



ULTIMHEAT

HEAT & CONTROLS



(Atex, IECex, CCCex)


EXPLOSION PROOF THERMOSTATS & CONNECTION BOXES

- Thermostats without Explosion proof certification: See catalogues No.1
- Thermostats incorporated inside various boxes, housing & cabinets: See catalogue No. 2 & 3

Contact us







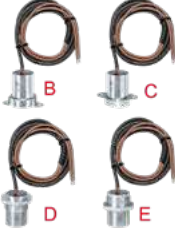






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Fixed temperature limiters for incorporation, **wires or cables** electrical connection

P1-P14

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| Section 4 |  | UZ |  II 2G Ex mb IIC T4 Gb  II 2D Ex tb IIIC T125°C Db | TYPE UZ. Miniature surface mounting disc limiter, cable output, rating 9A 240V max, calibration temperature from 50 °C to 100°C (Current sensitive) | P3-P4 |
| |  | UX |  II 2G Ex mb IIC T3 Gb  II 2D Ex tb IIIC T180°C Db | TYPE UX. Miniature surface mounting disc limiter, cable output, rating 9A 240V max, calibration temperature from 50 °C to 150°C (Current sensitive) | P5-P6 |
| |  | 4YC | Ex « n » (partial) | TYPE 4YC. Limiter designed to comply ONLY with IEC60079-0: 2011 (Explosive atmospheres, general requirements), § 26.5.1.2 and IEC 60079-15 : 2010 (Explosive atmospheres, Equipment protection by type of protection "n") § 19 ; 22.5.1 ; 22.5.2 ; 22.5.3.1 ; 22.5.3.2 and 22.5.3.3. Maximum rating 9A 240V. Waterproof. (TÜV certificate GC/70269203) Calibration temperature 5 to 90°C | P7 |
| |  | 4VA |  II 2G Ex mb IIC T4 Gb  II 2D Ex tb IIIC T125°C Db | TYPE 4VA. Disc limiters, cable output. Rating 12A 240V. Temperature calibration from 5 to 100°C. Various body design available (A, B, C, D, E, F), for ambient control, surface control or liquids control. It is possible to design new bodies without request to apply for new approvals | P8-P9 |
| |  | 4VB |  II 2G Ex mb IIC T4 Gb  II 2D Ex tb IIIC T125°C Db | TYPE 4VB, Disc limiters wires output. Rating 12A 240V. Temperature calibration from 5 to 100°C. Various body design available (A, B, C, D, E, F), for ambient control, surface control or liquids control. It is possible to design new bodies without request to apply for new approvals | P8-P9 |



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| Section 4 | | 4XA | II 2G Ex mb IIC T3 Gb II 2D Ex tb IIIC T180°C Db | TYPE 4XA. Disc limiters cable output. Rating 12A 240V. Temperature calibration from 5 to 150°C. Various body design available (A, B, C, D, E, F), for ambient control, surface control or liquids control. It is possible to design new bodies without request to apply for new approvals | P10-P11 |
| | | 4XB | II 2G Ex mb IIC T3 Gb II 2D Ex tb IIIC T180°C Db | TYPE 4XB, Disc limiters wires output. Rating 12A 240V. Temperature calibration from 5 to 150°C. Various body design available (A, B, C, D, E, F), for ambient control, surface control or liquids control. It is possible to design new bodies without request to apply for new approvals | |
| | | Y94 | II 2G Ex eb mb IIC T6 Gb II 2D Ex tb IIIC T180°C Db | TYPE Y94. Disc limiter inside enclosure with screw terminals connection box. Electrical rating 12A 240V. Calibration from 5 to 80°C. Connection block for 0.5 to 4mm² wires, 3 to 9 terminals. 1 or 2 M20 cable glands. | P12-P13 |




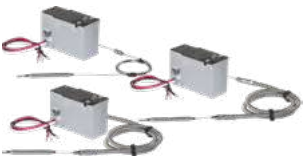











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Thermostats and limiters with bulb and capillary sensing element, wires or cable electrical connection

P1-P18




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| Section 5 | | KAA-3 KAB-3 KAC-3 | II 2G Ex db IIC T5 Gb II 2D Ex tb IIIC T95°C Db | Temperature control, front or rear mounting, cable connection | P3-P4 |
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




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| Section 5 |  | KAA-6 KAB-6 KAC-6 |  II 2G Ex db IIC T5 Gb  II 2D Ex tb IIIC T95°C Db | Temperature control, front mounting, cable connection | P9-P10 |
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Thermostats and limiters, connection inside EX « e » aluminum housing with incorporated junction block

P1-P8










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| Section 6 |  | Y97KA |  II 2G Ex eb db IIC T6 Gb  II 2D Ex tb IIIC T80°C Db | TYPE Y97KA. Room thermostats. Electrical rating 15A 250V; 10A 400V. Temperature setting by printed knob. Temperature range 4-40°C. Also available with screw driver adjustment or fixed setting. Screw terminal for 0.5 to 4mm² wires. Two M20 cable glands | P3-P4 |
|-----------|---|-------|---|---|-------|



| | | | | | |
|--|---|-------|--|--|-------|
| |  | Y98KA | <p> II 2G Ex eb db IIC T6 Gb</p> <p> II 2D Ex tb IIIC T80°C Db</p> | <p>TYPE Y98KA. Thermostats with remote bulb. Electrical rating 15A 125-250V; 10A 400V. Temperature setting by printed knob. Temperature ranges 4-40°C, 30-90°C, 30-110°C, 50-200°C, 50-300°C. Also available with screw driver adjustment or fixed setting. Screw terminal for 0.5 to 4mm² wires. Two M20 cable glands</p> | P5-P6 |
| |  | Y99KA | <p> II 2G Ex eb db IIC T6 Gb</p> <p> II 2D Ex tb IIIC T80°C Db</p> | <p>TYPE Y99KA. Rod thermostats Electrical rating 15A 125-250V; 10A 400V. Temperature setting by printed knob. Temperature ranges 4-40°C, 30-90°C, 30-110°C, 50-200°C, 50-300°C. Also available with screw driver adjustment or fixed setting. Rod length on request. Standard fittings ½" BSPT and ½" NPT. Screw terminal for 0.5 to 4mm² wires. Two M20 cable glands</p> | P7-P8 |












Connection boxes and accessories

P1-P26

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| Section 7 |  | Y9Z | <p> II 2G Ex eb IIC T4 Gb</p> <p> II 2D Ex tb IIIC T125°C Db</p> | <p>TYPE Y9Z. Aluminium junction box, without holes. IP65, 140 × 110 × 90mm. Maximum temperature 125°C. M6 ground terminals.</p> | P3 |
| |  | Y91 | <p> II 2G Ex eb IIC T4 Gb</p> <p> II 2D Ex tb IIIC T125°C Db</p> | <p>TYPE Y91. Aluminium junction box. IP65, 140x110x90mm. With 1 to 4 M20 cable glands, with or without DIN rail or connection block bracket. Maximum temperature 125°C. M6 ground terminals.</p> | P4 |
| |  | Y96 | <p> II 2G Ex eb IIC T5 Gb</p> <p> II 2D Ex tb IIIC T95°C Db</p> | <p>TYPE Y96. Aluminium junction box. IP65, 140x110x90mm. With mounting board with screw terminals connection blocks for cables 0.5 to 4mm² and two M20 cable glands. Maximum temperature 95°C. M4 ground terminals.</p> | P5 |

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| Section 7 |  | 6YTEW |  II 2G Ex eb IIC T5 Gb  II 2D Ex tb IIIC T95°C Db | TYPE 6YTEW. Heating cable termination. Can be used on standard heating cable or explosion proof heating cable. Maximum temperature 95°C . Seals are selected in factory based on dimensions of heating cable sample received. | P6-P8 | |
| |  | Y40 |  II 2G Ex eb IIC T5 Gb  II 2D Ex tb IIIC T95°C Db | TYPE Y40. Self-stripping junction box, with 2 cable glands. Can be used on standard heating cable or explosion proof heating cable. Maximum temperature 95°C . Seals are selected in factory based on dimensions of heating cable sample received. Available with flat wall mounting bracket or with plastic or stainless-steel brackets for pipe mounting | P9-P14 | |
| |  | Y41 |  II 2G Ex eb IIC T5 Gb  II 2D Ex tb IIIC T95°C Db | TYPE Y41. Self-stripping junction box, with four cable glands. Can be used on standard heating cable or explosion proof heating cable. Maximum temperature 95°C . Seals are selected in factory based on dimensions of heating cable sample received. Available with flat wall mounting bracket or with plastic or stainless-steel brackets for pipe mounting | P15-P19 | |
| |  | | 66MQ, 66MG 66MZ, 66ME 66CP, 66EN | | Knobs and dials for explosion proof thermostats | P20-P22 |
| |  | | 6YTQTW46, 6YTQTV47, 6YTQUVA5 | | Pipe mounting legs for explosionproof enclosures | P23-P26 |



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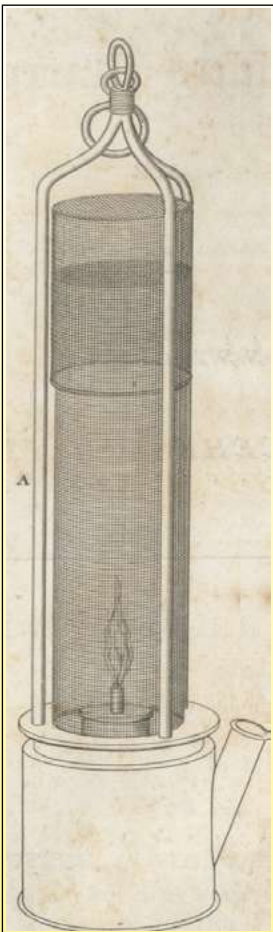
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Section 2

Historical and Technical introduction to explosion proof thermostats



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1815 the miner safety lamp, invented by Humphry Davy

The explosion of firedamp in mines caused by the flames of oil lamps, was the cause of many accidents and caused hundreds of deaths. This explosion had a double danger : methane gas and coal dust. When the methane exploded, the explosion was generally followed by a much more violent explosion of dust (the dust explosion) produced by inflammation of the cloud of coal dust produced by the initial explosion.

The oldest listed, but certainly not the first tragedy, was the one of the pit of the Barbeau de Wez, near Liège in Belgium, which caused 94 victims in 1514.

The first solution was to hire minors, volunteers and paid more to ignite the gas every day.

Firedamp was "lit" before the miners arrival. For this purpose, a worker called penitent (because of the suit which he was clothed) or gunner, covered with wet leather or fabric clothes, face protected by a mask equipped with glass windows and carrying a lighted candle, was responsible for igniting the gassy pockets, mostly located in the upper parts of galleries.

Alphonse Meugy describes how to operate in his book, " History of the Mines in Rive-de-Gier " (1848) :

" Two workers called gunners used to go down to the mine a few hours before their peers, with strong canvas clothes, and covered with a kind of head cap. They were moving at a certain distance of the working faces and while one of them was hiding in a nearby gallery, the other one, armed with a pole bearing a burning wick at its end, was approaching by crawling until the flame of the wick was beginning to grow. He then was laying, face to the ground with his clothes soaked and was lifting the pole to the top of the excavation. This was producing a detonation which often had the effect of seriously injuring the gunner. He was rescued by his colleague. "

Ponies carrying a lit candle were also used. They were watered then sent to the galleries in the hope of creating tiny explosions.

After many accidents, the English Humphry Davy discovered in 1815 that a flame enclosed in a very fine mesh does not ignite firedamp. Miners lighting became safer.

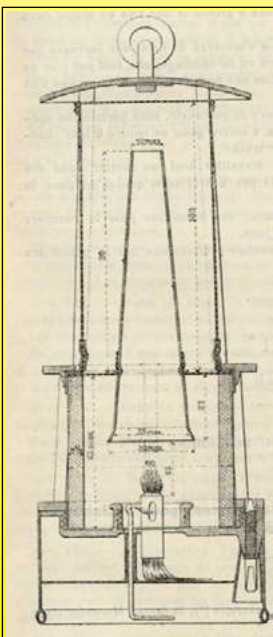
The practice of the " penitent " or " gunner " was gradually outlawed in the mines around 1835, after the Davy lamp being almost universally used in France since 1823.

This lamp, which was called " the Davyne " in France, seemed likely to provide all the necessary safety guarantees against ignition of firedamp but after many explosions occurred in coal mines where this lamp was used, it was soon demonstrated it was not flawless, and that it could only reduce the chances of explosions, without preventing them in all cases. In particular, it had the following defects :

- *The inflammation of a mixture of air and carbon hydrogen can occur through the metallic canvas, in galleries where there is a quick airflow, because then, the lamp flame blushes the mesh or passes through.*

- *The slightest shock can deform or even tear open the mesh, and thus render the lamp ineffective.*

- *The metal-mesh in contact with the oil reservoir, is soon greased and traps fuel dust, thus forming a paste which can be ignited, both inside and outside.*



1842 The Mueseler miner lamp

In 1842 the Liège Mathieu-Louis Mueseler invented a lamp that had the following advantages :

- *It is quickly extinguished when there is plenty of explosive gases, even in a mixture with pure hydrogen.*

- *It shines best and can be placed away from the worker and free tools, and best suited in galleries having strong air streams.*

- *The wire mesh, being remote from the tank , do not permeate to oil. Only a dry dust can stick but it is easily removable.*

- *It is provided with two wire meshes, one horizontal and the other vertical, so that one remains intact when the second is to be torn.*

- *Finally , the air flow to activate the combustion is from top to bottom instead of being laterally, provision that gives the inestimable advantage over all other safety lamps, of turning off suddenly when the air is charged with sufficient carbon hydrogen to provide an explosive mixture.*

This lamp spread in the basin of Seraing and other coal centers in Belgium and, in 1864, its use was prescribed by the Belgian Government. It was then adopted in a number of mines in France and England.

Lighting miners became safer. The use of these lamps, however remained linked to the respect of safety, and there were many accidents resulting from human carelessness. Here is an example, one of my ancestors, Auguste-Joseph Jumeau, was one of the victims :

On Saturday, March 6, 1852 , at the pit " Ferrand " at Elouges in The Borinage (Belgium), the morning shift just came down in the galleries, it was the last day of work in this mine, as it should be closed to allow upgrades and safety works. The pit had a small diameter and allowed a two buckets traffic only (large casks used to bring the coal up to the surface and the movements of people) attached to hemp ropes.



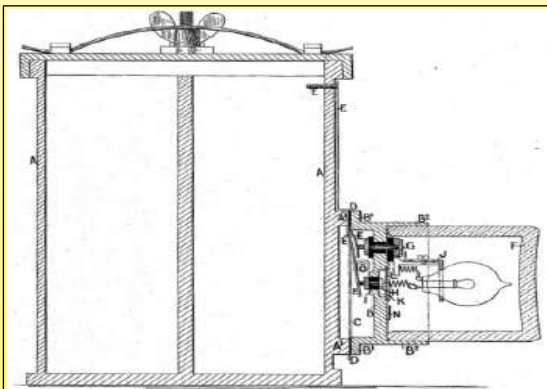
At 20 meters of the hanging point, at the entrance of a gallery, was a tank containing water for the mine horses. Around 10 AM, the worker in charge of treating horses went there to draw water. As the lamp did not light enough (probably a Davy lamp type), he imprudently opened it. As soon as the flame in contact with the atmosphere, an explosion rocked the mine. The horse trainer was thrown against a wall and was horribly burned. He survived nevertheless. His many companions were less fortunate : 63 miners, men, women and children were killed.



1862 Dumas et Benoît's
Electrical miner lamp

A risk still remained to be solved : the ignition of the lamp, which forced to back it out of the well if accidentally extinguished. In the 1890's, when kerosene replaced oil in lamps, electric ignition systems for miner lamps were tested, having enclosures that did not let the flame out (Patent by William Ackroyd, Morley, England).

The first electric portable lamps with batteries offered at the Academy of Sciences of Paris in 1862 by MM. Dumas and Benoit, did not definitely meet safety requirements, unlike earlier expectations that set forth their lighting tube enclosed in a sealed tube as not fearing the ignition of firedamp (featured in the Journal of Industrial Engineering, July 1863).



1884 Cad electrical lamp

In 1884, English Theophilus Cad, from Forest Gate, England, invented an electric lamp whose switch was enclosed in what can be considered the first electrical flameproof enclosure (British Patent No. 806 of 5 January 1884).

Timidly used from 1890, electric lamps grew very slowly between 1920 and 1930.

But shortly after the introduction of electricity in coal mines, it was also discovered that lethal explosions could be initiated by fixed electrical equipment such as lighting, signals or motors.

Around 1910, 12 volts DC signaling systems considered safe appeared.

However, in October 1913, took place the largest explosion of British mines, that of Senghenydd Colliery, where 439 miners perished. It was suspected an alarm system, consisting of two parallel bare wires running along the galleries, which allowed any miner wishing to report a problem to the surface to make it by contacting momentarily the two wires with a metal tool. But the bell inductance coils caused a spark, which was probably the cause of the explosion. It was then determined that these products might be secured by a careful design, the forerunner of the "intrinsic safety". Following this disaster, the miners demanded the withdrawal of the electrical equipment of pits. Then began the development of electric devices called "explosion proof", which inevitable sparks could only occur in a protective envelope preventing from igniting the surrounding gas.

Historically, the topic of Hazardous (Classified) Locations first appeared in the National Electrical Code (NEC) in 1923, when a new article entitled "Extra-Hazardous Locations" was accepted. This article addressed rooms or compartments in which highly flammable gases, liquids, mixtures or other substances were manufactured, used, or stored.

In the investigations leading to approval of loading and conveying machines the bureau is guided by the provisions of Schedule 2C. issued on February 3, 1930. This schedule classified the various electrical parts according to their liability to sparking and specified the type of enclosure to be used for each class. As required by the schedule, a part that may produce sparks during normal operation must be enclosed in an explosion-proof casing; that is, an explosion of gas in such a casing must not ignite the gas surrounding the casing or discharge flames from any joints, bearings, or lead entrances. The object of the bureau's investigations is therefore to determine by test and inspection whether or not the enclosures are suitable to the purpose for which designed. The explosion-proof qualities are demonstrated by tests in which gas is exploded within the casings. Other tests are made to check the adequacy of electrical clearances and insulation. In addition to the tests, a detailed inspection of parts, including a careful check against drawings and specification is made. These drawings constitute the chief record of the equipment investigated

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and therefore must be complete in detail to cover adequately the construction to be approved. A description of test equipment and methods followed in conducting these investigations is given in Bureau of Mines Bulletin 305, Inspection and Testing of Mine-Type Electrical Equipment for Permissibility, published in 1929.

In Europe, the first German standards on "The protection of electrical installations in hazardous areas" were published in 1935, and gave guidelines for the installation of electrical equipment in hazardous areas. In 1938 appeared a fundamental change dividing the installation requirements (VDE 0165) and the design requirements of products (VDE 0170 / 0171).

Standards of product design included the types of basic protection against explosions such as flameproof enclosures, immersion in oil and increased safety. Components were designed to be protected against explosions and housed in industrial type housings that were resistant to weathering. This led to the development of flameproof components mounted inside increased safety housings. Devices designed to this standard were marked with the symbol (Ex). During the 1960's, the European Community was founded to establish a free trade area in Europe. **To reach this goal, technical standards needed to be harmonized.** Consequently, the European Organisation for Electrotechnical standardization (CENELEC) was created. A new set of European standards describing devices for explosive environments (EN 50014 - EN 50020) was published in 1972. In 1975, the first EU directive for devices used in hazardous areas, known as "Directive on the protection against explosions", was published. In 1978, the first edition of European standards was published by CENELEC which covered installation techniques.

