR1000ELH611A	9BBVR1000ELH612A	9BBVR1000ELH613A	9BBVR1000ELH614A	9BBVR1000ELH615A	9BBVR1000ELH616A		
Without pocket hole								
	2x6.5	4x6.5	6x6.5	2x8	4x8	6x8	2x10	4x10
304L	9BBVR1000ELH421A	9BBVR1000ELH422A	9BBVR1000ELH423A	9BBVR1000ELH424A	9BBVR1000ELH425A	9BBVR1000ELH426A	9BBVR1000ELH427A	9BBVR1000ELH428A
316L	9BBVR1000ELH621A	9BBVR1000ELH622A	9BBVR1000ELH623A	9BBVR1000ELH624A	9BBVR1000ELH625A	9BBVR1000ELH626A	9BBVR1000ELH627A	9BBVR1000ELH628A

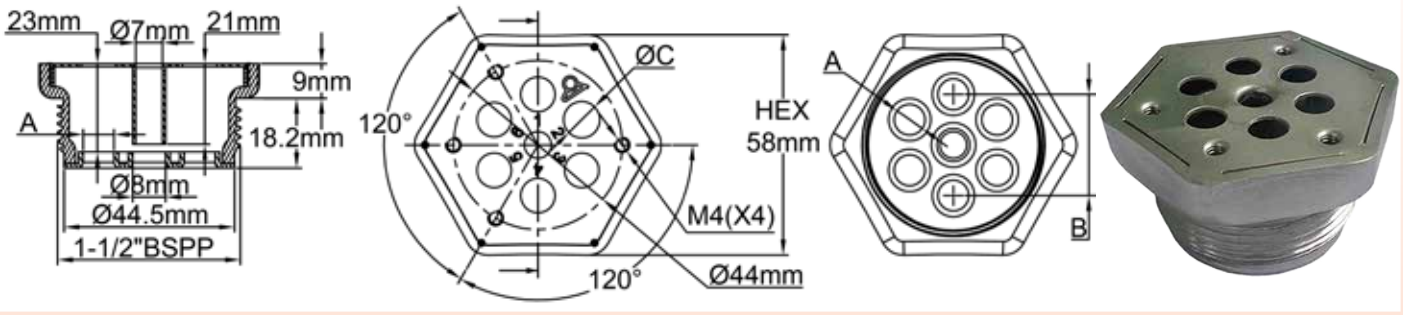
In red: usually stored references

* Ceramic spacers and earthing terminals: see accessories

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1”1/2 Stainless steel set for brazing



References of welded stainless steel parts set, NOT including earthing terminal*

Heating element holes Dia. (A) mm	Hole distances (B) mm	Hexagonal plate holes Dia. (C) mm	Sans trou de doigt de gant				Avec trou de doigt de gant pour tube dia. 8mm			
			304L		316L		304L		316L	
			1”1/2	M45x2	1”1/2	M45x2	1”1/2	M45x2	1”1/2	M45x2
2 x 6.5	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
4 x 6.5	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
6 x 6.5	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
2 x 8	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
4 x 8	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
6 x 8	26.5	9	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A	9BBRASI10EL-HD51A	9BBRASI10EL-HD61A	9BBRASI10EL-HD71A	9BBRASI10EL-HD81A
2 x 10	25	11	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A				
4 x 10	25	11	9BBRASI10EL-HD11A	9BBRASI10EL-HD21A	9BBRASI10EL-HD31A	9BBRASI10EL-HD41A				

In red: standard references usually stored.
* grounding terminals: see accessories

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Accessories

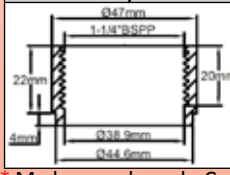
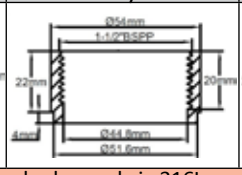
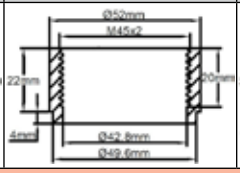
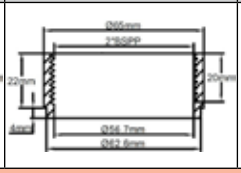
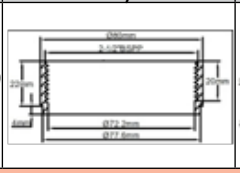
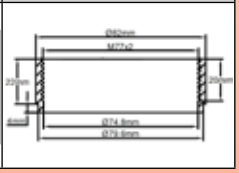
Fitting nuts

304 Stainless steel nut			316 Stainless steel nut*			Brass nut thickness 8mm		
								
Size	**On flat**	**Reference**	**Size**	**On flat**	**Reference**	**Size**	**On flat**	**Reference**
1"1/4	50	9BBRA3000ELH032A	1"1/4	50	9BBRA3000ELH202A	1"1/4	50	9BBRA3000ELH302A
1"1/2	52	9BBRA3000ELH006A	1"1/2	52	9BBRA3000ELH203A	1"1/2	52	9BBRA3000ELH303A
M45x2	52	9BBRA3000ELH049A	M45x2	52	9BBRA3000ELH205A	M45x2	52	9BBRA3000ELH305A
2"	65	9BBRA3000ELH048A	2"	65	9BBRA3000ELH204A	2"	65	9BBRA3000ELH304A
2"1/2	85	9BBRA3000ELH142A	2"1/2	85	9BBRA3000ELH214A	2"1/2	85	9BBRA3000ELH314A
M77x2	85	9BBRA3000ELH050A	M77x2	85	9BBRA3000ELH206A	M77x2	85	9BBRA3000ELH306A

* 316 made on order only

304L* fitting for tank. Can be brazed or welded



1"1/4	1"1/2	M45x2	2"	2"1/2	M77x2
					

* Made on order only. Can also be made in 316L

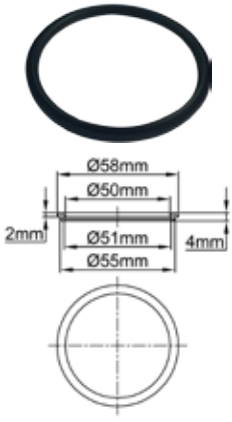
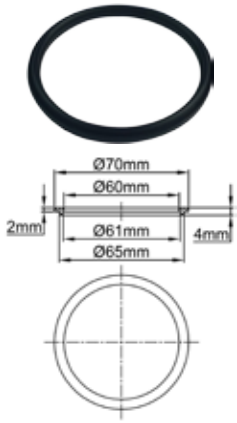
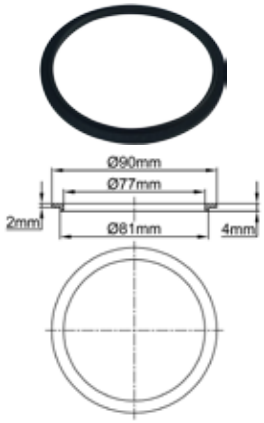
Fitting gaskets

Fiber gasket (Without abestos) 2 mm thickness			O-ring NBR gasket dia 4 mm, 70 shore A			PTFE gasket 2 mm thickness		
								
Size	**Dia. (OD, ID)**	**Reference**	**Size**	**Dia. (OD, ID)**	**Reference**	**Size**	**Dia. (OD, ID)**	**Reference**
1"1/4	40x62	9BRJ03000ELH052A	1"1/4	40x62	9BRJ03000ELH206A	1"1/4	40x48	9BRJ03000ELH032A
1"1/2-M45x2	44x62	9BRJ03000ELH007A	1"1/2-M45x2	44x62	9BRJ03000ELH205A	1"1/2-M45x2	44x52	9BRJ03000ELH033A
2"	58x76	9BRJ03000ELH028A	2"	58x76	9BRJ03000ELH203A	2"	58x66	9BRJ03000ELH034A
2"1/2-M77x2	74x95	9BRJ03000ELH030A	2"1/2-M77x2	74x95	9BRJ03000ELH201A	2"1/2-M77x2	74x82	9BRJ03000ELH036A