It must be noted that the standards were taking in account the original comments of Davy on the gas inflammation in contact with the overheated protection grid of miners lamps by issuing rules about the surface temperature of enclosures (T), and also the minimum interstice to avoid the flame passage "e".

IEC standards currently in force in 2014 for equipment for explosive atmospheres are :

IEC 60079-1 : Flameproof enclosures "d",

- IEC 60079-2 : Envelopes internal pressure "p",
- IEC 60079-5 : Powder filling "q",
- IEC 60079-6 : oil immersion "o",
- IEC 60079-7 : increased safety "e",
- IEC 60079-11 : intrinsic Safety "i",
- IEC 60079-15 : Type of protection "n",
- IEC 60079-18. Encapsulation "m".

They are supplemented by the following equipment standards :

- IEC 60079-25,
- IEC 60079-26,
- IEC 62013-1,
- IEC 62086-1.

At their transcription into European standards, the IEC prefix is replaced by EN.



Protections systems against explosions used in products described in this catalogue

Electromechanical thermostats have an important characteristic that makes critical their use in potentially explosive atmospheres : the opening and closing of their electrical contact, which occurs regularly during their normal operation, produces a spark between the contacts. If they are not intended and designed specifically for being used in hazardous areas, their use becomes particularly dangerous because this spark is sufficient to ignite the surrounding atmosphere.

Historically, the solution was to use standard thermostats, and enclose them in a cast iron enclosure, with large sealing surfaces and a minimum gap between cover and frame, (described as " d " style enclosures in EN 60079-1, formerly EN50018), so that if an explosion occurred around the electrical contact, it could not extend outside the enclosure. This resulted in heavy, massive and bulky devices because this enclosure had itself to withstand the explosive ignition of the gas mixture which filled it.

Although this solution is still used by some manufacturers, we have developed over the past 10 years a concept for light and compact products, limiting the flameproof area to the immediate environment of the switch.

This solution allows for devices with a direct output cable (or wires), avoiding the electrical connection inside the enclosure. Thermostats, whose sizes are similar to conventional thermostats can be incorporated, according to the customer's choice, in their own mechanical protection enclosure and electrical connection is carried away in a junction box that meets the applicable requirements of environment and hazardous areas standards. This is the reason why you will find different types of thermostats for explosive atmospheres in this catalog :

- **Thermostats with wires electrical connection** : (They are those having the smallest footprint) to allow installation and connection in a increased safety (Ex 'e') enclosure, but because of their components approval, it is required to apply for an additional approval of the customer enclosure with all its equipment. This solution, although these models of thermostats are the most economical, is therefore valid for large quantities applications only.

- **Thermostats with cable electrical connection** : In these devices, the thermostat and cable are considered as a product, and meet the hazardous area requirements if their installation instructions are fulfilled. In particular, they can be used without additional protective enclosure, by, for example, mounting them directly on a panel. It is not necessary to request an additional certificate. This solution also allows mounting the thermostat in a mechanical and ingress protection enclosure, which is not certified as equipment for explosive atmospheres. However, the cable must be mechanically protected, and the connection at its end must be made in a increased safety (Ex 'e') approved junction box or outside the hazardous area.

- **Thermostats incorporated inside increased safety metal enclosures, (Ex approval " d " + " e ")**.

The explosion-proof thermostat is installed and connected in an increased safety enclosure, specially designed for thermostat. This solution allows electrical connection inside the housing, but does not allow thermostat set point adjustment by opening the enclosure when energized. The cable exits and the capillary cable gland must be Ex-" e " certified cable glands, and the terminals are also Ex-" e " certified, and cannot be modified or replaced by other models without cancelling the approval.



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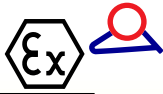
Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Section 3

Alphabetical product list, and numerical reference list



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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References list

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Alphabetical product list, and numerical reference list



| |
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| Y98KAA050200L81K |
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| Y9IKAA-35035211K |
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| Y9Z20000000 |
| Y9Z20200000 |
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Update 2023/11/17



Section 4

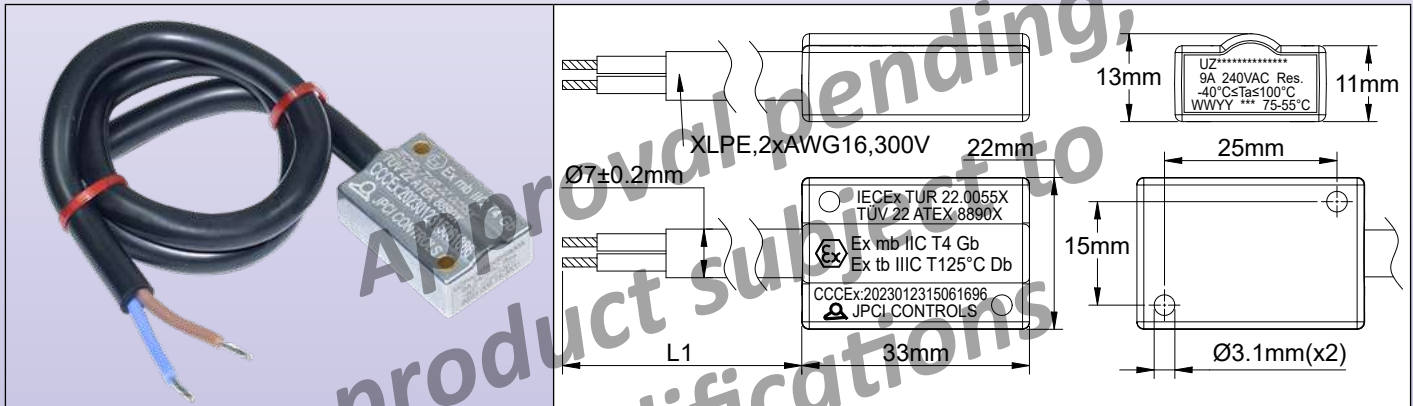
Miniature temperature limiters, **wire or cable** electrical connections



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Miniature current sensing temperature limiters up to 100°C (212°F), surface mounting, cable connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 250V | Min. and max. of calibration | Type |
|-----------------------|----------------------|---------------------------|---------|-----------------------|------------------------------|-----------|
| Cable | Fixed setting | Front, 2 holes dia. 3.1mm | Limiter | SPNC, open on rise 9A | 50 to +100°C | UZ |
| | | | | | | |



General rules for installation:

Important note: These limiters are intended to control temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex-mb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification **T4** ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature **125°C**. The thermostat electrical connections at the end of the wires must be made inside an EX-“e” enclosure.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8890 X ; IECEx: TUR 22.0055X ; CCCEX: 2023012315062866

Housing: aluminum, 33 × 13 × 22mm

Temperature sensing element: Current sensitive miniature bimetal disc

Electrical connection: XLPE insulated cable, 2 × AWG16 (≈2 × 1mm²), 300V, UL style 4411, withstanding -40+125°C (-40+257°F), Wire ends with crimped terminals.

Ground: By the enclosure body

Adjustment: These limiters are factory calibrated, with no adjustment possible by user. Calibration values are checked on it before encapsulation. They are checked with a pilot load at nearly 0 Amp.

Mounting: 2 holes dia 3.1mm 25mmx15mm distance

Response time: These limiters are not designed to respond quickly if the temperature rise rate is higher than 0.5°C per minute

Contacts: Snap action contact, SPNC, open by temperature rise

Electrical rating: 9A 240V resistive and 3A 240V inductive (10.000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits.

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW.

Current derating: These devices are current sensitives and the real opening temperature must be decreased depending of the current in the circuit where they are used.

| | | | | |
|----------|--------|------|-------|-------|
| Amps | 3A | 5A | 7A | 9A |
| Derating | -2,5°C | -5°C | -10°C | -18°C |

For example: a limiter calibrated at 100°C with cut a 90°C if the current is 7Amps

Short circuit trip time: If for any reason there is an overload in the circuit, the limiter will open automatically. The table hereunder provides the tripping in seconds, depending of the overload. Measurement made with a thermostat at 25°C (77°F) ambient temperature



| | | | | | | |
|-----------------------------|------|-----|-----|-----|------|-----|
| | 15A | 20A | 25A | 30A | 35A | 40A |
| Calibration at 50°C | | | | | | |
| Calibration at 100°C | 100S | 30S | 11S | 5S | 2.5s | 1S |

Classification:

Gas: II 2G Ex mb IIC T4 Gb

Dust: II 2D Ex tb IIIC T125°C Db

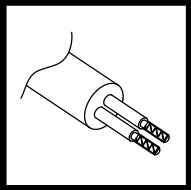
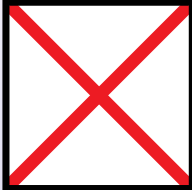
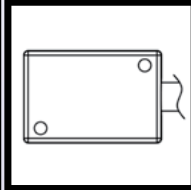
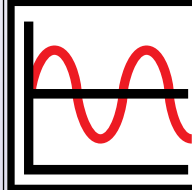
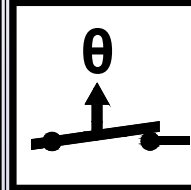
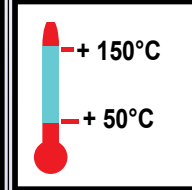
Main part numbers

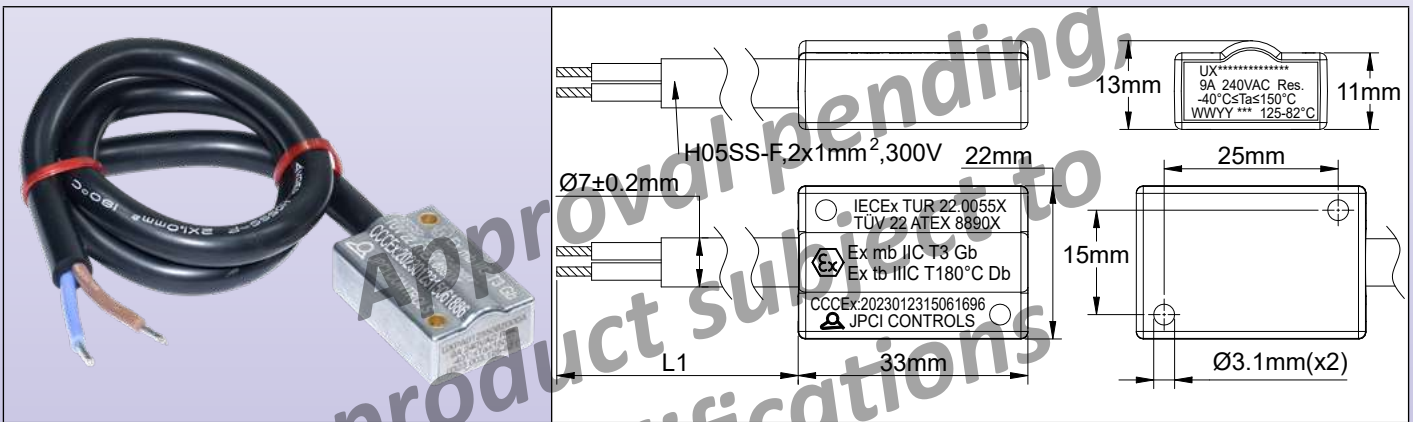
| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 50°C (122°F) | 38°C (100°F) | UZV1005053810B1 | UZV3005053810B1 | UZV6005053810B1 |
| 70°C (158°F) | 50°C (122°F) | UZV1007055010B1 | UZV3007055010B1 | UZV6007055010B1 |
| 80°C (176°F) | 57°C (135°F) | UZV1008055710B1 | UZV3008055710B1 | UZV6008055710B1 |
| 100°C (212°F) | 67°C (153°F) | UZV1010056710B1 | UZV3010056710B1 | UZV6010056710B1 |

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Current sensing miniature temperature limiters, calibration up to 150°C (302°F), surface mounting, cable connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 250V | Min. and max. of calibration | Type |
|--|---|---|---|--|---|-----------|
| Cable | Fixed setting | Front, 2 holes dia. 3.1mm | Limiter | SPNC, open on rise 9A | 50 to +150°C | UX |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These limiters are intended to control temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex-mb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T3 ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature 180°C. The thermostat electrical connections at the end of the wires must be made inside an EX-“e” enclosure.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8890 X ; IECEx: TUR 22. 0055X ; CCCEX: 2023012315062866

Housing: aluminum, 33 × 13 × 22mm

Temperature sensing element: Current sensitive miniature bimetal disc

Electrical connection: H05SS-F silicone insulated cable, 2 × 1mm² (≈ 2 × AWG16), 300V, withstanding -60+180°C (-76+356°F). Wire ends with crimped terminals.

Ground: By the enclosure body

Adjustment: These limiters are factory calibrated, with no adjustment possible by user. Calibration values are checked on it before encapsulation. They are checked with a pilot load at nearly 0 Amp.

Mounting: 2 holes dia 3.1mm 25mmx15mm distance

Response time: These limiters are not designed to respond quickly if the temperature rise rate is higher than 0.5°C per minute

Contacts: Snap action contact, SPNC, open by temperature rise

Electrical rating: 9A 240V resistive and 3A 240V inductive (10.000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits.

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW.

Current derating: These devices are current sensitives and the real opening temperature must be decreased depending of the current in the circuit where they are used.

| | | | | |
|----------|--------|------|-------|-------|
| Amps | 3A | 5A | 7A | 9A |
| Derating | -2,5°C | -5°C | -10°C | -18°C |

For example: a limiter calibrated at 100°C with cut a 90°C if the current is 7Amps

Short circuit trip time: If for any reason there is an overload in the circuit, the limiter will open automatically. The table hereunder provides the tripping in seconds, depending of the overload. Measurement made with a thermostat at 25°C (77°F) ambient temperature



| | 15A | 20A | 25A | 30A | 35A | 40A |
|----------------------|------|------|------|-----|------|------|
| Calibration at 50°C | | | | | | |
| Calibration at 100°C | 100S | 30S | 11S | 5S | 2.5s | 1S |
| Calibration at 110°C | 150S | 40S | 20S | 8S | 4S | 2,5S |
| Calibration at 150°C | 400S | 150S | 45 S | 18S | 9S | 6S |

Classification:

Gas: Ⓜ II 2G Ex mb IIC T3 Gb

Dust: Ⓜ II 2D Ex tb IIIC T180°C Db

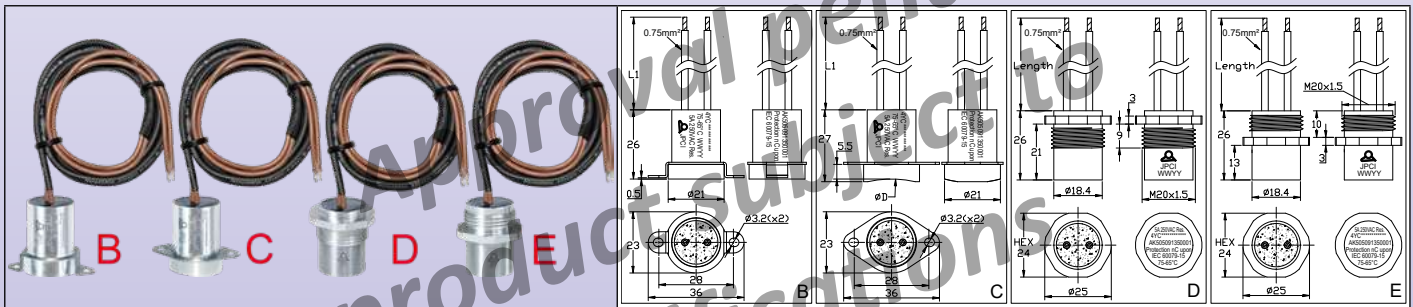
Main part numbers

| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 105°C (221°F) | 70°C (122°F) | UXV1010557010B1 | UXV3010557010B1 | UXV6010557010B1 |
| 110°C (230°F) | 72°C (162°F) | UXV1011057210B1 | UXV3011057210B1 | UXV6011057210B1 |
| 130°C (266°F) | 85°C (185°F) | UXV1013058510B1 | UXV3013058510B1 | UXV6013058510B1 |
| 140°C (284°F) | 93°C (199°F) | UXV1014059310B1 | UXV3014059310B1 | UXV6014059310B1 |
| 150°C (302°F) | 100°C (212°F) | UXV1015056990B1 | UXV3015056990B1 | UXV6015056990B1 |

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Miniature temperature limiters, not current sensing, calibration up to 90°C (194°F), wires connection to use when R290 highly flammable refrigerant classed A3 upon ISO 817 may be present.
This is not a Ex certified product

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 240V | Min. and max. of calibration | Type |
|-----------------------|----------------------|--------------------|---------|--------------------------------------|------------------------------|------------|
| Wires | Fixed setting | On or through wall | Limiter | Open or close on temperature rise 9A | +5 to +90°C | 4YC |
| | | | | | | |



General rules for installation:

Important note: Limiter designed to comply ONLY with IEC60079-0: 2011 (Explosive atmospheres, general requirements), § 26.5.1.2 and IEC 60079-15: 2010 (Explosive atmospheres, Equipment protection by type of protection “n”) § 19 ; 22.5.1 ; 22.5.2 ; 22.5.3.1 ; 22.5.3.2 and 22.5.3.3, when R32 mildly flammable refrigerant classed A2L upon Ashrae 34 and ISO 817, as found in air conditioning and heat pumps, may be present (See EN6.335-2-40)

Approval: TÜV Test report TÜV GC/70269203

Housing: IP65 aluminum, epoxy potted, many different dimensions, see drawings

Temperature sensing element: Miniature bimetal disc, **not current sensitive**

Electrical connection: Two PVC insulated wires, 0.75mm², T105°C (221°F). H05VVF 300V/500V. Wire ends with crimped terminals.

Ground: By the enclosure body

Adjustment: These limiters are factory calibrated, with no adjustment possible by user. Calibration values are checked on it before encapsulation.

Mounting: Surface or through wall

Response time: These limiters are not designed to respond quickly if the temperature rise rate is higher than 1°C per minute.

Contacts: Single pole snap action contact, open or close by temperature rise

Electrical rating: 5A 240V resistive (100.000 cycles) and 5A 240V inductive (6.000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits.

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW.

Option: On request rating up to 16A 240V with 1.5mm² wires (Need certification testing)

Main part numbers

| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long wires (L1) | Part numbers with 3m long wires (L1) | Part numbers with 6m long wires (L1) |
|-----------------------------------|------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| 50°C (122°F) | 40°C (100°F) | 4YC1A10*OF5040D0 | 4YC1A30*OF5040D0 | 4YC1A60*OF5040D0 |
| 70°C (158°F) | 60°C (122°F) | 4YC1A10*OF7060D0 | 4YC1A30*OF7060D0 | 4YC1A60*OF7060D0 |
| 75°C (167°F) | 65°C (149°F) | 4YC1A10*OF7565D0 | 4YC1A30*OF7565D0 | 4YC1A60*OF7565D0 |
| 80°C (176°F) | 70°C (158°F) | 4YC1A10*OF8070D0 | 4YC1A30*OF8070D0 | 4YC1A60*OF8070D0 |
| 85°C (185°F) | 75°C (167°F) | 4YC1A10*OF8575D0 | 4YC1A30*OF8575D0 | 4YC1A60*OF8575D0 |
| 90°C (194°F) | 80°C (176°F) | 4YC1A10*OF9080D0 | 4YC1A30*OF9080D0 | 4YC1A60*OF9080D0 |

*: Use the body letter (C, D, E, F) described in drawings. For body letter E the exact reference (E0, E8, EA, EB) depends of mounting diameter



Miniature temperature limiters, not current sensing, calibration up to 100°C (212°F), cable or wires connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 240V | Min. and max. of calibration | Types |
|-----------------------|----------------------|--------------------|---------|---------------------------------------|------------------------------|--------------------------|
| Cable or wires | Fixed setting | On or through wall | Limiter | Open or close on temperature rise 12A | 5 to +100°C | 4VA 4VB |
| | | | | | | |

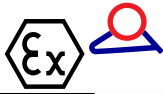
4VA main types with cable

4VB main types with wires

General rules for installation:

Important note: These limiters are intended to monitor or control temperatures in gas or dust hazardous areas. For gas hazardous areas, this equipment is approved as “Ex-mb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T4 ;

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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

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature **125°C**. The thermostat electrical connections at the end of the wires must be made inside an EX-“e” enclosure.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8891 X ; IECEx: TUR 22.0056X ; CCCEX: 2023012315062866

Housing: IP65 Anodized aluminum, epoxy potted, many different dimensions, see drawings

Temperature sensing element: Miniature bimetal disc, **not current sensitive**

Electrical connection:

- **4VA:** XLPE insulated cable, 2 × AWG16 (≈ 2 × 1.25mm²), 300V, UL style 4441, withstanding -40+125°C (-40+257°F),

- **4VB:** Two XLPE insulated wires, AWG16 (≈ 1.25mm²), 300V, withstanding -40+125°C (-40+257°F),

Wire ends with crimped terminals. Other lengths on request.