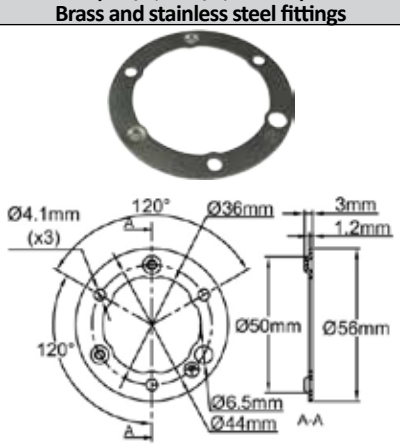
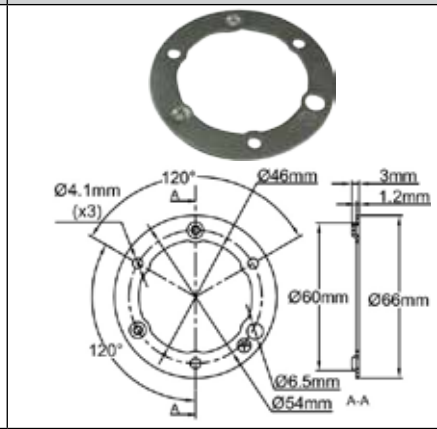
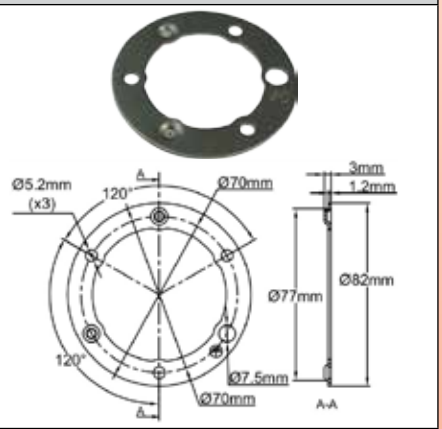
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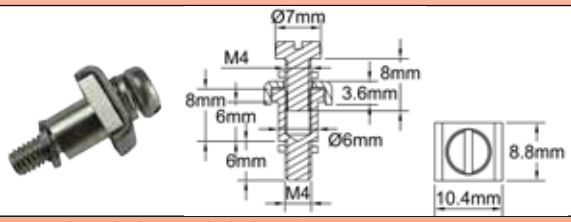
Fitting to enclosure gaskets (Silicone, 60 Shore A)

For dia. 50mm drill (1"1/4, 1"½, M45x2)	For dia. 60mm drill (2")	For dia. 77mm drill (2"1/2 and M77x2)	For dia. 50mm drill and 1"1/2 or M45 stainless steel fitting
			
Reference 9BRJO1000ELH204A	**Reference** 9BRJO1000ELH202A	**Reference** 9BRJO1000ELH200A	**Reference** 9BRJO1000ELH207A

Rotation rings

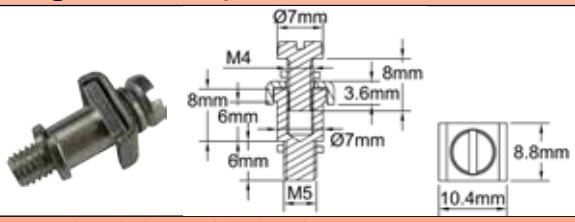
For dia. 50mm drill (1"1/4, 1"1/2, M45x2) Brass and stainless steel fittings	For dia. 60mm drill (2")	For dia. 77mm drill (2"1/2 and M77x2)
		
Reference 9BBVR1000ELH005A	**Reference** 9BBVR1000ELH006A	**Reference** 9BBVR1000ELH007A

Ground terminals (earthing terminals)



M4 terminal, including nickel plated screw, one M4 screw one saddle and 2 x dented washers in stainless steel. For use with 1"1/2 and M45 stainless steel fittings and 1"1/4, 1"1/2, M45, 2" brass fittings

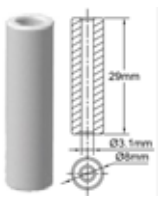
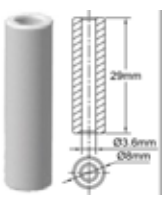
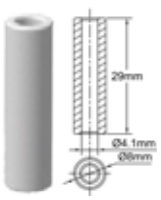
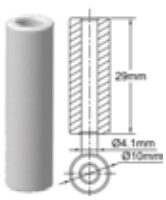
Reference 9BBSI10COELH010A



M5 terminal, including nickel plated screw one M4 screw one saddle and 2 x dented washers in stainless steel. For use with 1"1/2 and M45 stainless steel fittings and 1"1/4, 1"1/2, M45, 2" brass fittings

Reference 9BBSI10COELH011A

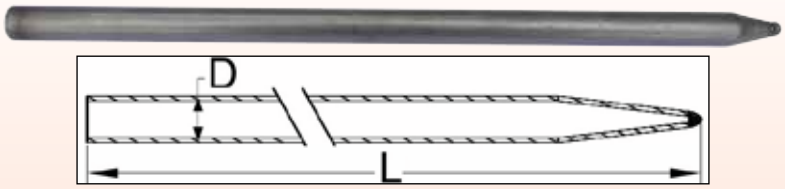
Ceramic spacers

For M3 terminal and dia. 6.5 or 8 mm heating element	For M3.5 terminal and dia. 6.5 or 8 mm heating element	For M4 terminal and dia. 6.5 or 8 mm heating element	For M4 terminal and dia. 10 mm heating element
			
Reference 9BRST3000ELH023A	**Reference** 9BRST3000ELH024A	**Reference** 9BRST3000ELH025A	**Reference** 9BRST3000ELH026A

Internal diameter must be selected to fit the heating element terminal output diameter

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One end closed SUS 304L or 316L pocket tubes



Tip: TIG welded conical shrinking, leak test made at 100%
Diameter: 8 x 7 mm, compatible with stainless steel fittings
Special length or other diameter: On request (MOQ apply)
Option: can be factory welded on bottom plates of stainless steel fittings. References on request.

Raw material	Full length (L)						
	Dia. (D) mm	100 mm	200 mm	300 mm	400 mm	500 mm	600 mm
304L	8x7	66DI000805010000	66DI000805020000	66DI000805030000	66DI000805040000	66DI000805050000	66DI000805060000
316L	8x7	66DG000805010000	66DG000805020000	66DG000805030000	66DG000805040000	66DG000805050000	66DG000805060000

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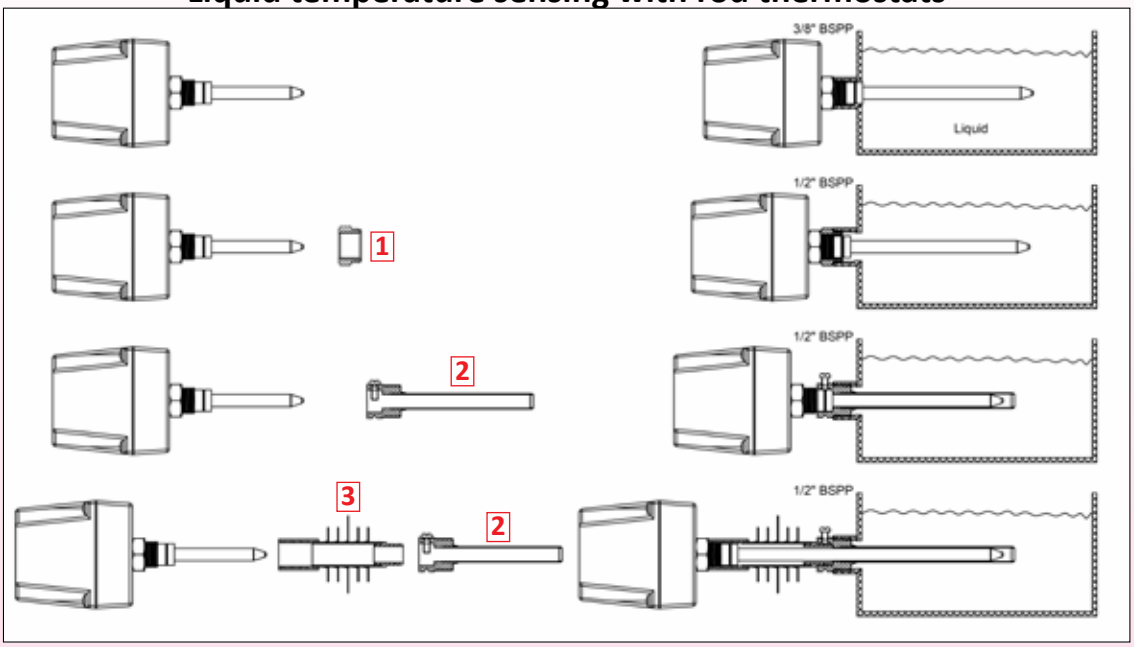
Pockets, flanges, brackets and other accessories

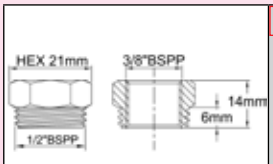
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Liquid temperature sensing with rod thermostats



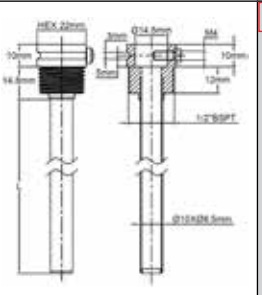


1



3/8 x1/2", 304 stainless steel fitting (fits the 3/8" thread located under the housing)

Reference	66RI1238

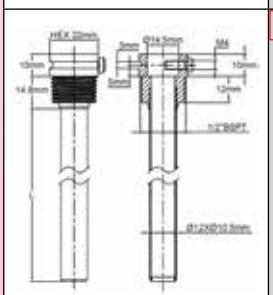


2



G1/2 (BSPT) Nickel plated brass pocket dia. 8.5x10mm, for rods dia. 8mm

L	References
90mm	66DK12S090710
100mm	66DK12S100710
190mm	66DK12S190710
230mm	66DK12S230710
290mm	66DK12S290710
440mm	66DK12S440710

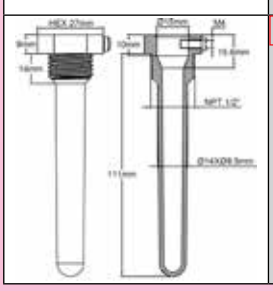


2



G1/2 (BSPT) Nickel plated brass pocket dia 10.5x12mm, for rods dia. 10mm

L	References
90mm	66DK12S900712
110mm	66DK12S100712
200mm	66DK12S190712
230mm	66DK12S230712
300mm	66DK12S290712
450mm	66DK12S440712

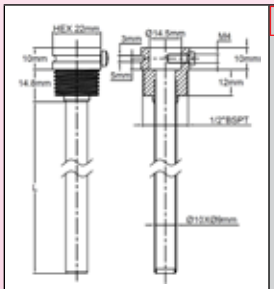


2



½ NPT plastic pocket dia. 8.5x14 mm for rods and bulbs dia 8 mm (Swimming pool and corrosive water applications)

Reference	66DR12510021C000

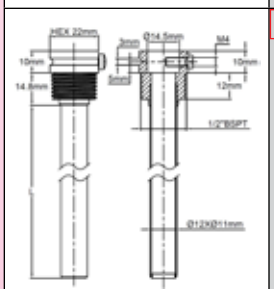


2



G1/2 (BSPT) Aisi 304 Stainless steel pocket dia. 9x10 mm, for rods dia 8mm

L (mm)	References
90mm	66DI12S090S10
100mm	66DI12S100S10
190mm	66DI12S190S10
230mm	66DI12S230S10
290mm	66DI12S290S10
440mm	66DI12S440710

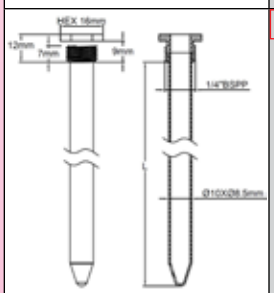


2



G1/2 (BSPT) Aisi 304 Stainless steel pocket dia. 11x12 mm, for rods dia. 10mm

L	References
90mm	66DI12S090S12
100mm	66DI12S100S12
190mm	66DI12S190S12
230mm	66DI12S230S12
290mm	66DI12S290S12
440mm	66DI12S440712

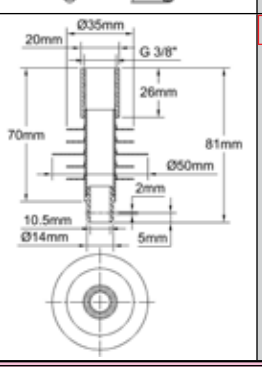


2



G1/4 (BSPP) Nickel plated brass pocket dia. 8.5x10 mm, for rods dia. 8mm

L	References
100mm	66DL14P10010075N
190mm	66DL14P19010075N
290mm	66DL14P29010075N
440mm	66DL14P44010075N



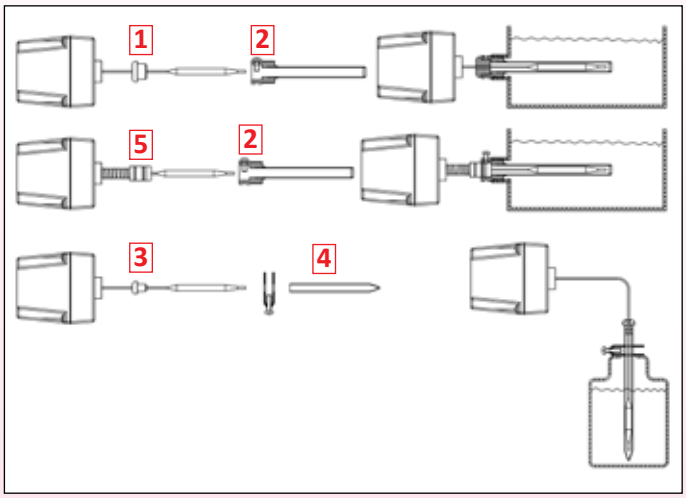
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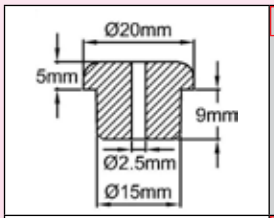


Rod cooler with 14.5mm termination.. Used on high temperature rod thermostats.
Fits the 3/8 thread located under the housing and the dia. 14.5 hole of pockets or flanges
Not usable on Y0 types

Reference	66RF07015

Liquid temperature sensing with bulb and capillary thermostats



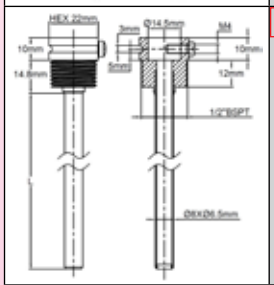


1



Silicone grommet dia. 15 mm for pockets with 14.5 mm hole

Reference	9BBJO100004008A

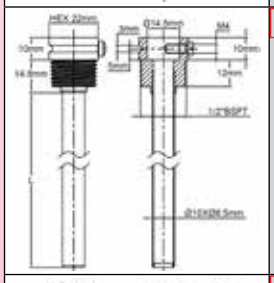


2



G1/2 (BSPT) Nickel plated brass pocket dia. 6.5x8 mm, for bulbs dia. 5 and 6 mm

L	References
100mm	66DK12S100708
190mm	66DK12S190708
290mm	66DK12S290708
440mm	66DK12S440708