Ground: By the enclosure body

Adjustment: These limiters are factory calibrated, with no adjustment possible by user. Calibration values are checked on it before encapsulation.

Mounting: Surface or through wall

Response time: These limiters are not designed to respond quickly if the temperature rise rate is higher than 0.5°C per minute

Contacts: Single pole snap action contact, open or close by temperature rise

Electrical rating: 12A 240V resistive (30.000cycles) and 8A 240V inductive (6.000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits.

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW.

Classification:

Gas: II 2G Ex mb IIC T4 Gb

Dust: II 2D Ex tb IIIC T125°C Db

Main part numbers with cable output

| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 50°C (122°F) | 40°C (100°F) | 4VA1D00*0F5040D0 | 4VA1B30*0F5040D0 | 4VA1B60*0F5040D0 |
| 70°C (158°F) | 60°C (122°F) | 4VA1D00*0F7060D0 | 4VA1B30*0F7060D0 | 4VA1B60*0F7060D0 |
| 80°C (176°F) | 70°C (135°F) | 4VA1D00*0F8070D0 | 4VA1B30*0F8070D0 | 4VA1B60*0F8070D0 |
| 100°C (212°F) | 90°C (153°F) | 4VA1D00*0FA090D0 | 4VA1B30*0FA090D0 | 4VA1B60*0FA090D0 |

Main part numbers with 2 wires output

| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 50°C (122°F) | 40°C (100°F) | 4VB1D00*0F5040D0 | 4VB1B30*0F5040D0 | 4VB1B60*0F5040D0 |
| 70°C (158°F) | 60°C (122°F) | 4VB1D00*0F7060D0 | 4VB1B30*0F7060D0 | 4VB1B60*0F7060D0 |
| 80°C (176°F) | 70°C (135°F) | 4VB1D00*0F8070D0 | 4VB1B30*0F8070D0 | 4VB1B60*0F8070D0 |
| 100°C (212°F) | 90°C (153°F) | 4VB1D00*0FA090D0 | 4VB1B30*0FA090D0 | 4VB1B60*0FA090D0 |

*: Use the body letter (A, B, D, E) described in drawings. For body letter C the exact reference (C0, C8, CA, CB) depends of mounting diameter



Miniature temperature limiters, not current sensing, calibration up to 150°C (302°F), cable or wires connection

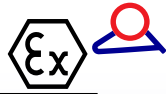
| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 240V | Min. and max. of calibration | Types |
|-----------------------|----------------------|--------------------|---------|--|------------------------------|---|
| Cable or wires | Fixed setting | On or through wall | Limiter | Open or close on temperature rise, 12A | 5 to +150°C | <div style="background-color: yellow; padding: 10px; text-align: center;"> 4XA 4XB </div> |
| | | | | | | |

4XA main types with cable

4XB main types with wires

General rules for installation:

Important note: These limiters are intended to monitor or control temperatures in gas or dust hazardous areas. For gas hazardous areas, this equipment is approved as "Ex-mb" and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T3 ;



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

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature **185°C**. The thermostat electrical connections at the end of the wires must be made inside an EX-“e” enclosure.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8891 X ; IECEx: TUR 22.0056X ; CCCEX: 2023012315062866

Housing: IP65 Anodized aluminum, silicone potted, many different dimensions, see drawings

Temperature sensing element: Miniature bimetal disc, **not current sensitive**

Electrical connection:

- **4XA:** Silicone insulated cable, (H05SS), 2 × 1.5mm² (≈ 2 × AWG16), 300V, withstanding -60+180°C (-76+356°F).

- **4XB:** Two silicone insulated wires, 1.5mm² (≈ AWG16), 300V, withstanding -60+180°C (-76+356°F).

Wire ends with crimped terminals. Other lengths on request.

Ground: By the enclosure body

Adjustment: These limiters are factory calibrated, with no adjustment possible by user. Calibration values are checked on it before encapsulation.

Mounting: Surface or through wall

Response time: These limiters are not designed to respond quickly if the temperature rise rate is higher than 0.5°C per minute.

Contacts: Single pole snap action contact, open or close by temperature rise

Electrical rating: 12A 240V resistive (30.000cycles) and 8A 240V inductive (6.000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits.

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW.

Classification:

Gas: II 2G Ex mb IIC T3 Gb

Dust: II 2D Ex tb IIIC T180°C Db

Main part numbers with cable output

| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 105°C (221°F) | 95°C (203°F) | 4XA1B00*0FA595D0 | 4XA1B30*0FA595D0 | 4XA1B60*0FA595D0 |
| 110°C (230°F) | 100°C (212°F) | 4XA1B00*0FB0A0D0 | 4XA1B30*0FB0A0D0 | 4XA1B60*0FB0A0D0 |
| 130°C (266°F) | 120°C (248°F) | 4XA1B00*0FD0C0D0 | 4XA1B30*0FD0C0D0 | 4XA1B60*0FD0C0D0 |
| 140°C (284°F) | 130°C (266°F) | 4XA1B00*0FE0D0D0 | 4XA1B30*0FE0D0D0 | 4XA1B60*0FE0F0D0 |
| 150°C (302°F) | 140°C (284°F) | 4XA1B00*0FG0F0D0 | 4XA1B30*0FG0F0D0 | 4XA1B60*0FG0F0D0 |

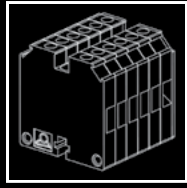
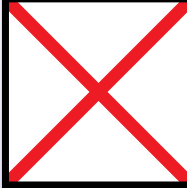
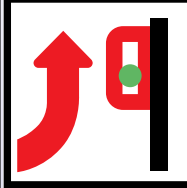
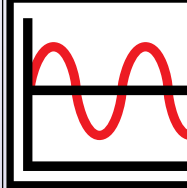
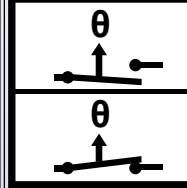
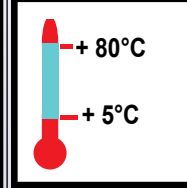
Main part numbers with 2 wires output

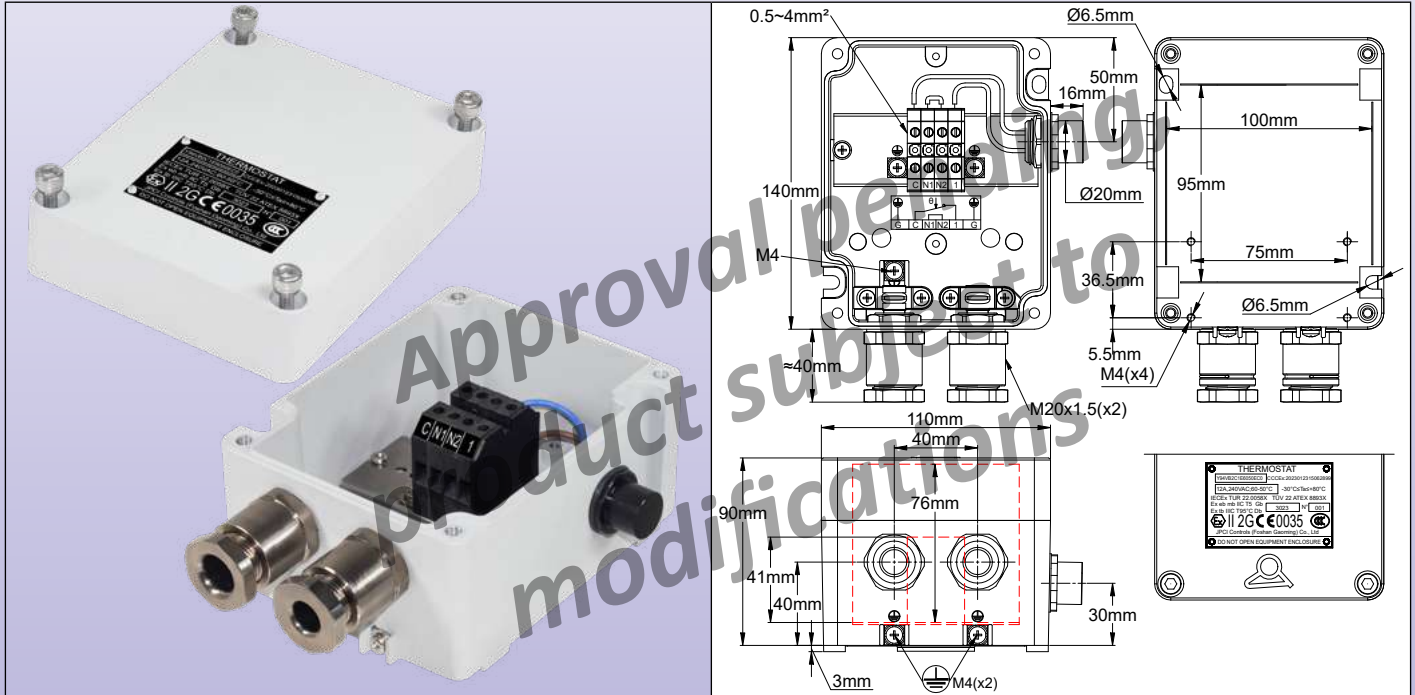
| Open temperature +/-5°C, (+/-9°F) | Close temperature +/-5°C, (+/-9°F) | Part numbers with 1m long cable (L1) | Part numbers with 3m long cable (L1) | Part numbers with 6m long cable (L1) |
|--------------------------------------|---------------------------------------|---|---|---|
| 105°C (221°F) | 95°C (203°F) | 4XB1B00*0FA595D0 | 4XB1B30*0FA595D0 | 4XB1B60*0FA595D0 |
| 110°C (230°F) | 100°C (212°F) | 4XB1B00*0FB0A0D0 | 4XB1B30*0FB0A0D0 | 4XB1B60*0FB0A0D0 |
| 130°C (266°F) | 120°C (248°F) | 4XB1B00*0FD0C0D0 | 4XB1B30*0FD0C0D0 | 4XB1B60*0FD0C0D0 |
| 140°C (284°F) | 130°C (266°F) | 4XB1B00*0FE0D0D0 | 4XB1B30*0FE0D0D0 | 4XB1B60*0FE0D0D0 |
| 150°C (302°F) | 140°C (284°F) | 4XB1B00*0FG0F0D0 | 4XB1B30*0FG0F0D0 | 4XB1B60*0FG0F0D0 |

*: Use the body letter (A, B, D, E) described in drawings. For body letter C the exact reference (C0, C8, CA, CB) depends of mounting diameter



Connection boxes, with ambient thermostat, fixed temperature setting

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 240V | Min. and max. of calibration | Type |
|--|---|---|---|--|---|------------|
| Internal junction block | Fixed setting | Wall | Limiter | Open or close on temperature rise 12A | 5 to +80°C | Y94 |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These limiters are intended to monitor or control ambient temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex- mb eb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T6 ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature 80°C. The thermostat enclosure is approved “Ex-e”.

Approvals: These thermostats are certified:

- ATEX: TÜV 22 ATEX 8893X ;
- IECEX: IECEX TUR 22.0058X ;
- CCCEX: ??

Housing: aluminum, 140 × 110 × 90mm (Dimensions without cable glands), epoxy painting, RAL7035 (thickness less than 0.2mm).

Temperature sensing element: Bimetal disc thermostat. Temperature sensing element is located outside the aluminum enclosure, on right side

Electrical connection: On built-in junction block, for conductors from 0.5mm² to 4mm², screw terminals. 4 terminals for neutral, and line, including jumpers between input and output for neutral. There are also 2 ground terminals M4 inside and 2 outside the enclosure.

Cable glands: One or two M20 metal cable glands can be used for cable from 3.5 to 12mm. There is a cable locking saddle inside the enclosure, at each cable gland input. It allows the grounding of the braid if braided cables are used.

Adjustment: Fixed setting thermostat.

Mounting: Wall mounting, by 2 holes dia. 6.5 mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

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Contacts: SPNC open on temperature rise snap action contact. SPNO with close on temperature rise contact available on request.

Electrical rating: 12A 240V resistive (30.000 cycles) and 8A 240V inductive (6000 cycles). Suitable for power control, remote control of relay coils or PLCs circuits, and direct power switching. These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Gas classification:

⊕ II 2G Ex mb eb IIC T6 Gb

Dust classification :

⊕ II 2D Ex tb IIIC T80°C Db

Certificates :

ATEX: TÜV 22 ATEX 8893X ;

IECEX: IECEX TUR 22.0058X ;

CCCEX: ??

Main part numbers

| Open temperature | Close temperature | Part numbers with 2 cable glands | Part numbers with 1 cable gland |
|------------------------------|-----------------------------|----------------------------------|---------------------------------|
| 10°C+/-3°C, (50°F+/-5.4°F) | 4°C+/-3°C, (39.2°F+/-5.4°F) | Y94VB2C1E1004CC2* | Y94VB2C1E1004CC1* |
| 20°C +/--5°C, (68°F+/-9°F) | 10°C+/-5°C, (50°F+/-9°F) | Y94VB2C1E2010DC2 | Y94VB2C1E2010DC1 |
| 30°C +/--5°C, (86°F +/--9°F) | 20°C+/-5°C, (68°F+/-9°F) | Y94VB2C1E3020DC2 | Y94VB2C1E3020DC1 |
| 40°C+/-5°C, (104°F +/--9°F) | 30°C+/-5°C, (86°F+/-9°F) | Y94VB2C1E4030DC2 | Y94VB2C1E4030DC1 |
| 50°C+/-5°C, (122°F +/--9°F) | 40°C+/-5°C, (100°F+/-9°F) | Y94VB2C1E5040DC2 | Y94VB2C1E5040DC1 |
| 70°C+/-5°C, (158°F+/-9°F) | 60°C+/-5°C, (122°F+/-9°F) | Y94VB2C1E7060DC2 | Y94VB2C1E7060DC1 |

*: Part numbers used in antifreeze heating



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Section 5

Thermostats for incorporation, **wire and cable** electrical connections

Update 2023/12/27

Contact us

www.ultimheat.com

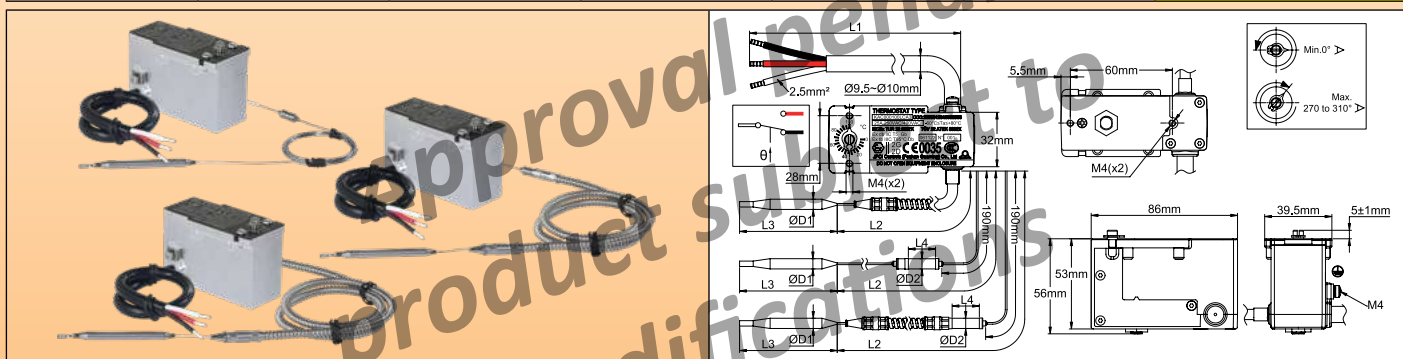
Cat4-2-5-1



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

Temperature control, front or rear mounting, cable connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating | T° range min and max adjustment limits | Types |
|-----------------------|----------------------|--|---------|---------------------------------|--|--|
| Cable | Screwdriver | Front mounting with 2 M4 screw or Rear mounting with 2 M4 screws | Control | SPDT 16A, 400V; 25A, 250V | -50 to + 500°C | KAA-3 KAB-3 KAC-3 |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5; **For dust hazardous areas**, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A). The thermostat body must be installed preferably inside an “Ex e” enclosure. The thermostat capillary exit must be performed by a cable gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard. Electrical connections at the end of the cable can be made inside an “Ex e” enclosure or outside the hazardous area. These models with screw driver adjustment and front mounting allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 60mm. **Approvals:** These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

- Housing:** Aluminum, 86 x 40 x 56mm (Dimensions without shaft and knob)
- Bulb and capillary:** Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.
- Temperature sensing element:** Oil filled bulb and capillary.
- Electrical connection:** Silicone insulated cable H05SS-F, 3x 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.
- Ground terminals:** One M4 grounding terminals with saddle is located on the side.
- Adjustment:** With screwdriver
- Mounting:** Front bracket with 2 x M4 threads, 28 mm distance
- Contacts:** SPDT (Snap action contact)
- Electrical rating:** Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |



Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm cable length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBA3 | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCA3 | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDA3 | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEA3 | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFA3 | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAA3 | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer cable, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

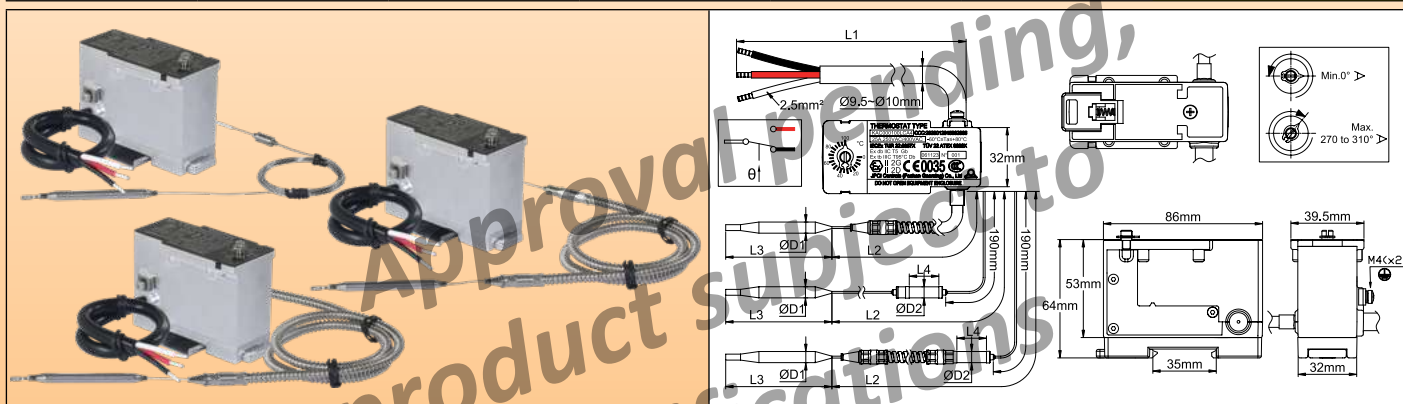
This cable output cannot be used with cable length more than 2m for ratings between 16A and 25A.

Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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

Temperature control, Din Rail mounting, cable

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max adjustment limits | Types |
|-----------------------|----------------------|-------------------|---------|-------------------------------|--|--|
| Cable | Screwdriver | Backside DIN Rail | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-4 KAB-4 KAC-4 |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5; **For dust hazardous areas**, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A). The thermostat body must be installed preferably inside an “Ex e” enclosure. The thermostat capillary exit must be performed by a cable gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard. Electrical connections at the end of the cable can be made **inside an “Ex e” enclosure** or outside the hazardous area. These models with screw adjustment and mounting on rear side 35mm DIN rail allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 68mm above the DIN rail. **Approvals:** These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

- Housing:** Aluminum, 86 x 40 x 64mm (Dimensions without shaft and knob)
- Bulb and capillary:** Stainless steel. Capillary length 500 mm or 1500 mm. Capillary minimum bending radius 5mm.
- Temperature sensing element:** Oil filled bulb and capillary.
- Electrical connection:** Silicone insulated cable H05SS-F, 3x 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.
- Ground terminals:** One M4 grounding terminals with saddle is located on the side.
- Adjustment:** With screwdriver
- Mounting:** Backside, on symmetrical 35mm DIN rail
- Contacts:** SPDT (Snap action contact)
- Electrical rating:** Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA,



Explosion proof bulb and capillary thermostats for incorporation



or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm cable length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBA4 | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCA4 | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDA4 | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEA4 | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFA4 | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAA4 | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer cable, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

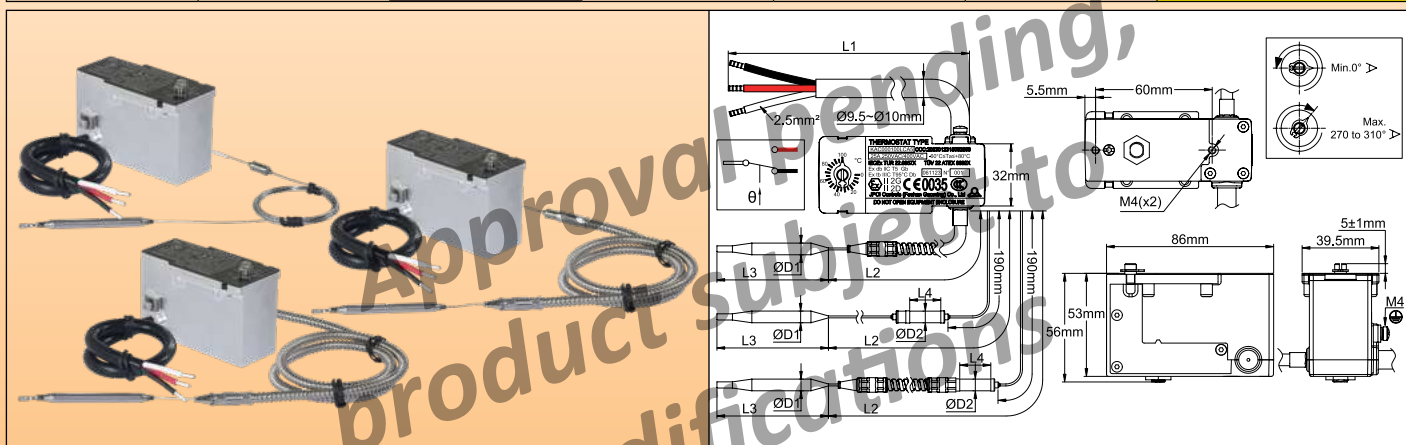
This cable output cannot be used with cable length more than 2m for ratings between 16A and 25A.

Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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

Temperature control, Rear mounting, cable connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max adjustment limits | Types |
|-----------------------|----------------------|--------------------------------|---------|-------------------------------|--|--|
| Cable | Screwdriver | Rear mounting with 2 M4 screws | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-5 KAB-5 KAC-5 |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5;

For dust hazardous areas, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A).

The thermostat body must be installed preferably inside an “Ex e” enclosure.

The thermostat capillary exit must be performed by a cable gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard.

Electrical connections at the end of the cable can be made inside an “Ex e” enclosure or outside the hazardous area. These models with screw driver adjustment and rear mounting with 2 M4 screws allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 60mm.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

- Housing:** Aluminum, 86 x 40 x 56mm (Dimensions without shaft and knob)
- Bulb and capillary:** Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.
- Temperature sensing element:** Oil filled bulb and capillary.
- Electrical connection:** Silicone insulated cable H05SS-F, 3x 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.
- Ground terminals:** One M4 grounding terminals with saddle is located on the side.
- Adjustment:** With screwdriver
- Mounting:** Rear mounting with 2 M4 screws
- Contacts:** SPDT (Snap action contact)
- Electrical rating:** Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |



Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm cable length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBA5 | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCA5 | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDA5 | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEA5 | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFA5 | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAA5 | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer cable, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

This cable output cannot be used with cable length more than 2m for ratings between 16A and 25A.

Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm cable length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|-----------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBA6 | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCA6 | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDA6 | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEA6 | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFA6 | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAA6 | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer cable, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

This cable output cannot be used with cable length more than 2m for ratings between 16A and 25A.

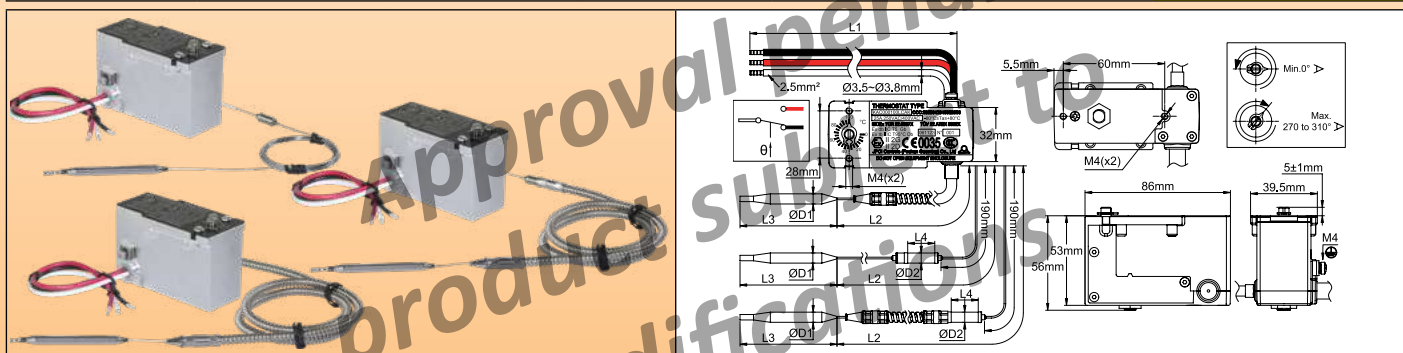
Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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Temperature control, front or rear mounting, wire connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating | T° range min and max adjustment limits | Types |
|-----------------------|----------------------|--|---------|-------------------------------|--|--|
| Wire | Screwdriver | Front mounting with 2 M4 screw or Rear mounting with 2 M4 screws | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-K KAB-K KAC-K |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5;

For dust hazardous areas, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A).

The thermostat body must be installed preferably inside an “Ex e” enclosure.

The thermostat capillary exit must be performed by a wire gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard.

Electrical connections at the end of the wire can be made inside an “Ex e” enclosure or outside the hazardous area. These models with screw driver adjustment and front mounting allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 60mm.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

Housing: Aluminum, 86 x 40 x 56mm (Dimensions without shaft and knob)

Bulb and capillary: Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.

Temperature sensing element: Oil filled bulb and capillary.

Electrical connection: Silicone insulated wire H05S-K, 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.

Ground terminals: One M4 grounding terminals with saddle is located on the side.

Adjustment: With screwdriver

Mounting: Front bracket with 2 x M4 threads, 28 mm distance

Contacts: SPDT (Snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |



Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: Ex II 2G Ex db IIC T5 Gb

Dust: Ex II 2D Ex tb IIIC T95°C Db

Main references with 1000mm wire length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBAK | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCAK | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDAK | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEAK | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFAK | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAAK | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer wire, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

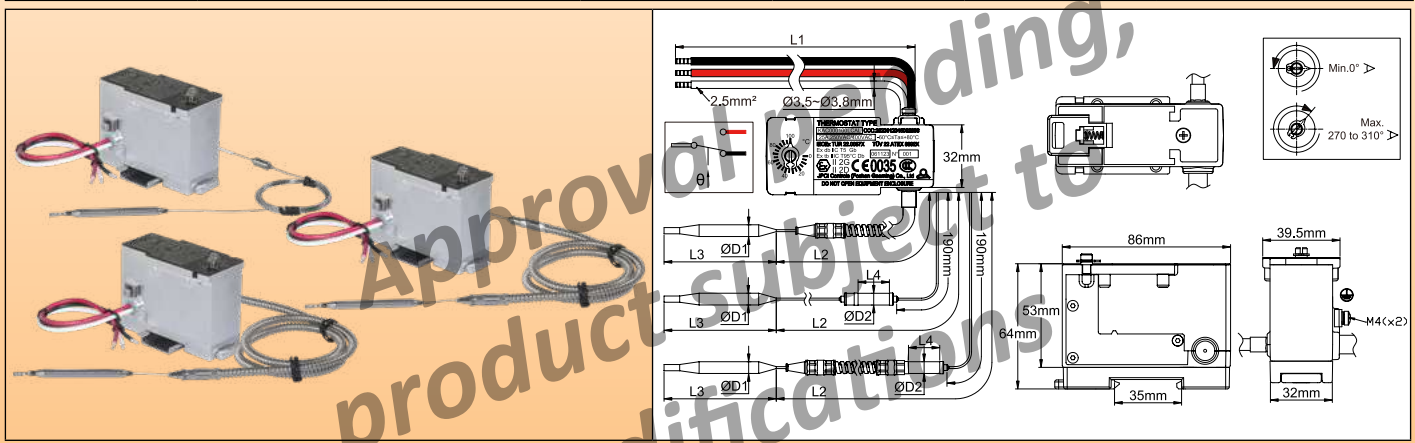
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Temperature control, Din Rail mounting, wire

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max adjustment limits | Types |
|-----------------------|----------------------|-------------------|---------|-------------------------------|--|--|
| Wire | Screwdriver | Backside DIN Rail | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-L KAB-L KAC-L |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas.
For gas hazardous areas, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5;
For dust hazardous areas, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A).
 The thermostat body must be installed preferably inside an “Ex e” enclosure.
 The thermostat capillary exit must be performed by a wire gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard.
 Electrical connections at the end of the wire can be made **inside an “Ex e” enclosure** or outside the hazardous area. These models with screw adjustment and mounting on rear side 35mm DIN rail allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 68mm above the DIN rail.
Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

- Housing:** Aluminum, 86 x 40 x 64mm (Dimensions without shaft and knob)
- Bulb and capillary:** Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.
- Temperature sensing element:** Oil filled bulb and capillary.
- Electrical connection:** Silicone insulated wire H05S-K, 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.
- Ground terminals:** One M4 grounding terminals with saddle is located on the side.
- Adjustment:** With screwdriver
- Mounting:** Backside, on symmetrical 35mm DIN rail
- Contacts:** SPDT (Snap action contact)
- Electrical rating:** Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |

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Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: Ex II 2G Ex db IIC T5 Gb

Dust: Ex II 2D Ex tb IIIC T95°C Db

Main references with 1000mm wire length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBAL | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCAL | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDAL | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEAL | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFAL | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAAL | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

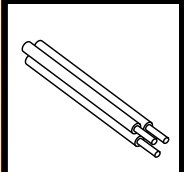
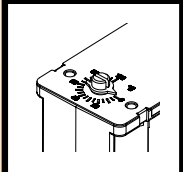
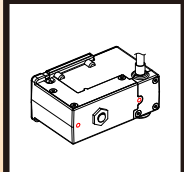
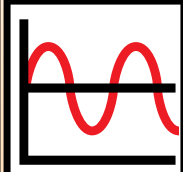
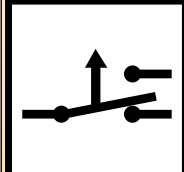
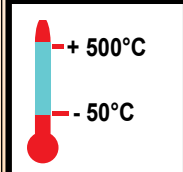
* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

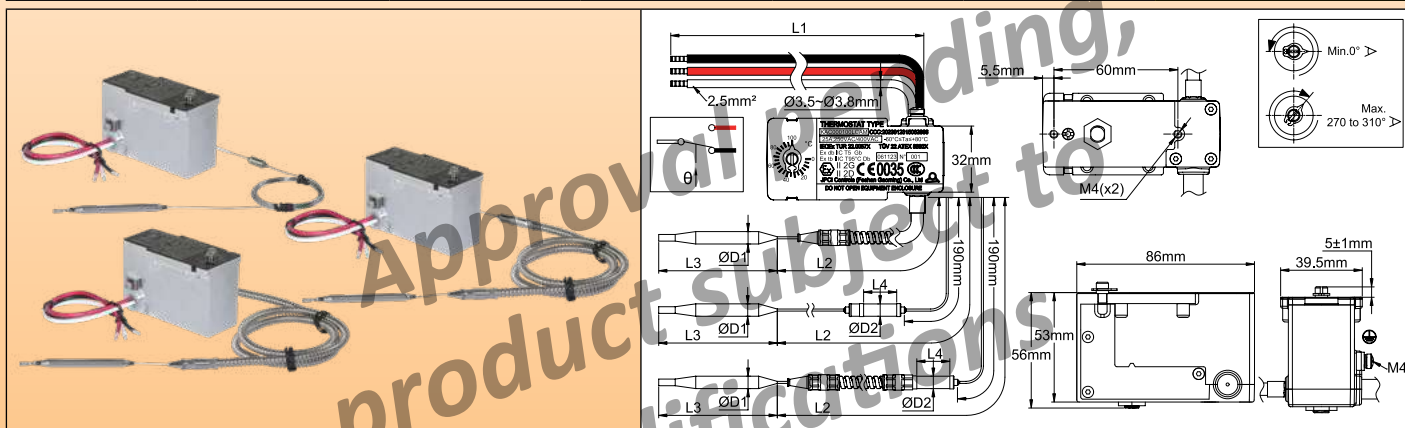
** For a longer wire, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

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Temperature control, Rear mounting, wire connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max adjustment limits | Types |
|--|---|---|---|--|---|--|
| Wire | Screwdriver | Rear mounting with 2 M4 screws | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-M KAB-M KAC-M |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5;

For dust hazardous areas, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A).

The thermostat body must be installed preferably inside an “Ex e” enclosure.

The thermostat capillary exit must be performed by a wire gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard.

Electrical connections at the end of the wire can be made inside an “Ex e” enclosure or outside the hazardous area.

These models with screw driver adjustment and rear mounting with 2 M4 screws allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 60mm.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

Housing: Aluminum, 86 x 40 x 56mm (Dimensions without shaft and knob)

Bulb and capillary: Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.

Temperature sensing element: Oil filled bulb and capillary.

Electrical connection: Silicone insulated wire H05S-K, 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.

Ground terminals: One M4 grounding terminals with saddle is located on the side.

Adjustment: With screwdriver

Mounting: Rear mounting with 2 M4 screws

Contacts: SPDT (Snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |



Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm wire length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|--------------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBAM | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCAM | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDAM | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEAM | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFAM | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAAM | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer wire, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

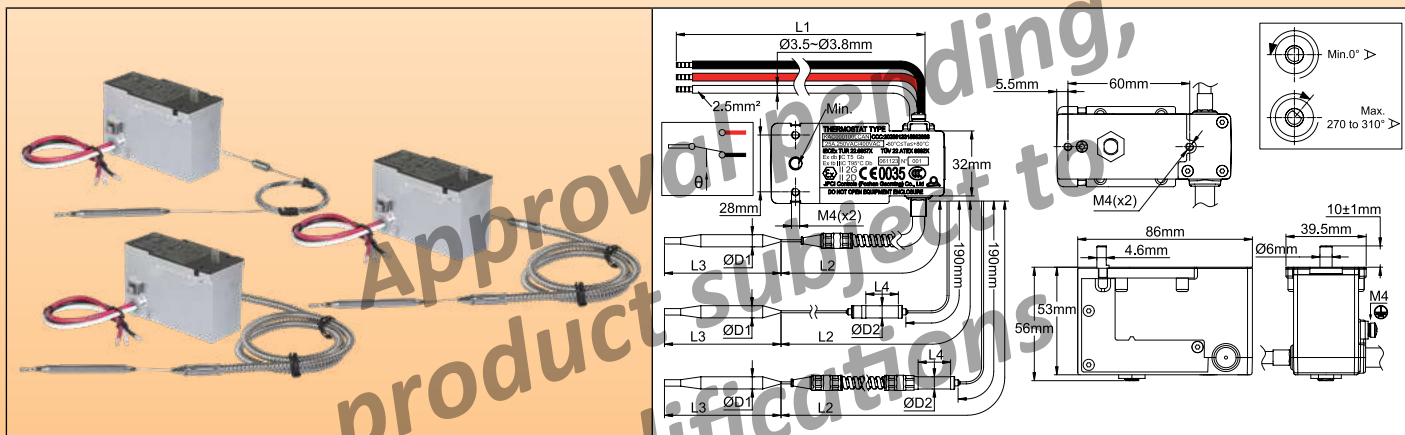
Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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



Temperature control, front mounting, wire connection

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max adjustment limits | Types |
|-----------------------|-----------------------------|-------------------|---------|-------------------------------|--|--|
| Wire | 6mm diameter shaft for knob | Front, 2 M4 screw | Control | SPDT 16A,400V; 25A,250V | -50 to + 500°C | KAA-N KAB-N KAC-N |
| | | | | | | |



General rules for installation:

Important note: These thermostats are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as “Ex db” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5;

For dust hazardous areas, this equipment is approved as “Ex tb”, suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -60°C to +80°C (-60°C to +50°C at 25A).

The thermostat body must be installed preferably inside an “Ex e” enclosure.

The thermostat capillary exit must be performed by a wire gland with gasket adapted to the diameter of the capillary and providing the level of protection required by the standard.

Electrical connections at the end of the wire can be made inside an “Ex e” enclosure or outside the hazardous area. These models with screw driver adjustment and front mounting allow incorporation inside most existing “Ex e” junction boxes in aluminum or polyester and inside a free height of 66mm.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8892 X; IECEx: IECEx TUR 22. 0057 X.

Housing: Aluminum, 86 x 40 x 56mm (Dimensions without shaft and knob)

Bulb and capillary: Stainless steel. Standard capillary length 1500 mm. (Other lengths available with M.O.Q) Capillary minimum bending radius 5mm.

Temperature sensing element: Oil filled bulb and capillary.

Electrical connection: Silicone insulated wire H05S-K, 2.5 mm², T180°C, 450V, standard length 1000mm. Wire ends with crimped terminals. Other lengths on request.

Ground terminals: One M4 grounding terminals with saddle is located on the side.