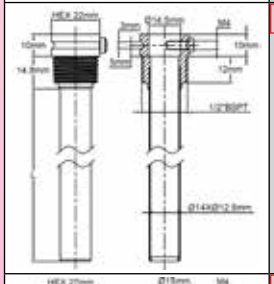


2



G1/2 (BSPT) Nickel plated brass pocket dia. 8.5x10 mm, for bulbs dia. 8mm

L	References
100mm	66DK12S100710
190mm	66DK12S190710
290mm	66DK12S290710
440mm	66DK12S440710

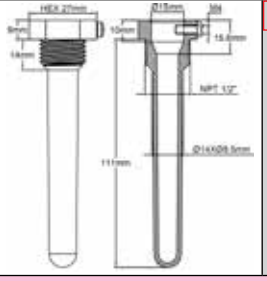


2



G1/2 (BSPT) Nickel plated brass pocket dia. 12.5x14 mm, for 2 bulbs dia. 6mm side by side

L	References
100mm	66DK12S100714
190mm	66DK12S190714
290mm	66DK12S290714
440mm	66DK12S440714

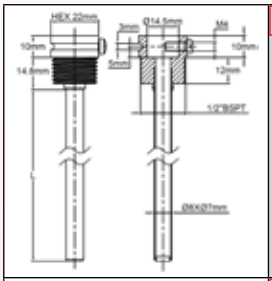


2



½ NPT plastic pocket dia. 8.5x 11 mm, for bulbs dia. 8mm

Reference	66DR12510021C000

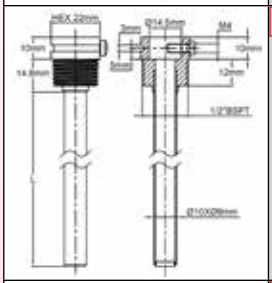


2



G1/2 (BSPT) Stainless steel pocket dia. 7x8 mm, for bulbs dia. 5 and 6mm

L	References
100mm	66DI12S100S08
190mm	66DI12S190S08
290mm	66DI12S290S08
440mm	66DI12S440708

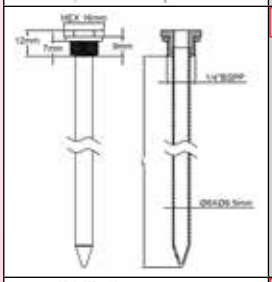


2



G1/2 (BSPT) Stainless steel pocket dia. 9x10 mm, for bulbs dia. 8mm

L	References
100mm	66DI12S100S10
190mm	66DI12S190S10
290mm	66DI12S290S10
440mm	66DI12S440710

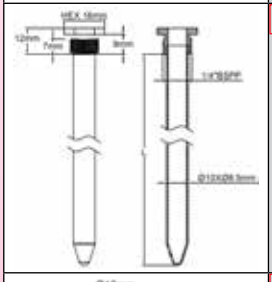


2



G1/4 (BSPP) Nickel plated brass pocket dia. 6.5x8 mm, for bulbs dia. 6mm

L	References
100mm	66DL14P10010065N
190mm	66DL14P19010065N
290mm	66DL14P29010065N
440mm	66DL14P44010065N

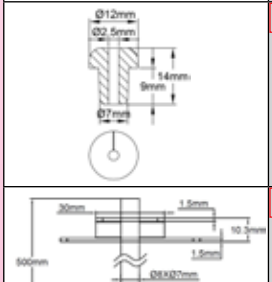


2



G1/4 (BSPP) Nickel plated brass pocket dia. 8,5x10 mm, for bulbs dia. 8mm

L	References
100mm	66DL14P10010075N
190mm	66DL14P19010075N
290mm	66DL14P29010075N
440mm	66DL14P44010075N

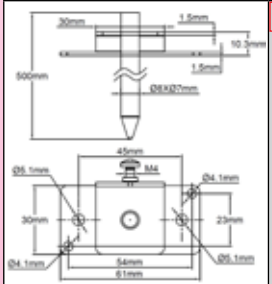


4



Silicone grommet dia. 7.5 mm for tubes dia. 7x8 mm

Reference	9BBJO100004 52A

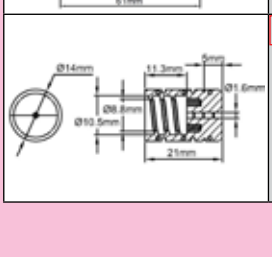


4



Aisi 304 , adjustable length mobile pocket for tanks , buckets, containers, pipe dia 7x8 mm, for bulbs dia. 6mm

Reference	66DI08500FL



5



Dia. 10 mm flexible corrugated tube output, plastic

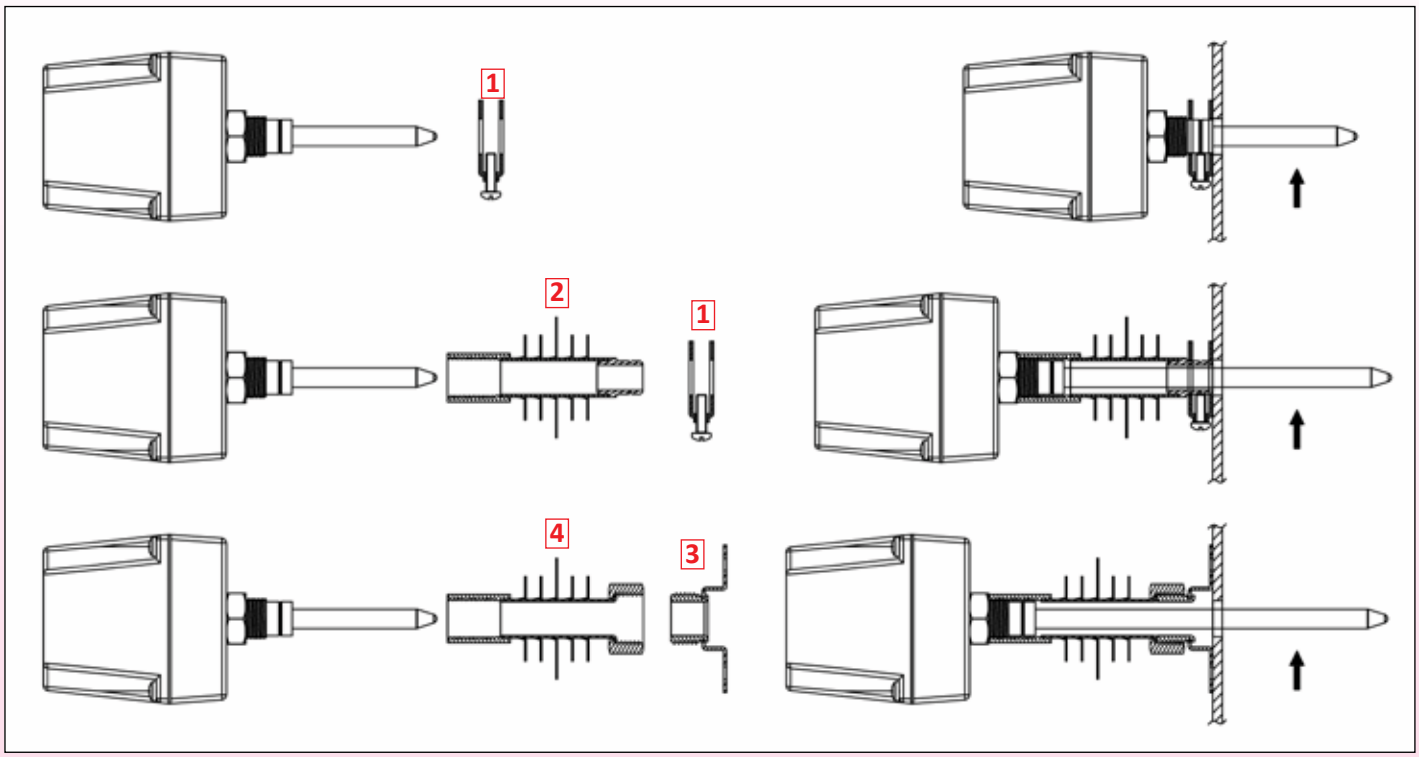
Reference	9BBSI10RA100003A

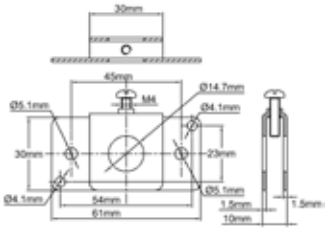
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Air duct temperature sensing with rod thermostats