Adjustment: Dia. 6 mm shaft with 4.6 mm flat, length 10 mm.

Mounting: Front bracket with 2 x M4 threads, 28 mm distance

Contacts: SPDT (Snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 16 | 100000 |
| 250VAC | 25 | 100000 |
| 125VAC | 25 | 100000 |
| 0-15VDC | 25 | 100000 |
| 15-30VDC | 2 | 100000 |



Explosion proof bulb and capillary thermostats for incorporation



These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Options:

- Capillary sleeved with 6mm diameter stainless steel flexible tube
- Capillary with fitting for 6mm cable gland gasket, with or without capillary sleeving in stainless steel

Mechanical life: > 500.000 cycles

Classification:

Gas: II 2G Ex db IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Main references with 1000mm wire length (L1) **

| References | Temperature range | Capillary length (L2, mm) | Bulb diameter (D1, mm) | Capillary fitting diameter (D2, mm) | Bulb length (L3, mm) | Capillary fitting length (L4, mm) | Differential (°C) | Max temperature on bulb |
|---------------|-----------------------|---------------------------|------------------------|-------------------------------------|----------------------|-----------------------------------|-------------------|-------------------------|
| KAA-20050VBAN | -20~50°C (-4~122°F) * | 1500 | 6 | 6 | 138 | 16 | 3±2°C (5.5±3.6°F) | 80°C (176°F) |
| KAA000100VCAN | 0~100°C (32~212°F) | 1500 | 6 | 6 | 96 | 16 | 5±3°C (9±5.4°F) | 130°C (266°F) |
| KAA000200VDAN | 0~200°C (32~392°F) | 1500 | 6 | 6 | 71 | 16 | 5±3°C (9±5.4°F) | 230°C (446°F) |
| KAA000300VEAN | 0-300°C (32-570°F) | 1500 | 4 | 6 | 80 | 16 | 10±2°C (18±3.6°F) | 330°C (626°F) |
| KAA020400VFAN | 20~400°C (68~752°F) | 1500 | 4 | 6 | 95 | 16 | 20±6°C (36±11°F) | 430°C (800°F) |
| KAA020500VAAN | 20~500°C (68~932°F) | 1500 | 4.7 | 6 | 120 | 16 | 20±6°C (36±11°F) | 550°C (1000°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40° C (-40°F). However it is important to protect the bulb and /or the capillary against the risk of freezing if a temperature below -35° C (-31°F) can be reached in operation. Acceptable storage temperature: -50°C(-58°F).

** For a longer wire, replace the 15th character (A) by B for 2m, C for 3m, D for 4m a.s.o.

Go to the last section of this catalogue for knobs, dials, bezels and other accessories

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Section 6

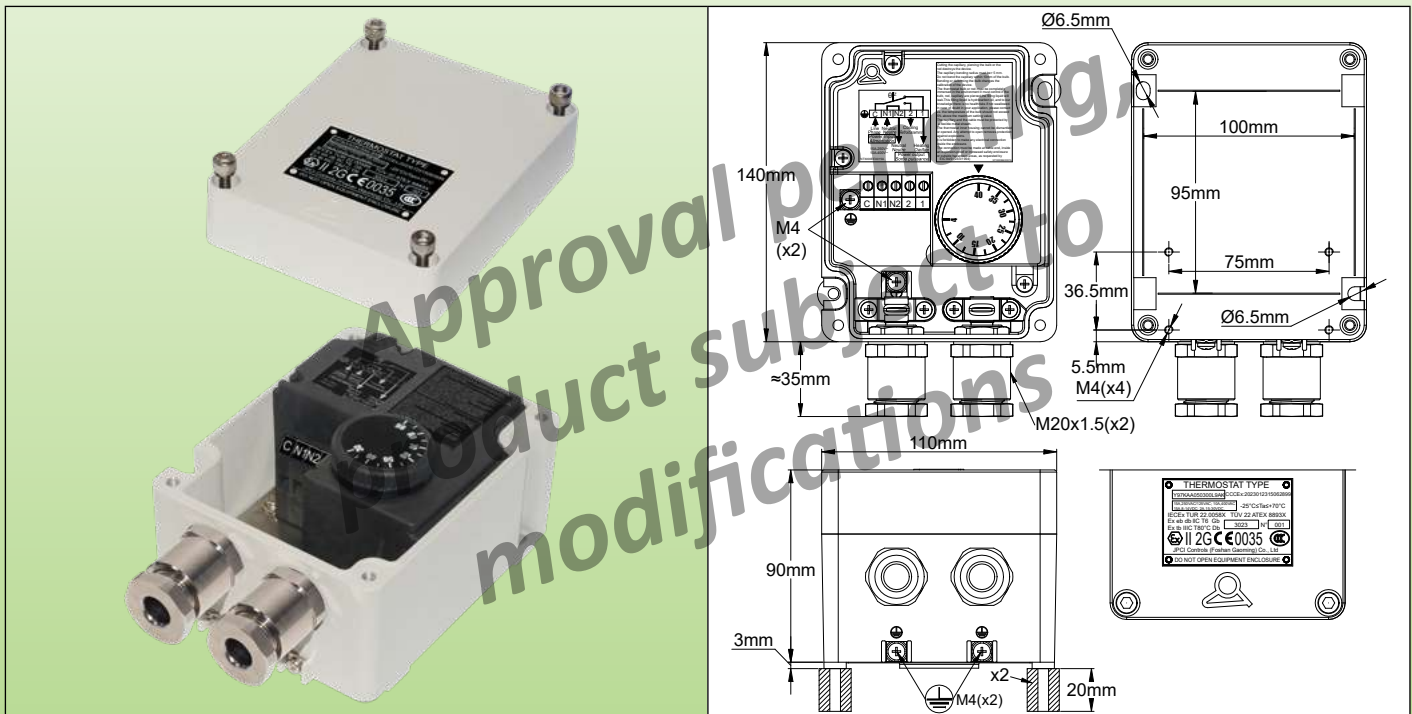
Thermostats and limiters, connection inside EX « e », IP65, aluminum housing with built-in connection block



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Ambient temperature control, printed knob adjustment

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max limits | Types |
|-------------------------|----------------------|----------|---------|---------------------|-----------------------------|--------------------------------|
| Internal junction block | Printed knob | Wall | Control | SPDT 15A | -25 to +70°C | Y97KAA Y9GKAA |
| | | | | | | |



General Rules for Installation:

Important Note: These **thermostats** are intended to monitor or control temperatures in gas or dust hazardous areas. **For gas hazardous areas**, this equipment is approved as "Ex-eb db" and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification **T6** ;

For dust hazardous areas, this equipment is approved as "Ex-tb", suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from **-25°C to +80°C**. The thermostat, box and terminal block assembly is an inseparable unit.

Ambient temperature on the enclosure must stay between -25 and +70° C but may also be limited by the maximum ambient temperature allowed on the temperature sensing element (See the parts numbers table). The temperature sensing element is located inside the aluminum enclosure, on the back side. Therefore, the response time is quite long. If this enclosure is mounted on a wall, we recommend to increase the gap between the backside and the wall to 20mm, to increase air circulation. Two extension washers of 20mm are supplied in standard for this use

Approvals: These thermostats are certified: ATEX: TÜV 22ATEX 8893 X ; IECEx: TUR 22.0058X ; CCCEX: ??????

Housing: aluminum, 140 × 110 × 90mm (Dimensions without cable glands), epoxy painting, RAL7035 (thickness less than 0.2mm).

Temperature sensing element: liquid expansion principle, oil filled. Temperature sensing element is located inside the aluminum enclosure, on backside

Electrical connection: On built-in junction block, for conductors of 0.5mm² to 4mm², screw terminals. 5 terminals for neutral and line, including jumpers between input and output for neutral. There are also 2 ground terminals M4 inside and 2 outside the enclosure.

Cable glands: One or two M20 metal cable glands can be used for cable from 3.5 to 12mm. There is a cable locking saddle inside the enclosure, at each cable gland input. It allows the grounding of the braid if braided cables are used.

Adjustment: With knob printed in °C (°F on request). Adjustment is possible only after removing the cover, and when the electrical supply is powered off.

Mounting: Wall mounting, by 2 holes dia. 6.5 mm at 100mm × 95mm distance. The housing rear side also includes



Thermostats and limiters, connection inside EX « e » aluminum housing with built-in connection block



four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Contacts: SPDT (snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits, and direct power switching.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 10 | 100000 |
| 250VAC | 15 | 100000 |
| 125VAC | 15 | 100000 |
| 0-15VDC | 15 | 100000 |
| 15-30VDC | 2 | 100000 |

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Mechanical life: > 500.000 cycles

Options: These enclosures can receive thermostats with setpoint screw driver adjustment (Type 97KAC) or with sealed fixed setting (Type 97KAF). See pages of thermostats without enclosure for more information.

Gas classification:

⊕ II 2G Ex eb db IIC T6 Gb

Dust classification:

⊕ II 2D Ex tb IIIC T80°C Db

Certificates:

ATEX: TÜV 22 ATEX 8893 X

IECEX: IECEX TUR 22.0058 X

Main references

| Part numbers with one M20 cable gland | Part numbers with two M20 cable gland | Temperature adjustment range | Differential | Max temperature on temperature measuring element located inside the enclosure* |
|---------------------------------------|---------------------------------------|------------------------------|--------------------|--|
| Y9GKAA-35035S11K | Y97KAA-35035S11K | -35+35°C (-30+95°F) ** | 1.6±1°C (2.9±2°F) | 60°C (140°F) |
| Y9GKAA-10040S21K | Y97KAA-10040S21K | -10+40°C (15-105°F) | 1.5±1°C (2.7±2°F) | 70°C (158°F) |
| Y9GKAA004040S41K | Y97KAA004040S41K | 4-40°C (40-105°F) | 1.±0.5°C (1.8±1°F) | 50°C (122°F) |
| Y9GKAA000060S51K | Y97KAA000060S51K | 0-60°C (32-140°F) | 2.5±1°C (4.5±2°F) | 75°C (167°F) |

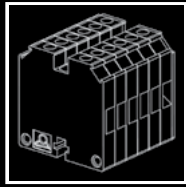
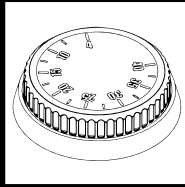
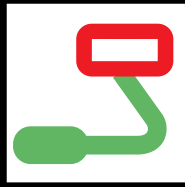
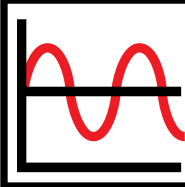
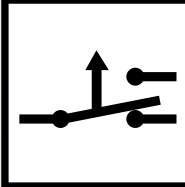
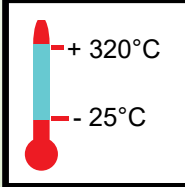
* The filling liquid of these thermostatic assemblies has a freezing temperature below -40°C. Acceptable minimum storage temperature: -50°C. Maximum ambient temperature on these thermostats: +60°C

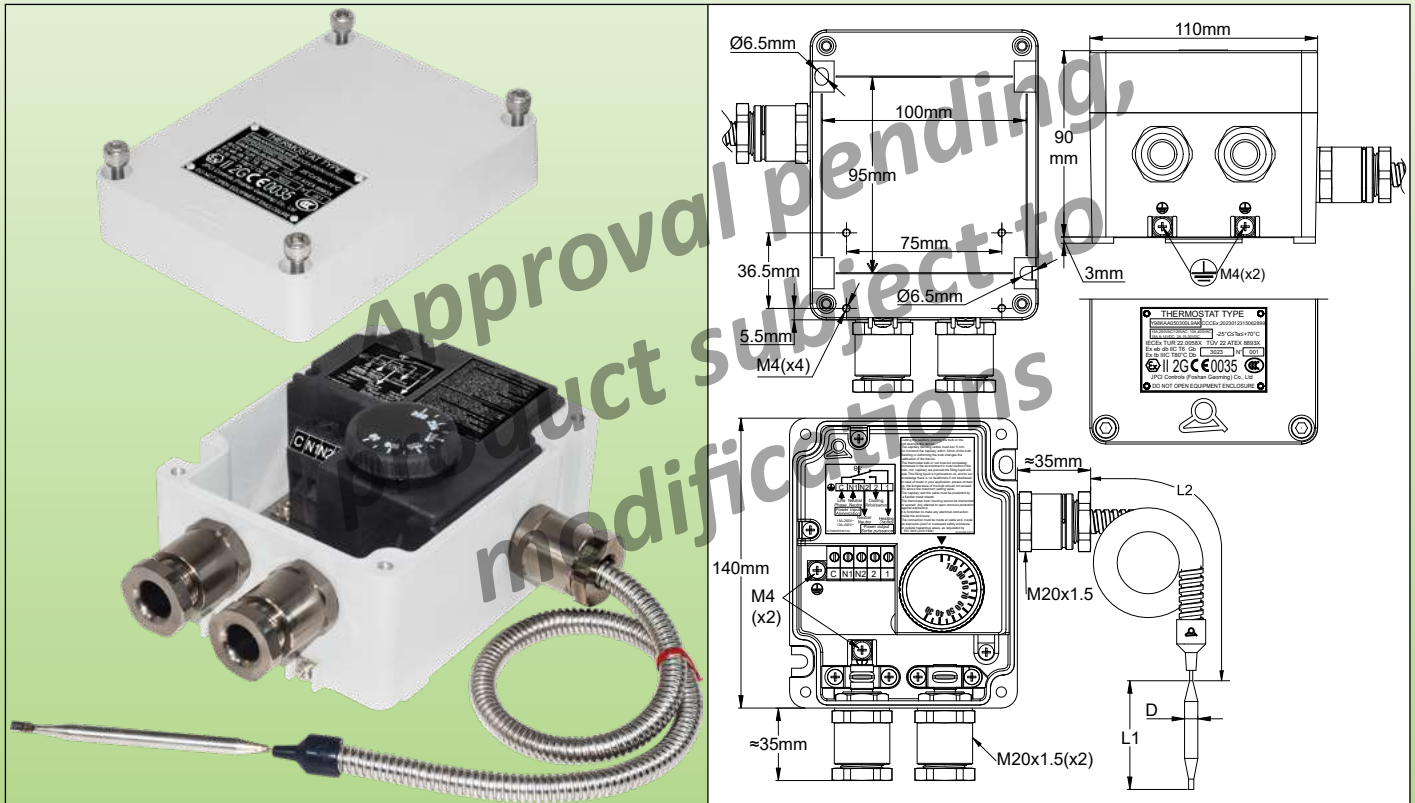
** : The set point adjustment at low end is limited to -25°C

See to the last section of this catalogue for existing accessories

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, printed knob adjustment

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max limits | Type |
|--|---|---|---|--|---|---------------|
| Internal junction block | Printed knob | Bulb and capillary | Control | SPDT 15A | -25 to +320°C | Y98KAA |
|  |  |  |  |  |  | |



General Rules for Installation:

Important Note: These bulb and capillary thermostats are intended to monitor or control temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as "Ex-eb db" and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T6 ;

For dust hazardous areas, this equipment is approved as "Ex-tb", suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from -25°C to +80°C. The thermostat, box and terminal block assembly is an inseparable unit.

Ambient temperature on the enclosure must stay between -25 and +70° C but may also be limited by the maximum ambient temperature allowed on the temperature sensing element (See the parts numbers table).

Approvals: These thermostats are certified: ATEX: TÜV 22ATEX 8893 X ; IECEx: TUR 22.0058X ; CCCEx: ??????

Housing: aluminum, 140 × 110 × 90mm (Dimensions without cable glands), epoxy painting, RAL7035 (thickness less than 0.2mm).

Temperature sensing element: Oil filled bulb and capillary, liquid expansion principle. The capillary is protected by a flexible corrugated stainless-steel tube..

Electrical connection: On built-in junction block, for conductors of 0.5mm² to 4mm², screw terminals. 5 terminals for neutral and line, including jumpers between input and output for neutral. There are also 2 ground terminals M4 inside and 2 outside the enclosure.

Cable glands: two M20 metal cable glands can be used for cable from 3.5 to 12mm. There is a cable locking saddle inside the enclosure, at each cable gland input. It allows the grounding of the braid if braided cables are used.

Adjustment: With knob printed in °C (°F on request). Adjustment is possible only after removing the cover, and when the electrical supply is powered off.



Thermostats and limiters, connection inside EX « e » aluminum housing with built-in connection block



Mounting: Wall mounting, by 2 holes dia. 6.5 mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Contacts: SPDT (snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits, and direct power switching.

| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 10 | 100000 |
| 250VAC | 15 | 100000 |
| 125VAC | 15 | 100000 |
| 0-15VDC | 15 | 100000 |
| 15-30VDC | 2 | 100000 |

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Mechanical life: > 500.000 cycles

Options: These enclosures can receive thermostats with setpoint screw driver adjustment (Type 97KAC) or with sealed fixed setting (Type 97KAF). See pages of thermostats without enclosure for more information.