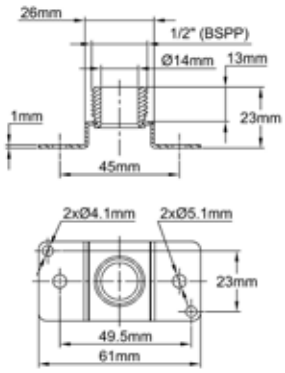


1



Stainless steel flange for dia. 14.5 mm rod output

Reference	66BF1

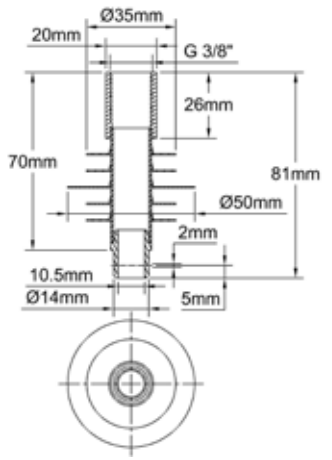


3



G1/2 Rod cooler bracket (for air ducts mounting)
Not usable on Y0 types

Reference	66RF0231M12

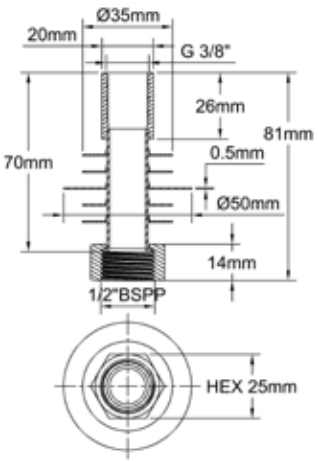


2



Rod cooler with 14.5mm termination..
Used on high temperature rod thermo-stats.
Fits the 3/8 thread located under the housing and the dia. 14.5 hole of pockets or flanges
Not usable on Y0 types

Reference	66RF07015



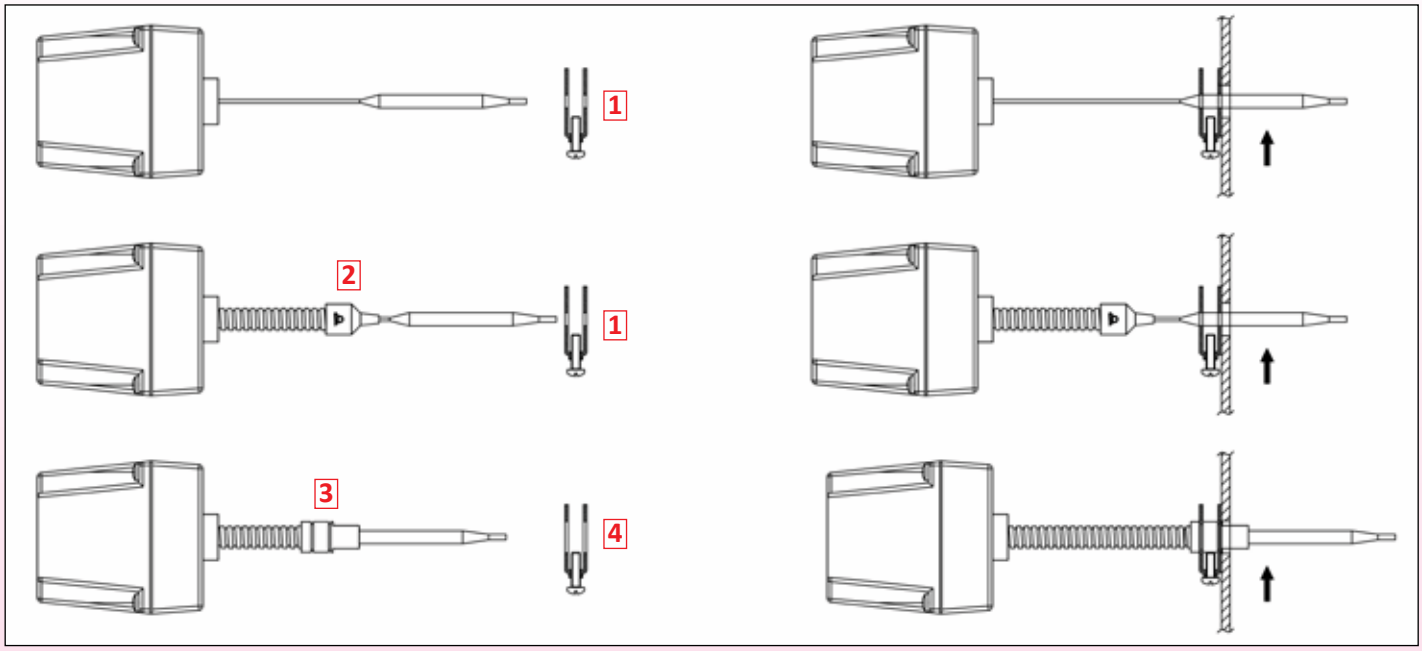
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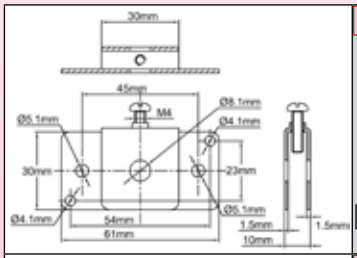


Rod cooler G1/2
Used on high temperature rod thermo-stats. Fits the 3/8 thread located under the housing and the ½ male thread of rod cooler bracket
Not usable on Y0 types

Reference	66RF0701F12

Air duct temperature sensing with bulb and capillary thermostats



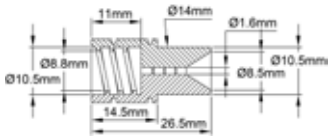


1



Stainless steel flange for dia 8 mm bulbs

Reference	66BF4

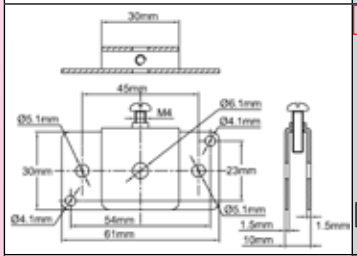


3



Dia. 10 mm flexible corrugated tube output, through wall air duct mounting (plastic)

Reference	9BBSI10RA100005A

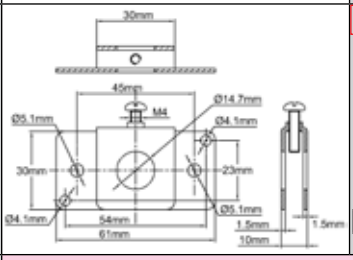


1



Stainless steel flange for dia 6 mm bulbs

Reference	66BF3

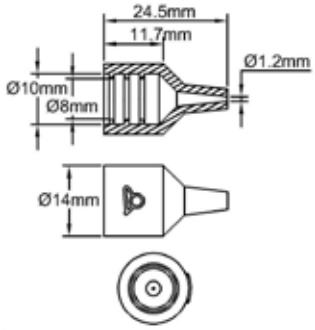


4



Stainless steel flange for dia 14.5 mm capillary protection output

Reference	66BF1



2



Dia. 10 mm flexible corrugated tube Silicone output, 1 capillary

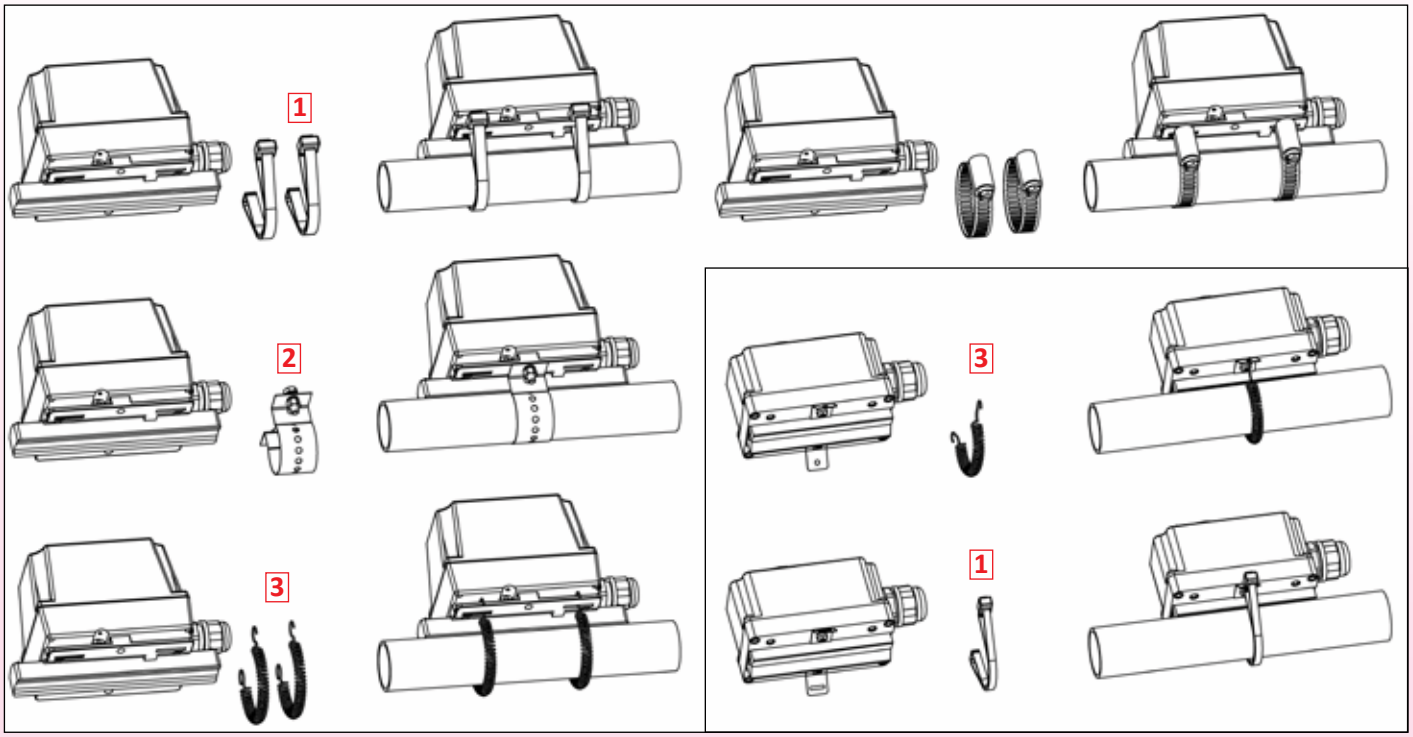
Reference	9BBJO1000000154A

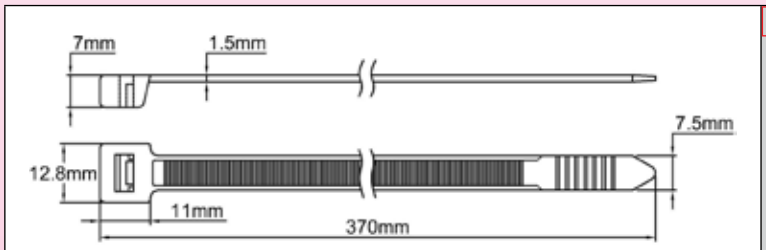
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Pipe temperature measurement



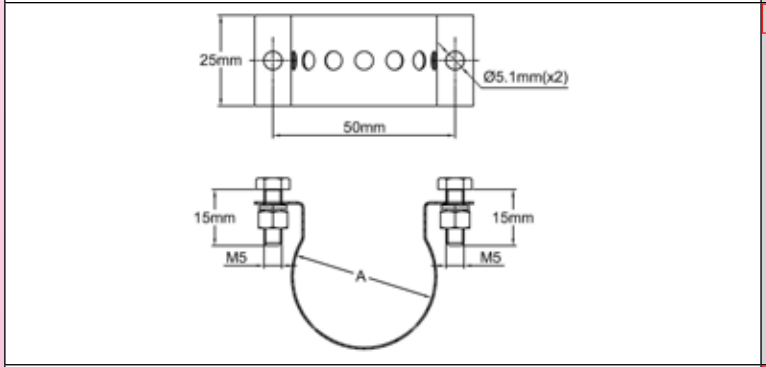


1



PA66 Cable tie for pipe mounting thermostats (for Y1 types). Max 80°C

Reference	66TY002

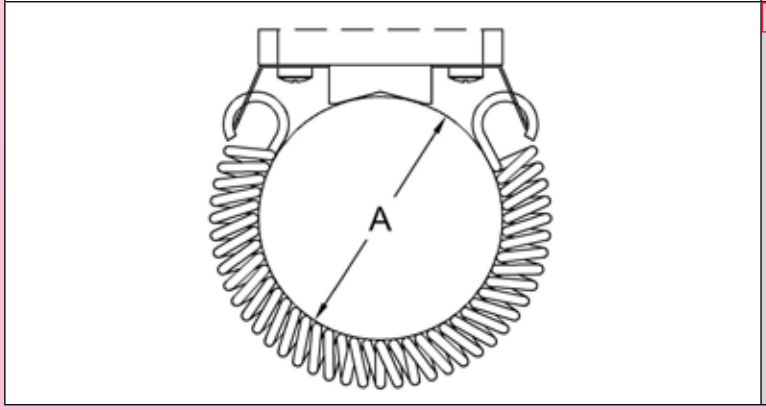


2



Stainless steel band for pipe mounting thermostats (for Y1 types)