Gas classification:

⊕ II 2G Ex eb db IIC T6 Gb

Dust classification:

⊕ II 2D Ex tb IIIC T80°C Db

Main references

| Part numbers with one M20 cable gland | Part numbers with two M20 cable gland | Temperature range | Capillary length (L2, mm) | Bulb diameter (D, mm) | Bulb length (L3, mm) | Differential (°C) | Max temperature on bulb | Max temperature on enclosure |
|---------------------------------------|---------------------------------------|------------------------|---------------------------|-----------------------|----------------------|--------------------|-------------------------|------------------------------|
| Y9HKAA-35035L11K | Y98KAA-35035L11K | -35+35°C (-30+95°F) ** | 1500 | 6 | 110 | 1.6±1°C (2.9±2°F) | 60°C (140°F) | 60°C (140°F) |
| Y9HKAA-10040L21K | Y98KAA-10040L21K | -10+40°C (15-105°F) * | 1500 | 6 | 150 | 1.5±1°C (2.7±2°F) | 70°C (158°F) | 70°C (158°F) |
| Y9HKAA004040L41K | Y98KAA004040L41K | 4-40°C (40-105°F) * | 1500 | 8 | 120 | 1.±0.5°C (1.8±1°F) | 50°C (122°F) | 50°C (122°F) |
| Y9HKAA000060L51K | Y98KAA000060L51K | 0-60°C (32-140°F) | 1500 | 6 | 125 | 2.5±1°C (4.5±2°F) | 75°C (167°F) | 70°C (158°F) |
| Y9HKAA030090L61K | Y98KAA030090L61K | 30-90°C (85-195°F) | 1500 | 6 | 100 | 2.5±1°C (4.5±2°F) | 120°C (250°F) | 70°C (158°F) |
| Y9HKAA030110L71K | Y98KAA030110L71K | 30-110°C (85-230°F) | 1500 | 6 | 80 | 2.5±1°C (4.5±2°F) | 140°C (284°F) | 70°C (158°F) |
| Y9HKAA050200L81K | Y98KAA050200L81K | 50-200°C (120-390°F) | 1500 | 4 | 120 | 4±2°C (7±3.6°F) | 230°C (446°F) | 70°C (158°F) |
| Y9HKAA050300L91K | Y98KAA050300L91K | 50-300°C (120-570°F) | 1500 | 4 | 80 | 10±2°C (18±3.6°F) | 330°C (626°F) | 70°C (158°F) |

* The filling liquid of these thermostatic assemblies has a freezing temperature below -40°C. Acceptable minimum storage temperature: -50°C. Maximum ambient temperature on these thermostats: +60°C

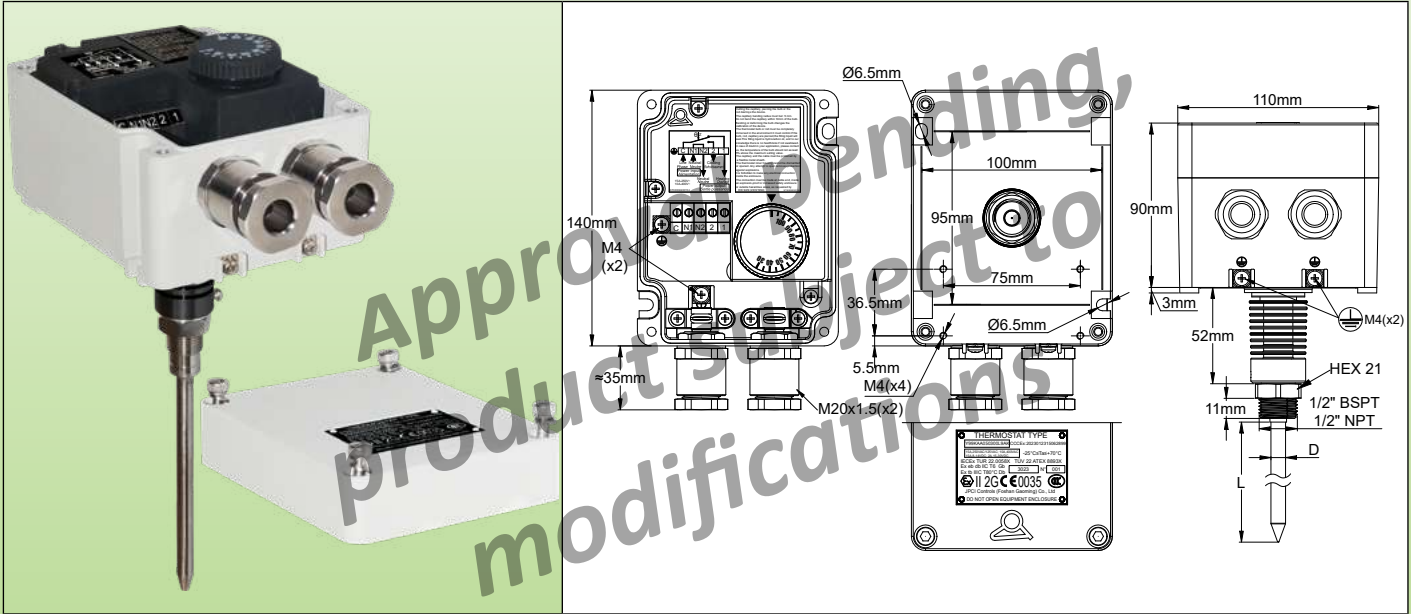
** : The set point adjustment at low end is limited to -25°C

See to the last section of this catalogue for existing accessories

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Rod thermostat, printed knob adjustment

| Electrical connection | Set point adjustment | Mounting | Action | Contact Rating 230V | T° range min and max limits | Type |
|-------------------------|----------------------|----------|---------|---------------------|-----------------------------|---------------|
| Internal junction block | Printed knob | Rod | Control | SPDT 15A | -25 to +320°C | Y99KAA |
| | | | | | | |



General Rules for Installation:

Important Note: These **rod thermostats** are intended to monitor or control temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as "Ex-eb db" and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification **T6** ;

For dust hazardous areas, this equipment is approved as "Ex-tb", suitable for use in zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), with ambient temperature limits on its body from **-25°C to +80°C**. The thermostat, box and terminal block assembly is an inseparable unit.

Ambient temperature on the enclosure must stay between -25 and +70 °C but may also be limited by the maximum ambient temperature allowed on the temperature sensing element (See the parts numbers table).

Approvals: These thermostats are certified: ATEX: TÜV 22ATEX 8893 X ; IECEx: TUR 22.0058X ; CCCEX: ??????

Housing: aluminum, 140 × 110 × 90mm (Dimensions without cable glands), epoxy painting, RAL7035 (thickness less than 0.2mm).

Temperature sensing element: Oil filled bulb, liquid expansion principle. The bulb is located inside a stainless-steel pocket with 1/2" BSPT or 1/2" NPT thread.

Electrical connection: On built-in junction block, for conductors of 0.5mm² to 4mm², screw terminals. 5 terminals for neutral and line, including jumpers between input and output for neutral. There are also 2 ground terminals M4 inside and 2 outside the enclosure.

Cable glands: two M20 metal cable glands can be used for cable from 3.5 to 12mm. There is a cable locking saddle inside the enclosure, at each cable gland input. It allows the grounding of the braid if braided cables are used. One cable gland versions available on request.

Adjustment: With knob printed in °C (°F on request). Adjustment is possible only after removing the cover, and when the electrical supply is powered off.

Mounting: Wall mounting, by 2 holes dia. 6.5 mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Contacts: SPDT (snap action contact)

Electrical rating: Suitable for power control, remote control of relay coils or PLCs circuits, and direct power switching.



Thermostats and limiters, connection inside EX « e » aluminum housing with built-in connection block



| Voltage | Max rating (A) | Switch Electrical life (cycles) |
|----------|----------------|---------------------------------|
| 400VAC | 10 | 100000 |
| 250VAC | 15 | 100000 |
| 125VAC | 15 | 100000 |
| 0-15VDC | 15 | 100000 |
| 15-30VDC | 2 | 100000 |

These devices use silver contacts or silver alloy contacts. Due to the possible oxidation of the contacts in time, we do not recommend the use of AC or DC low-voltage circuits (24V or less) if the switched intensity is less than 100mA, or the switched power less than 800mW. Contact us for those applications that require gold-plated contacts. The electrical ratings given are normalized resistive circuit values.

Mechanical life: > 500.000 cycles

Options: These enclosures can receive thermostats with setpoint screw driver adjustment (Type 97KAC) or with sealed fixed setting (Type 97KAF). See pages of thermostats without enclosure for more information.

Gas classification:

⊕ II 2G Ex eb db IIC T6 Gb

Dust classification:

⊕ II 2D Ex tb IIIC T80°C Db

Main references with ½" BSPT thread

| Part numbers with one M20 cable gland | Part numbers with two M20 cable gland | Temperature range | Rod length (L, mm) | Rod diameter (D, mm) | Differential (°C) | Max temperature on the rod | Max temperature on enclosure |
|---------------------------------------|---------------------------------------|------------------------|--------------------|----------------------|--------------------|----------------------------|------------------------------|
| Y9IKAA-35035211K | Y99KAA-35035211K | -35+35°C (-30+95°F) ** | 230 | 8 | 1.6±1°C (2.9±2°F) | 60°C (140°F) | 60°C (140°F) |
| Y9IKAA-10040221K | Y99KAA-10040221K | -10+40°C (15-105°F) * | 230 | 8 | 1.5±1°C (2.7±2°F) | 70°C (158°F) | 70°C (158°F) |
| Y9IKAA004040241K | Y99KAA004040241K | 4-40°C (40-105°F) * | 230 | 10 | 1.±0.5°C (1.8±1°F) | 50°C (122°F) | 50°C (122°F) |
| Y9IKAA000060251K | Y99KAA000060251K | 0-60°C (32-140°F) | 230 | 8 | 2.5±1°C (4.5±2°F) | 75°C (167°F) | 70°C (158°F) |
| Y9IKAA030090261K | Y99KAA030090261K | 30-90°C (85-195°F) | 230 | 8 | 2.5±1°C (4.5±2°F) | 120°C (250°F) | 70°C (158°F) |
| Y9IKAA030110271K | Y99KAA030110271K | 30-110°C (85-230°F) | 230 | 8 | 2.5±1°C (4.5±2°F) | 140°C (284°F) | 70°C (158°F) |
| Y9IKAA050200381K | Y99KAA050200381K | 50-200°C (120-390°F) | 300 | 6 | 4±2°C (7±3.6°F) | 230°C (446°F) | 70°C (158°F) |
| Y9IKAA050300391K | Y99KAA050300391K | 50-300°C (120-570°F) | 300 | 6 | 10±2°C (18±3.6°F) | 330°C (626°F) | 70°C (158°F) |

*: The filling liquid of these thermostatic assemblies has a freezing temperature below -40°C. Acceptable minimum storage temperature: -50°C. Maximum ambient temperature on these thermostats: +60°C.

** : The set point adjustment at low end is limited to -25°C

*** : For ½" NPT thread, replace the 13rd character (2 or 3) by B and C in the reference.

See to the last section of this catalogue for existing accessories.

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Section 7


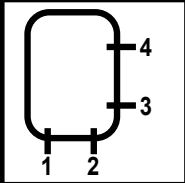
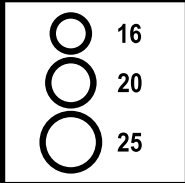
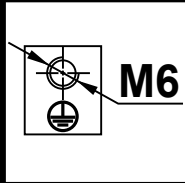
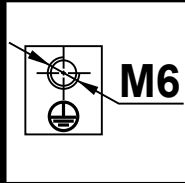
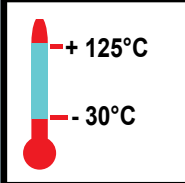
Aluminum connection boxes

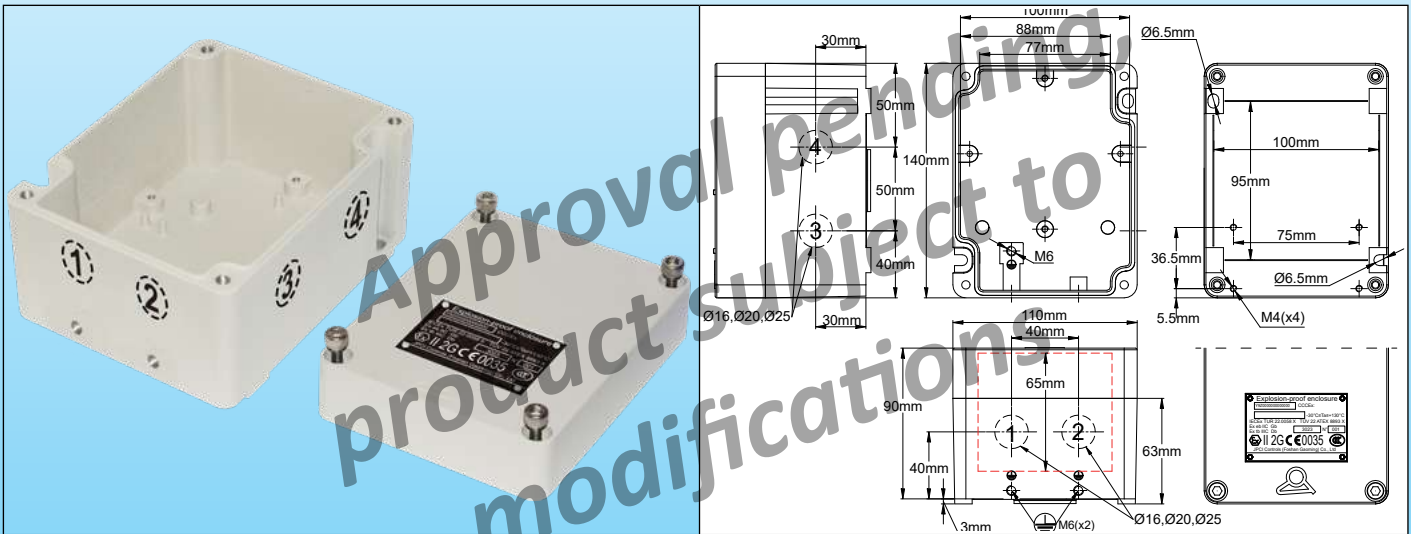
EX « e », IP65.



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

Empty connection boxes, with or without cable glands holes

| Electrical connection | Cable glands holes | Holes diameters | Internal Ground terminals | External Ground terminals | Min and max ambient temperature | Type |
|--|---|---|---|--|---|------------|
| Without Internal junction block | 0 to 4 | 16, 20, 25 | 1 × M6 | 2 × M6 | -30 to +125°C | Y9Z |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These connection boxes are intended to monitor or control ambient temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex-eb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T4 ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature 125°C.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8894 X ; IECEx: IECEx TUR 22. 0059 X ; CCEx: ??????

Housing: Aluminum, 140 × 110 × 90mm, epoxy painting, RAL7032 (thickness less than 0.2mm).

There are 1 ground terminal M6 inside and 2 ground terminals M6 outside the enclosure.

Holes for cable glands: These boxes can be shipped with one to four holes for M1, M20, M25 cable glands, allowing assembly of cable glands by the customer. (see drawing)

Mounting: Wall mounting, by 2 holes dia. 6.5mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Gas classification:

⊕ II 2G Ex eb IIC T4 Gb

Dust classification:

⊕ II 2D Ex tb IIIC T125°C Db

Main references (dia. 20mm holes*)

| Part Number | No cable gland hole | Cable gland hole # 1 position | Cable gland hole # 2 position | Cable gland hole # 3 position | Cable gland hole # 4 position |
|-------------|---------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Y9Z0000000 | x | | | | |
| Y9Z2000000 | | A | | | |
| Y9Z2020000 | | A | B | | |
| Y9Z2020200 | | A | B | C | |
| Y9Z2020202 | | A | B | C | D |


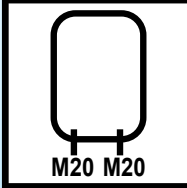
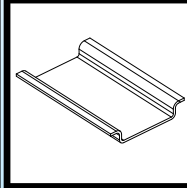
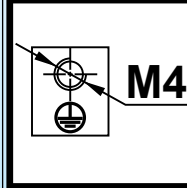
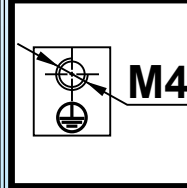
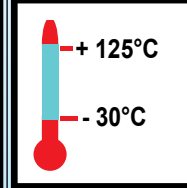
Other cable glands positions are possible. Part numbers on request.

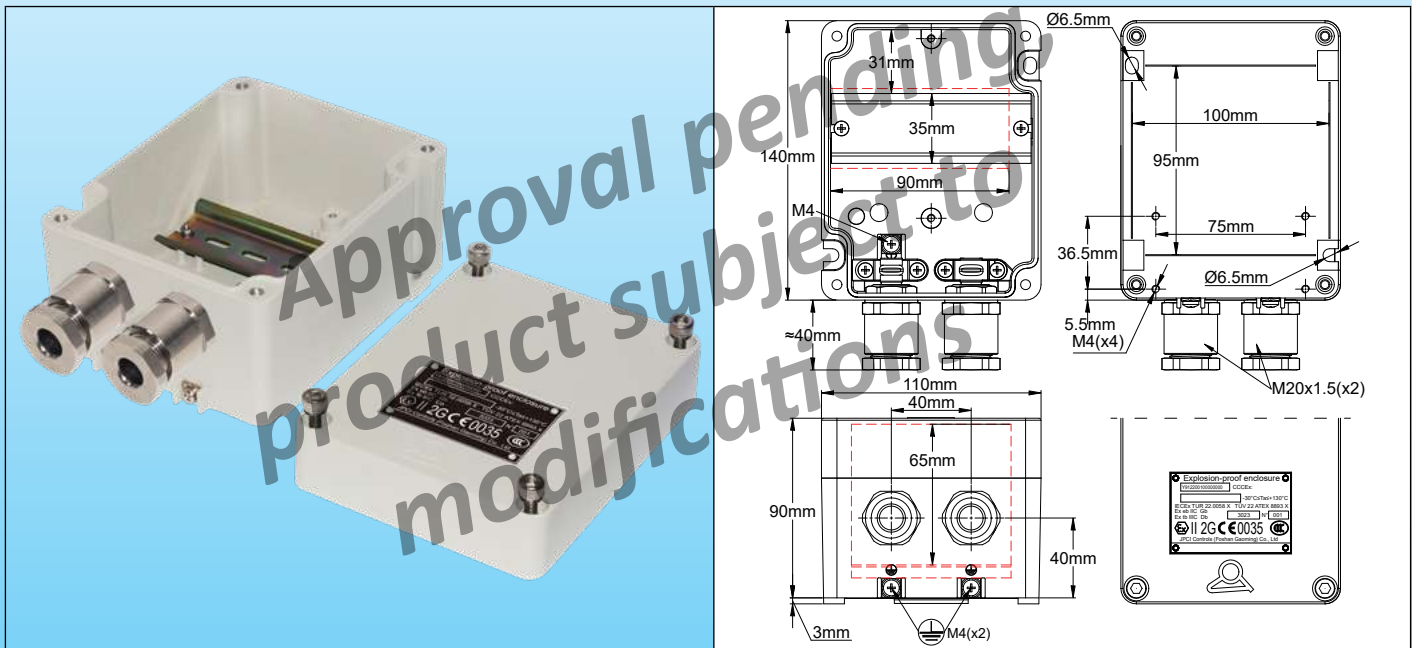
* For drills of 16mm, replace 20 by 16 in the reference. For drills of 25mm, replace 20 by 25 in the reference

See to the last section of this catalogue for existing accessories



Connection boxes with M20 cable glands and 35mm DIN Rail

| Electrical connection | Cable glands | Mounting accessories | Internal Ground terminals | External Ground terminals | Min and max ambient temperature | Type |
|--|---|---|---|--|---|------------|
| Without Internal junction block | 2 × M20 | DIN rail 35mm | 1 × M4 | 2 × M4 | -30 to +125°C | Y91 |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These connection boxes are intended to monitor or control ambient temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex-eb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5 ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature 95°C.

Approvals: These thermostats are certified: Atex: TÜV 22 ATEX 8894 X ; IECEx: IECEx TUR 22. 0059 X ; CCCEX: ???????

Housing: Aluminum, 140 × 110 × 90mm, epoxy painting, RAL7032 (thickness less than 0.2mm).

There are 1 ground terminal M4 inside and 2 ground terminals M4 outside the enclosure.

Cable glands: These boxes can be shipped with one to four M20 cable glands.