Reference	66TY001



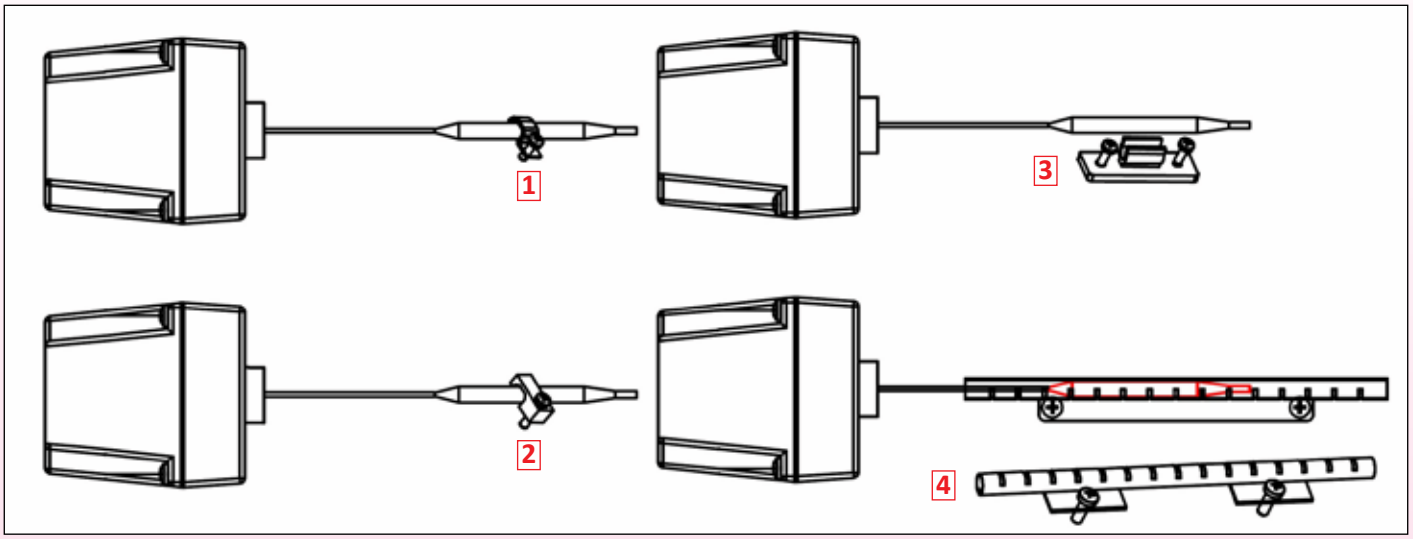
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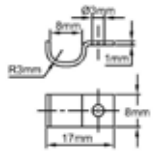


Spring for pipe mounting thermostat (for Y1 and Y2 types)

Reference	66TY003

Bulb and Capillary surface mounting accessories



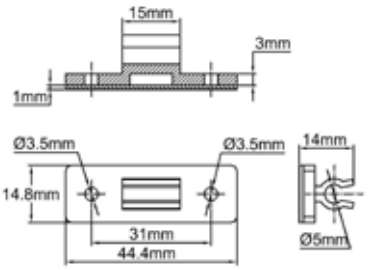


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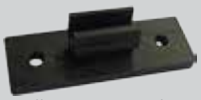


Bulb mounting clips
Stamped steel, for bulbs dia. 5 and 6mm

Reference	66PA045000020

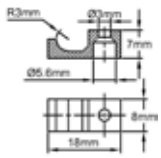


3



Bulb mounting clips
PA66 Plastic, 2 screw mounting or adhesive, for bulbs dia. 5 and 6mm, maximum temperature 80°C

Reference	9BBFPM134211900

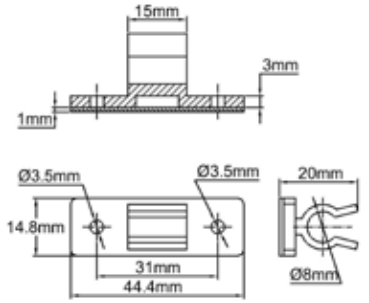


2



Bulb mounting clips
Reinforced PC-ABS, screw mounting, for bulbs dia. 5 and 6mm, maximum temperature 90°C

Reference	9BBAE10000AFS07A

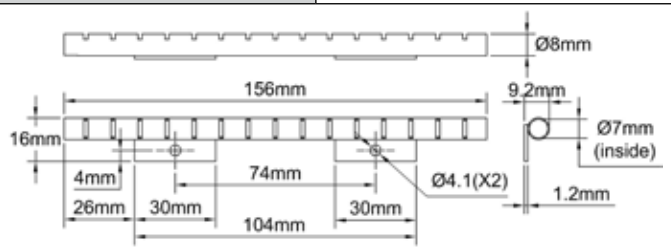


3



Bulb mounting clips,PA66 Plastic, 2 screw mounting or adhesive, for bulbs dia.8mm., maximum temperature 80°C

Reference	9BBFPME124211900



4



Bulb protective mounting bracket, stainless steel, 2 screw mounting ,for bulbs dia. 5 and 6mm

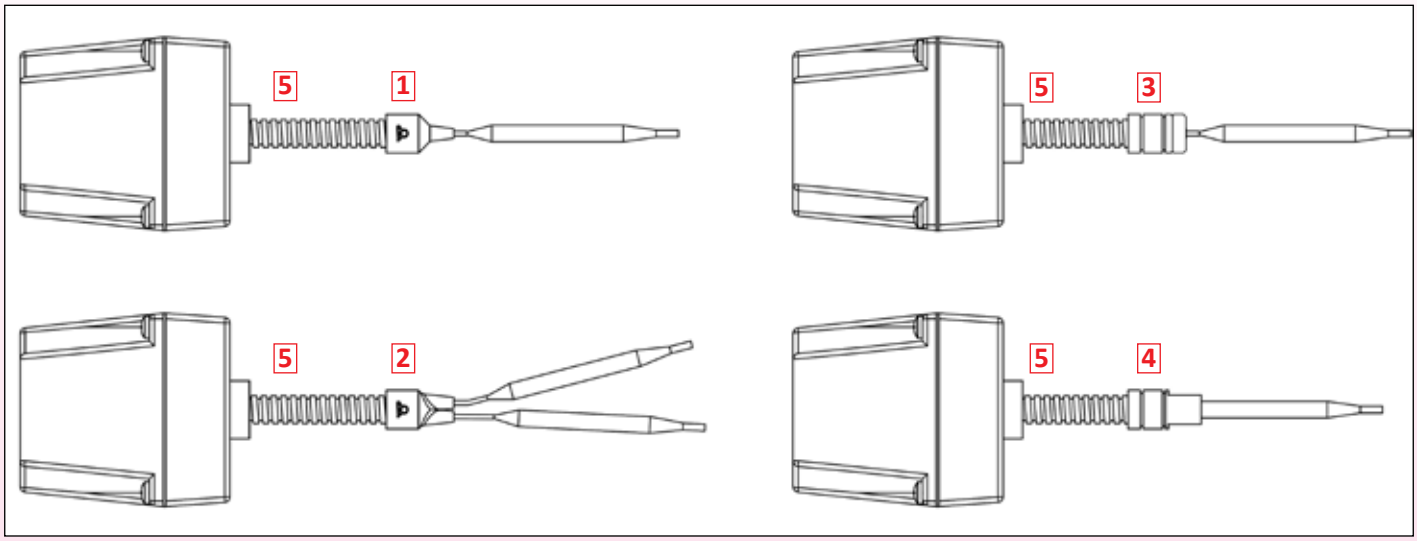
Reference	66DU

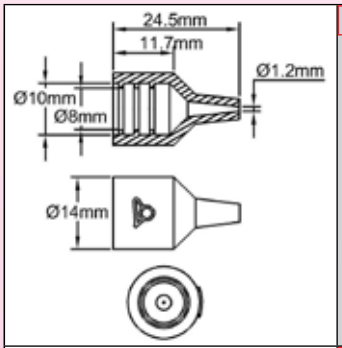
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Capillary protection for bulb and capillary thermostats and temperature sensor cables



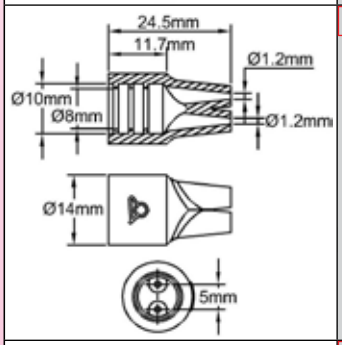


1



Manchon en silicone d'extrémité de gaine annelée dia 10 mm, sortie pour un capillaire

Reference	9BBJO1000000154A

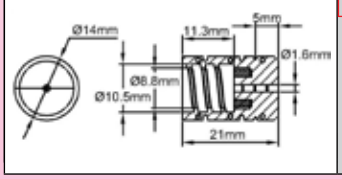


2



Manchon en silicone d'extrémité de gaine annelée dia 10 mm, sortie pour deux capillaires

Reference	9BBJO1000000177A

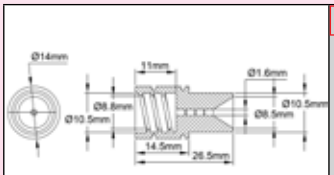


3



Embout clipsable en PA66 pour gaine annelée dia 10 mm, sortie un capillaire

Reference	9BBSI10RA100003A



4



Dia. 10 mm flexible corrugated tube output, through wall air duct mounting plastic

Reference	9BBSI10RA100005A

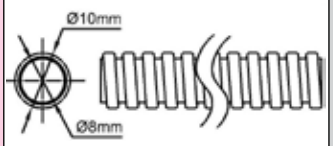


5



Dia. 10 mm corrugated flexible tube, stainless steel

Reference	6YGSS10200 (20m reel)



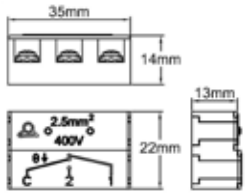
5



Dia. 10 mm corrugated flexible tube,PA6, black, max temperature 125°C

Reference	6YGPU10200 (20m reel)

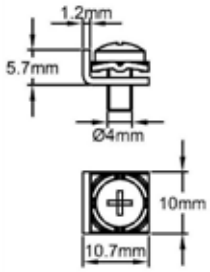
Electrical accessories





2,5mm², 400V, 3 way connection block (fits Y0, Y1, Y2)

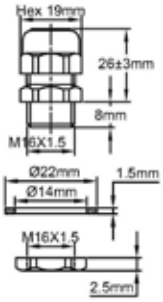
Reference	BE3E3





M4 ground terminal with M4 saddle.
Fits Y1 and Y2 series.

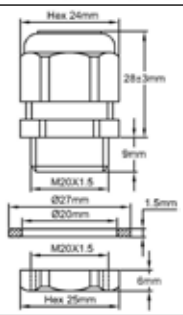
Reference	6YEBMG004





M16 Cable gland, IP68, Black PA66, cables dia 5 to 10 mm (with nut and gasket). Maximum temperature 85°C.
Fits Y0 and Y1 series

Reference	6YTPEM16C05140



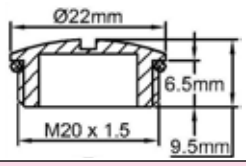


M20 cable gland, IP68, Black PA66, cables dia. 8 to 12mm
(with nut and gasket)
Maximum temperature 85°C.
Fits Y2 type

Reference	6YTPEM20C0812

Spare parts

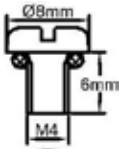




Nickel plated brass M20 screw cap with gasket, fits Y1 with external access under screwed cap

Reference	6YTPEM20PB





Stainless steel M4 screw cap with gasket, fits Y1 with external manual reset access

Reference	6YTPEM04SS

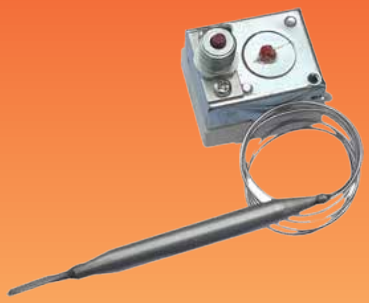
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Many other temperature control componentsmade by Ultimheat are used in appliances, commercial and industrial applications



Single pole and 3 poles bulb and capillary thermostats (Catalogue N°1)



Single pole, double pole and 3 polesFail safe manual reset thermostats(Catalogue N°1)



Surface temperature control bimetal thermostats (Catalogue N°1)



3 poles manual reset disc thermostats(Catalogue N°1)



Energyregulators (Catalogue N°1)



Industrial temperature control boxes, with thermostats or electronic controllers (Catalogue N°3)



Simple to use Din Rail electronic temperature controllers (Catalogue N°3)



Electronic temperature controllers, On-Off or PID (Catalogue N°3)



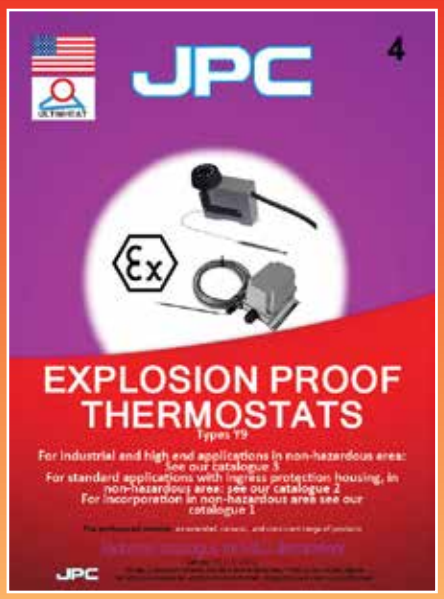
Explosion proof thermostats and “e” increased safety connection boxes (Catalogue N°4)

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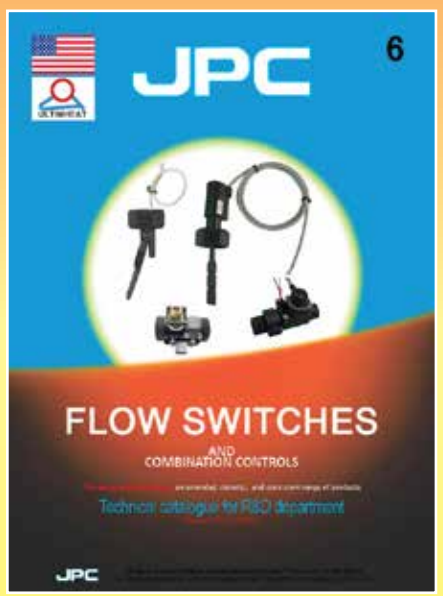
Other catalogues

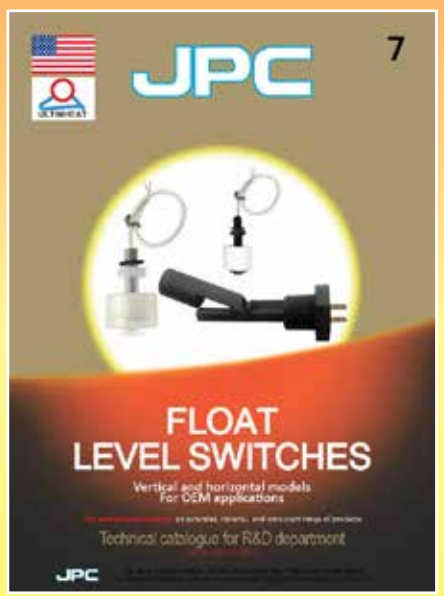






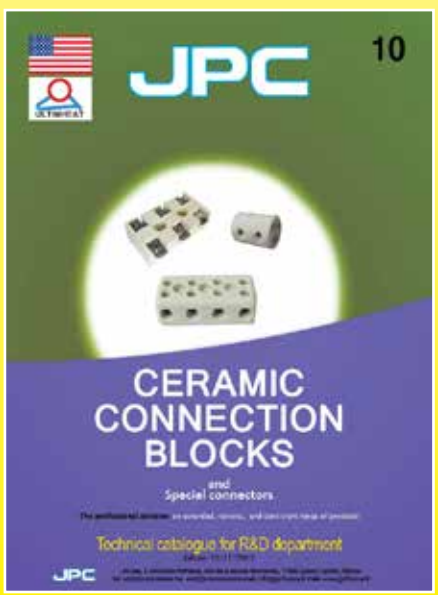












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