Accessory: One 35mm DIN Rail with 90mm usable length. (Other mounting boards are available)

Mounting: Wall mounting, by 2 holes dia. 6.5mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Gas classification:

Ex II 2G Ex eb IIC T5 Gb

Dust classification:

Ex II 2D Ex tb IIIC T95°C Db

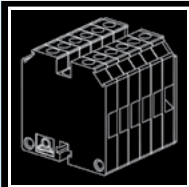
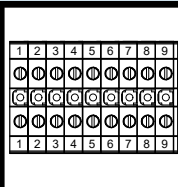
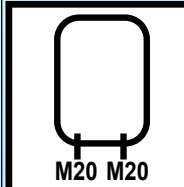
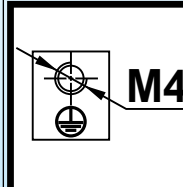
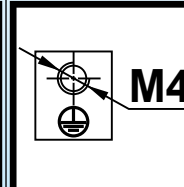
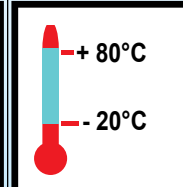
Main references

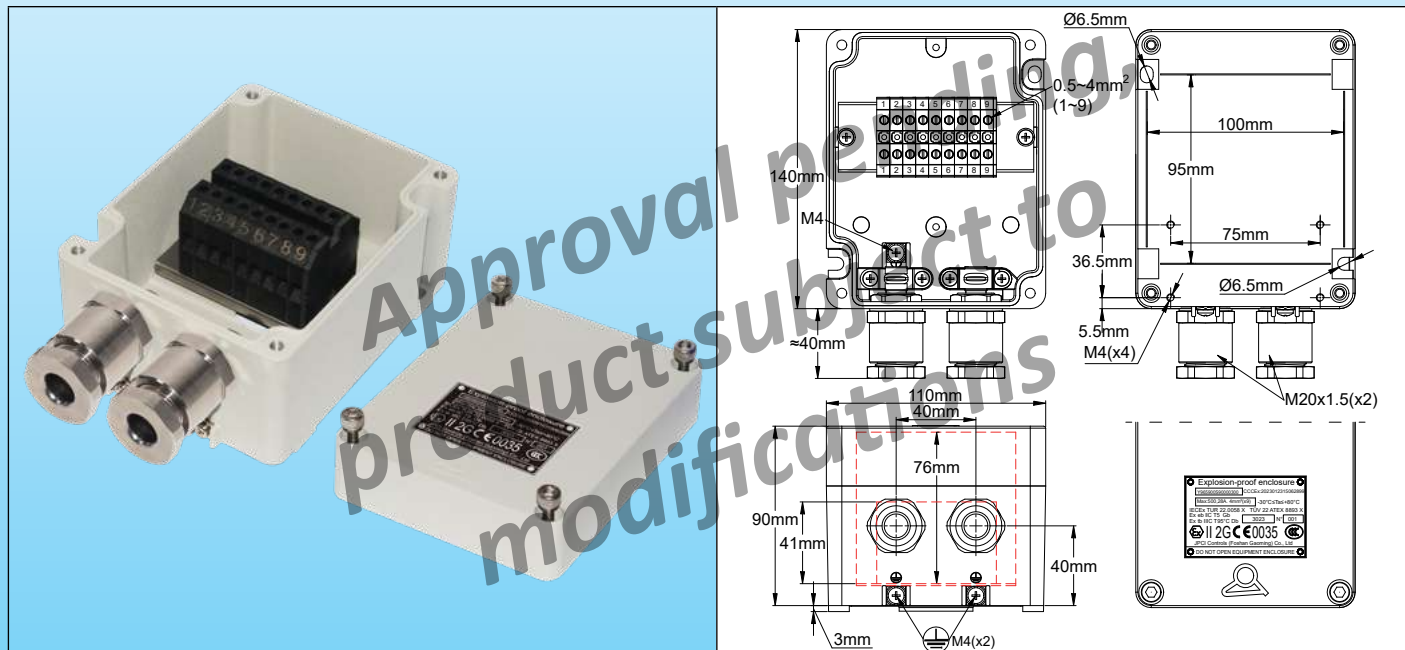
| Part Number | M20 Cable gland # 1 position | M20 Cable gland # 2 position |
|--------------|------------------------------|------------------------------|
| Y91200000001 | A | |
| Y91202000001 | A | B |

Other cable glands positions are possible. Part numbers on request.

See to the last section of this catalogue for existing accessories

Connection boxes with M20 cable glands and junction block

| Electrical connection | Quantity of ways in the connection block | Cable glands | Internal Ground terminals | External Ground terminals | Min and max ambient temperature | Type |
|--|---|---|---|--|---|------------|
| On internal junction block | 1~ 9 | 2 × M20 | 1 × M4 | 2 × M4 | -20 to +80°C | Y96 |
|  |  |  |  |  |  | |



General rules for installation:

Important note: These connection boxes are intended to monitor or control ambient temperatures in gas or dust hazardous areas.

For gas hazardous areas, this equipment is approved as “Ex-eb” and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification T5 ;

For dust hazardous areas, this equipment is approved as “Ex-tb”, suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature 95°C.

Approvals: These thermostats are certified: ATEX: TÜV 22 ATEX 8894 X ; IECEx: IECEx TUR 22. 0059 X ; CCCEX: ??????

Housing: Aluminum, 140 × 110 × 90mm, epoxy painting, RAL7032 (thickness less than 0.2mm).

There are 1 ground terminal M4 inside and 2 ground terminals M4 outside the enclosure.

Cable glands: These boxes can be shipped with one to four M20 cable glands.

Accessory: One junction block for conductors of 0.5mm² to 4mm²

Mounting: Wall mounting, by 2 holes dia. 6.5mm at 100mm × 95mm distance. The housing rear side also includes four M4 threaded holes 36.5 × 75mm distance for mounting metal brackets and feet providing offset wall mounting, pole or pipes mounting (see the accessories in the last part of this catalog)

Gas classification:

⊕ II 2G Ex eb IIC T5 Gb

Dust classification:

⊕ II 2D Ex tb IIIC T95°C Db

Main references with 9 ways junction block*

| Part Number | M20 Cable gland # 1 position | M20 Cable gland # 2 position |
|-----------------|------------------------------|------------------------------|
| Y96J9000S900001 | A | |
| Y96J9000S900003 | A | B |

Other cable glands positions are possible. Part numbers on request.

* For a lower quantity of ways in the junction block, replace 9 (in S9) by the requested quantity

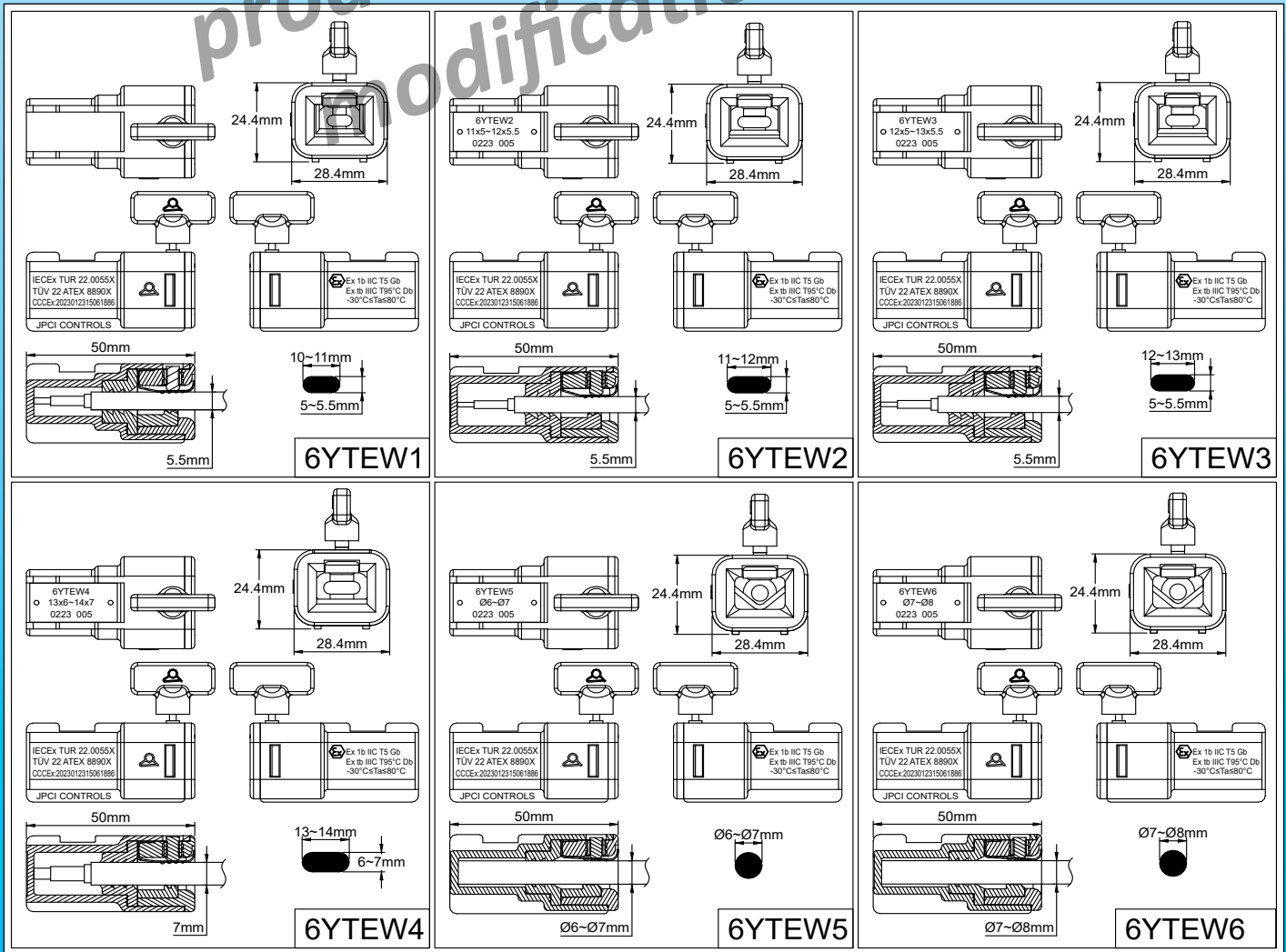
See to the last section of this catalogue for existing accessories

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Pressure screw-clamping IP67 waterproof PA66 termination caps (End seals) for closing the free end of oblong or round heating cables.

| Materials | Minimum tear strength | Heating cables types | Assembly | ATEX IECEX CCCEX | Type |
|---------------------------------|-----------------------|----------------------|---------------------|----------------------------|--------------|
| PA66, stainless steel, Silicone | >25 DaN | Oblongs or round | Locked on the cable | | 6YTEW |



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Applications

These cable ends are used to close quickly and without the need for gluing or filling with resin or the terminations of flexible self-regulating or constant power heating cables. **They are instantly tightened and blocked on the cables without special tool or equipment.**

Their tightening on the cable is made by a butterfly screw which will break at a preset torque. Unscrewing is then impossible. Once installed, they provide an IP67 seal at the end of the cable.

Their range of dimensions allows them to be used on most existing heat tracing heating cables in industrial or explosive environments. Their tear resistance is guaranteed regardless of the material of the outer sheath of the heating cable (Polyolefins, PVC, fluoroelastomers, FEP a.s.o.)

Main features

Body material: UV resistant PA66. (Internal seal is in silicone).

The wings of the body allow to move it away from the piping and improve its cooling. They also allow stable clamping on the piping by a cable tie. A notch prevents the cable tie from slipping

Maximum temperature resistance: +80°C. (For higher temperatures, see silicone cable end boots 6YTNJ with silicone resin filling).

Resistance at minimum temperature: -30°C (For lower temperatures, see the silicone cable end boots 6YTNJ with silicone resin filling).

Tear resistance: Greater than 25 DaN for all models.

This value is equal to or greater than required by standard EN60079-0 for cable terminations in explosive environments and higher than required by standard IEC 62395-1 for heating cables in industrial environment.

Options: Special dimensions possible, with minimum order of 1000 pieces.

Other models: In some cases, especially for constant power cables with a bus wires spacing of less than 5mm, it is necessary to use the version with silicone gel filling.

Warning: These products cannot be used on cables with an external metallic braid not covered by an outer jacket because in this case the waterproofing cannot be achieved. Then use terminations with silicone resin filling. (See types 6YTNJ at the end of this catalogue).

Classification for hazardous areas:

Gas: II 2G Ex eb IIC T5 Gb

Dust: II 2D Ex tb IIIC T95°C Db

Certificates:

ATEX: TÜV 22 ATEX 8895X

IECEX: IECEX TUR 22.0060X

CCCEX: 2023012315061886

Main part numbers

| Part number* | Minimum cable size | Maximum cable size | Identification |
|-----------------|--------------------|--------------------|----------------|
| 6YTEW16S0F50100 | 10 x 5mm | 11 x 5.5mm | W1 |
| 6YTEW26S0F50110 | 11 x 5mm | 12 x 5,5mm | W2 |
| 6YTEW36S0F50120 | 12 x 5mm | 13 x 5,5mm | W3 |
| 6YTEW46S0F60130 | 13 x 6mm | 14 x 7 mm | W4 |
| 6YTEW56S0R60000 | Dia. 6mm | Dia. 7mm | W5 |
| 6YTEW66S0R70000 | Dia. 7mm | Dia. 8mm | W6 |

* Types with silicone gel filling: replace S0 by SG in the reference

Heating wires stripping dimensions

(See the technical introduction for explanation of these dimensions that can be reduced in some cases)

| Self-regulating cable with jacketed braid and with clearance between bus wires equal or bigger than 5mm. | Self-regulating cable with jacketed braid and distance between bus wires lower than 5mm. | Constant power cable with jacketed braid, clearance between bus wires equal or bigger than 5mm | Constant power cable with jacketed braid, clearance between bus wires lower than 5mm |
|--|---|--|---|
| | | | |
| <p>There must be a minimum of 10mm distance between the semiconductor core and the metal braid.</p> | <p>One conductor wire must be cut to maintain a 5mm minimum clearance between the 2 bus wires. There must be a minimum of 10mm distance between the semiconductor core and the metal braid.</p> | <p>There must be a minimum of 10mm distance between the bus wires and the metal braid. The small heating wire must not protrude from its insulating jacket</p> | <p>One conductor wire must be cut to maintain a 5mm minimum clearance between the 2 bus wires. There must be a minimum of 10mm distance between the bus wire and the metal braid. The small heating wire must be cut to not protrude from its insulating jacket. It is mandatory to use the termination with silicone gel filling.</p> |


Installation instruction

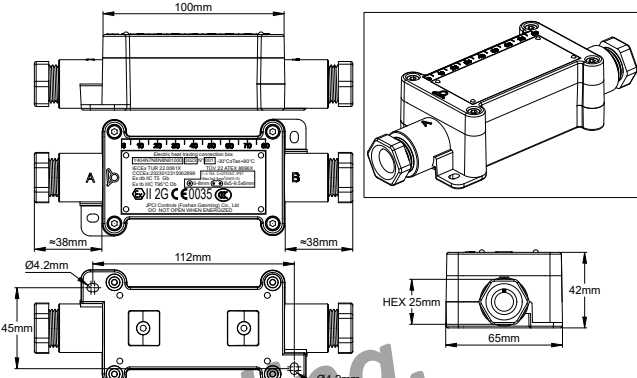
| | | | |
|--|--|---|--|
| <ul style="list-style-type: none"> - Prepare the end of the cable according to the dimensions given in the table above. - Check that its dimensions are compatible with those written on the selected termination cap. - Check that the calculated or measured operating temperature does not exceed the limit value of 120°C at the termination cap. | | | |
| | <ul style="list-style-type: none"> - Insert the cable into the termination cap, push it strongly until it comes to a stop. (It must penetrate 48mm) | <ul style="list-style-type: none"> - Tighten the wing screw until it breaks flush with the termination cap. - This screw is calibrated to break when the torque necessary for the pulling force of the cable to comply with standards is reached. <u>The whole assembly is no longer removable.</u> (When the application requests subsequent disassembly, it is possible to replace, before installation, the wing screw with a simple M4 × 8mm grub screw, with hexagonal hollow head. The recommended tightening torque is then 1.3Nm) | <ul style="list-style-type: none"> - Fix the cable termination cap on the piping or on the surface, using a nylon tie or a metal clamp and placing it on the notch provided, to prevent it from slipping. - Tightening should be moderate so as not to damage the termination cap. If the pipe temperature can rise temperatures up to 80°C, keep the termination away of the tube |

2 ways in line connection box for heat tracing cables, with insulation piercing terminals, for self-regulating cables


| 2 ways in line | Insulation piercing | Wire gauge | Cables diameters | | Type |
|----------------|---------------------|----------------------|--|--|------------|
| | | 1~2.5mm ² | 6 ~ 12.2 8.7 × 3.5 ~ 14.2 × 9.2 | | Y40 |

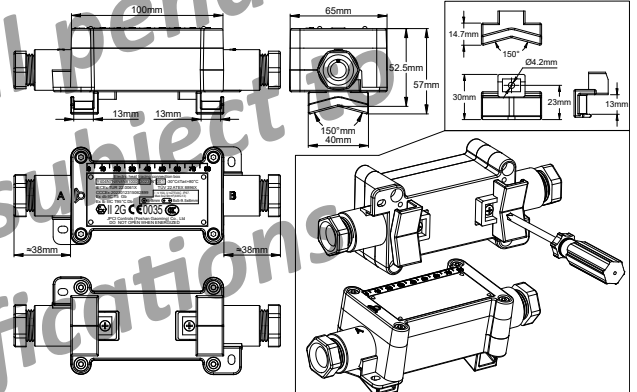
Wall mounting






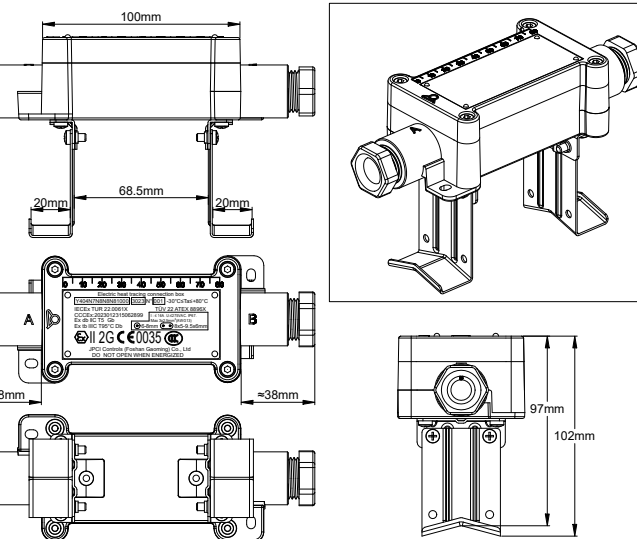
Pipe surface mounting with short polyamid legs, after tightening them on the bottom





Pipe surface mounting with long legs bracket, for 50mm thermal insulation





Example of mounting at short distance of the pipe with the **polyamid legs** supplied in standard



Example of mounting at distance of the pipe with the **long legs** stainless steel bracket of type 6YTQT



Applications

This box is used to connect a **power supply cable to a self-regulating cable, or two self-regulating cables end to end.** It can be mounted flat on a surface, or on a pipe, including with insulation up to 50mm thick.

Access to connectors is very easy, and the connection is very simple, in particular for flat self-regulating cables with **metallic protective braid.**

They can be used in domestic and industrial environments as well as in explosive atmospheres.

Approvals:

- **Industrial applications in electrical heat tracing** according to IEC 62395.

For gas hazardous areas, this equipment is approved as "Ex-eb" and is suitable for use in zone 1 and zone 2, gas group IIC (Hydrogen/Acetylene, the highest protection group), with a temperature classification **T5** ;

For dust hazardous areas, this equipment is approved as "Ex-tb", suitable for use in, zone 21 and zone 22, the dust group is IIIC (electric conductive dust, the highest protection group), maximum allowed equipment temperature **95°C.**

Protection against gaz:

⊕ II 2G Ex eb IIC T5 Gb

Protection against dust:

⊕ II 2D Ex tb IIIC T95°C Db

Certificates:

ATEX: TÜV 22 ATEX 8896 X

IECEX: IECEX TUR 22.0061 X

CCCEX: ??

Main features

Material: Fiberglass reinforced polyamide 66 black, 100mm × 60mm × 40mm (Cable glands not included). Superior UV resistance.

Waterproof grade: IP67 and IP69K (high pressure hot water washing)

Shocks resistance: The highest, IK10 (Cable gland not included).

Mounting:

- **Wall mounting:** 2 wall mounting lugs allow the mounting on a flat surface. Holes distance 110 × 45mm.

- **Pipe mounting with 10mm offset:** Two removable PA66 tabs are supplied as standard and allow mounting on a tube using a nylon tie or metal clamp. The distance from the tube limits the heating of the box.

- **Pipe mounting with 50mm offset:** one snap-on metal stainless steel bracket allows the installation of a thermal insulation and its protection before snapping-on the box on it and making electric connections (Available as an accessory, see catalogue page on 6YTQT parts).

Terminals:

- The terminals are piercing the insulation layers with a double chisel blade, and retain the contact pressure by means of an elastic blade (patented).

- **These terminals are designed to receive self-regulating heating cables with any distance between the bus wires between 2mm and 10mm.**

- These terminals can also possibly be used for conventional conductors of power supply cables.

- All terminals are protected against loosening by vibration or thermal shock.

- The mechanical tightening of the cable is ensured by a screwed metal saddle, usable on round or flat cable.

This patented saddle also ensures the earthing of the metal braid of the heating cables.

- Wire gauge: $3 \times 1\text{mm}^2$ to $3 \times 2.5\text{mm}^2$.

- Maximum permissible intensity: 16A 250V.

Cables outlet: With built-in 1" BSPP cable glands, with 70 shore NBR gaskets (Silicone is available on request).

- **Maximum diameter of round cables:** 8 ; 12 or 14mm depending on the gaskets installed.

- **Limit sizes of oblong cables:**

- from 8×5 to $9.5 \times 6\text{mm}$

- from 9.5×2.5 to $11 \times 3.5\text{mm}$

- from 11×4 to $13 \times 6\text{mm}$

- from 12.5×8 to $14.2 \times 9.2\text{mm}$.

Inviolability: The case can receive one or two seals (Supplied with 5 red plastic ties for use in the sealing holes).

Ambient temperature limits: -40 to $+50^\circ\text{C}$. (-40°F ; $+122^\circ\text{F}$)

Maximum linear power of heating cable: 75W/m.

Maximum intensity: 16A per terminal.

Easy assembly: Assembly is made with full access to terminals when cover is removed. Mounting on wall or pipe can be made with cover removed or cover assembled.

Accessory: Bracket in stainless steel for offset mounting on pipe with up to 50mm insulation thickness. Designed to snap on the connection box without screws. See the accessories pages for models 6YTQT.

Options:

Consult us for parts numbers of simplified models with only one dimension of cable gland gasket for round wire and flat wires, customized label, and specific set of accessories for pipe mounting (OEM versions).

Main references*

One self-regulating cable to one power supply cable (Y401)

| Part numbers | Hole dimension of the seal of cable gland on side A | Hole dimension of the seal of cable gland on side B |
|---------------|--|--|
| Y401N2N500001 | NBR seal for round cable dia. 12mm max. | NBR seal for oblong cable from 11×4 to $13 \times 6\text{mm}$. |
| Y401N7N800001 | Set of 3 NBR seal for round cable dia. max. 8, 12, 14mm. | Set of 4 NBR seals for oblong cables, from 8×5 to $9.5 \times 6\text{mm}$; from 9.5×2.5 to $11 \times 3.5\text{mm}$; from 11×4 to $13 \times 6\text{mm}$; from 12.5×8 to $14.2 \times 9.2\text{mm}$. |

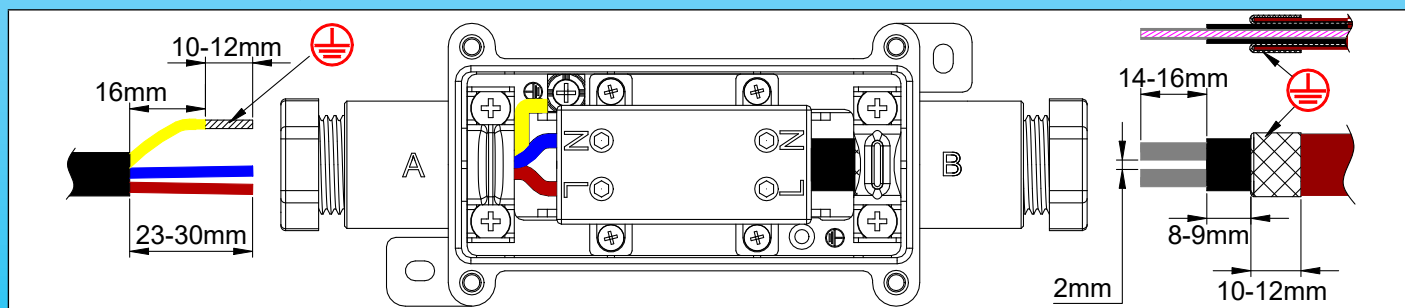
two self-regulating cables end to end (Y402)

| Part numbers | Hole dimension of the seal of cable gland on sides A and B |
|---------------|--|
| Y402N5N500001 | NBR seal for oblong cable from 11×4 to $13 \times 6\text{mm}$. |
| Y402N8N800001 | Set of 4 NBR seals for oblong cables, from 8×5 to $9.5 \times 6\text{mm}$; from 9.5×2.5 to $11 \times 3.5\text{mm}$; from 11×4 to $13 \times 6\text{mm}$; from 12.5×8 to $14.2 \times 9.2\text{mm}$. |

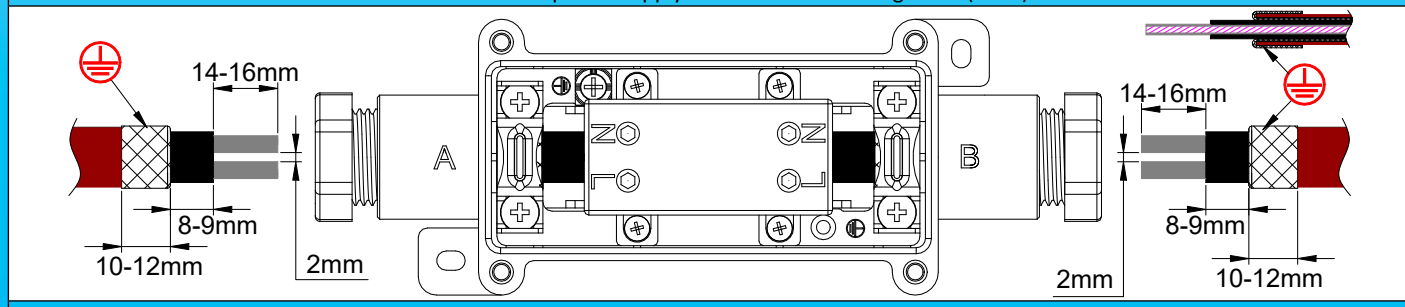
* Includes 2 plastic tabs for wall mounting and 2 snap-on plastic legs for a 10mm offset mounting from the surface of a pipe.

Stripping dimensions of the braided self-regulating cable, and stripping dimension of the power supply cable.

(More detailed instructions are available in the technical introduction)



Model with one power supply cable and one heating cable (Y401)



Model with two heating cable (Y402)

Self-regulating cables assembly steps

| | |
|---|--|
| | |
| <p>1: Cut the cable, slide on it the cable gland nut. Select the cable gland pressure washer and the gasket with the compatible hole diameter and slide them on the cable.</p> | <p>2: Remove external jacket on the requested length.</p> |
| | |
| <p>3: Overlap the braid on the outer jacket and cut the braid at the requested length.</p> | <p>4: Strip heating zone insulation at the requested length.</p> |
| | |
| <p>5: Cut the heating zone between the 2 bus wires at the requested length. It can be made with a special tool (5A) or with a cutter (5B)</p> | <p>6: Trim, if needed, the length of the bus wires.</p> |
| | |
| <p>7: Unscrew the saddle and remove it if necessary, then pass the cable through the cable gland. Slide the end of the self-regulating cable into the terminal block until it stops.</p> | <p>8: Tighten the saddle on the metal braid. Recommended tightening torque: 1.6Nm.</p> |
| | |
| <p>9: Tighten the terminal screw until electrical contact is made with the conductor of the heating cable. Tightening torque is around 1.5Nm. This tightening torque may vary depending on the thickness and hardness of the material of the semiconductor thermoplastic compound. If necessary, check the continuity with an ohmmeter by measuring the resistance between the two terminals N and L.</p> | <p>10: Slide the flat cable gasket and the pressure washer into the cable gland and tighten the nut. Max. tightening torque 3N.m. If not yet made connect the other cable and close the lid.</p> |

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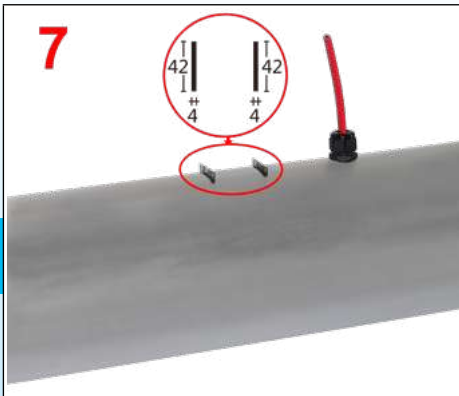
Round cable assembly steps

| | |
|---|---|
| | |
| <p>1: Remove outer jacket on dimensions requested by drawing. Then strip the ground conductors on 10mm. Eventually, crimp cable shoe on it. Slide the cable gland nut and on the cable. Select the compatible diameter gasket and compression washer and slide them too on the cable.</p> | <p>2: Put the neutral and line wires inside the screw terminals and tighten them. Recommended torque 1.6Nm.</p> |
| | |
| <p>3: Slide the ground wire under the ground terminal square washer and tighten the screw. Put the saddle and its 2 screws on the cable and tighten the screws. Recommended torque for the 3 screws 1.6Nm.</p> | <p>4: Slide the round cable gasket and the compression washer into the cable gland and tighten the nut. Maximum tightening torque 3N.m.</p> |

Assembly steps on pipe with long legs bracket for 50mm thermal insulation.

This bracket has been designed to simplify these assembly steps.

| | | |
|--|--|---|
| | | |
| <p>1: Screw the bracket (A) on the bottom of the selected enclosure ;</p> | <p>2: Take the 2 legs (B) and the 4 screws (C)</p> | <p>3: Screw the 2 legs on the bracket A and enclosure sub-assembly</p> |
| | | |
| <p>4: Assemble on the pipe with cable ties or stainless steel hose clamp</p> | <p>5: Unscrew the bracket and enclosure sub-assembly and remove it</p> | <p>6: wrap insulation on the pipe, just making two straight cuts for the legs</p> |



7: Wrap the mechanical protection around the insulation, making two straight cuts for the legs



8: Inject sealant around the legs

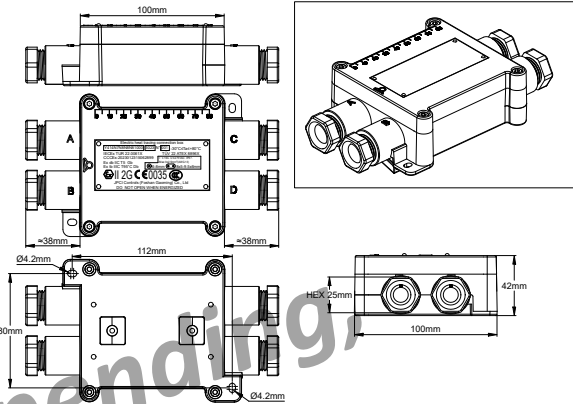


9: Screw the bracket and enclosure sub-assembly again on the 2 legs, and make electrical wiring

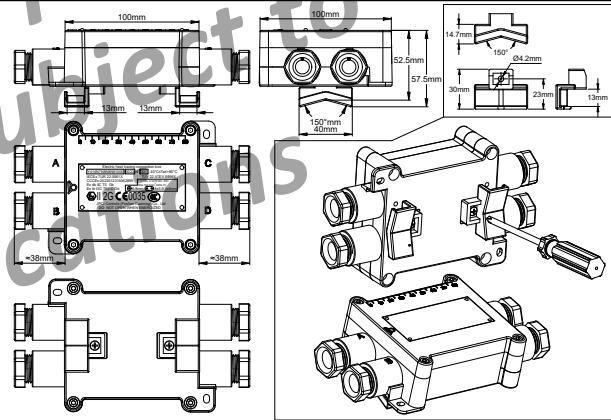
4 ways in line connection box for heat tracing cables, with insulation piercing terminals, for self-regulating cables

| 4 ways in line | Insulation piercing | Wire gauge | Cables diameters | RoHS REACH | Type |
|----------------|---------------------|------------------------|---|------------|-------------|
| | | 1 ~ 2.5mm ² | <p>6 ~ 12.2</p> <p>8.7 × 3.5 ~ 14.2 × 9.2</p> | | Y414 |

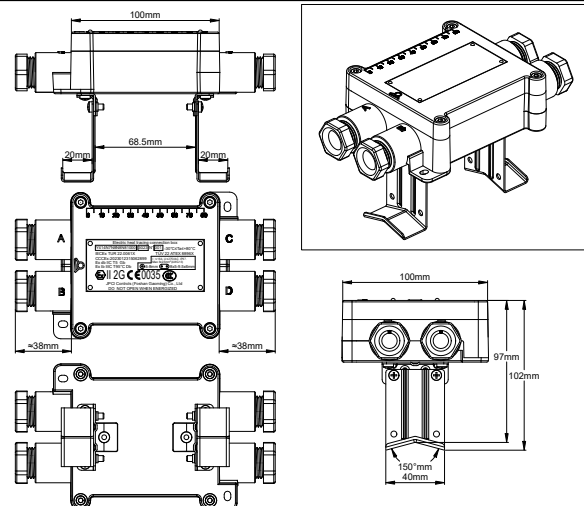
Wall mounting



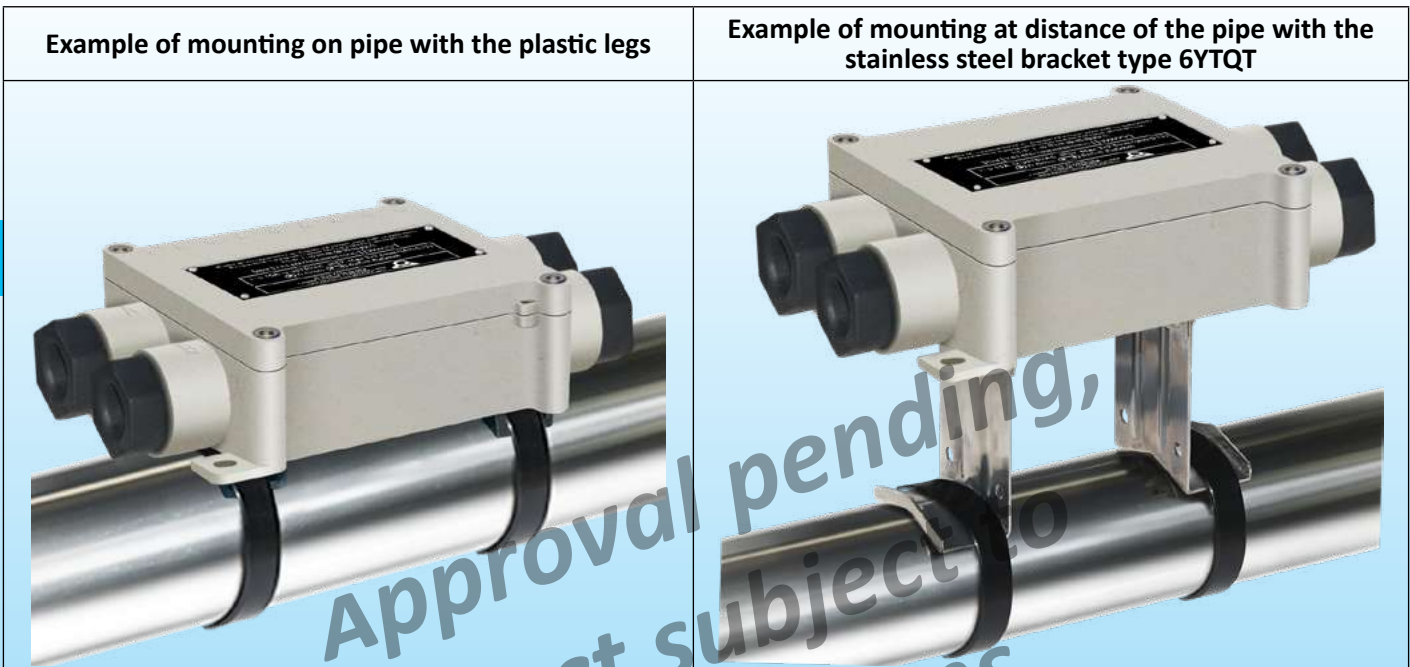
10mm offset mounting for pipes mounting with PA66 legs (Standard accessory)



50mm offset mounting for pipes by 2 stainless steel legs (optional 6YTQT accessory)



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Applications

This box is used to connect a **power supply cable to 3 self-regulating cable**. It can be mounted flat on a surface, or on a pipe, including with insulation up to 50mm thick. It is designed **to snap** onto the pipe mounting brackets. The terminal blocks are easily accessible and **the connection is very simple, in particular for flat self-regulating cables with metallic protective braid**.

Protection against gaz:

⊕ II 2G Ex cb IIC T5 Gb

Protection against dust:

⊕ II 2D Ex tb IIIC T95°C Db

Certificates:

ATEX: TÜV 22 ATEX 8896 X

IECEX: IECEX TUR 22.0061 X

CCCEX: ??

Main features

Material: Fiberglass reinforced polyamide 66 black, 105mm × 45mm × 41mm (Cable glands not included). Superior UV resistance.

Waterproof grade: IP67 and IP69K (high pressure hot water washing)

Shocks resistance: The highest, IK10 (Cable gland not included).

Mounting:

- Wall mounting: 2 wall mounting lugs allow the mounting on a flat surface. Holes distance 80 × 110mm.

- Pipe mounting with 10mm offset: Two plastic legs supplied as standard allow attachment to a tube using nylon hose clamps.

- Pipe mounting with 50mm offset: one snap-on metal stainless steel bracket allows the installation of a thermal insulation and its protection before snapping-on the box on it and making electric connections. (Available as an accessory, see catalogue page on 6YTQT parts).

Terminals:

- The terminals intended for the self-regulating heating conductors are piercing the insulation layers with a double chisel blade, and retain the contact pressure by means of an elastic blade (patented).

- **These terminals are designed to receive self-regulating heating cables with any distance between the bus wires between 2mm and 10mm.**

- These terminals can also possibly be used for conventional conductors of power supply cables.

- The terminals for the conductors of the power supply cables are clamped with traditional pressure screw. We recommend them for this type of conductor, often flexible type, with many strands of small diameter, that can be damaged by the knives of the insulation piercing terminals.

- All terminals are protected against loosening by vibration or thermal shock.

- The mechanical tightening of the cable is ensured by a screwed metal saddle, usable on round or flat cable.

This patented saddle also ensures the earthing of the metal braid of the heating cables.

- Wire gauge: 3 × 1mm² to 3 × 2.5mm².

- Maximum permissible intensity: 16A 250V.

Interconnection: The neutral terminals (N) are internally connected by a jumper and so are the Line (L) terminals.

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Cables outlet: with M24 cable glands, with 70 shore NBR gaskets (Silicone is available on request).

- **Maximum diameter of round cables:** 8 ; 12 or 14mm depending on the gaskets installed.
- **Limit sizes of oblong cables:**
 - from 8 × 5 to 9.5 × 6mm
 - from 9.5 × 2.5 to 11 × 3.5mm
 - from 11 × 4 to 13 × 6mm
 - from 12.5 × 8 to 14.2 × 9.2mm

For more information about tightening possibilities on round and oblong cables, see the catalogue page on 6YTP cable glands.

Inviolability: The case can receive one or two seals (delivered with 5 red seals)

Sealing: Supplied with 5 red plastic ties for use in the sealing holes

Easy assembly: Assembly is made with full access to terminals when cover is removed. Mounting on wall or pipe can be made with cover removed or cover assembled.

Accessory: Bracket in stainless steel for offset mounting on pipe with up to 50mm insulation thickness. Designed to snap on the connection box. See the accessories pages on 6YTQT models

Options:

- 3 output models (one cable gland is removed and replaced by a cap)
- Independent lines (internal jumpers between connectors are removed)

Consult us for parts numbers of simplified models with only one dimension of cable gland gasket for round wire and flat wires, customized label, and specific set of accessories for pipe mounting (OEM versions).

Main references

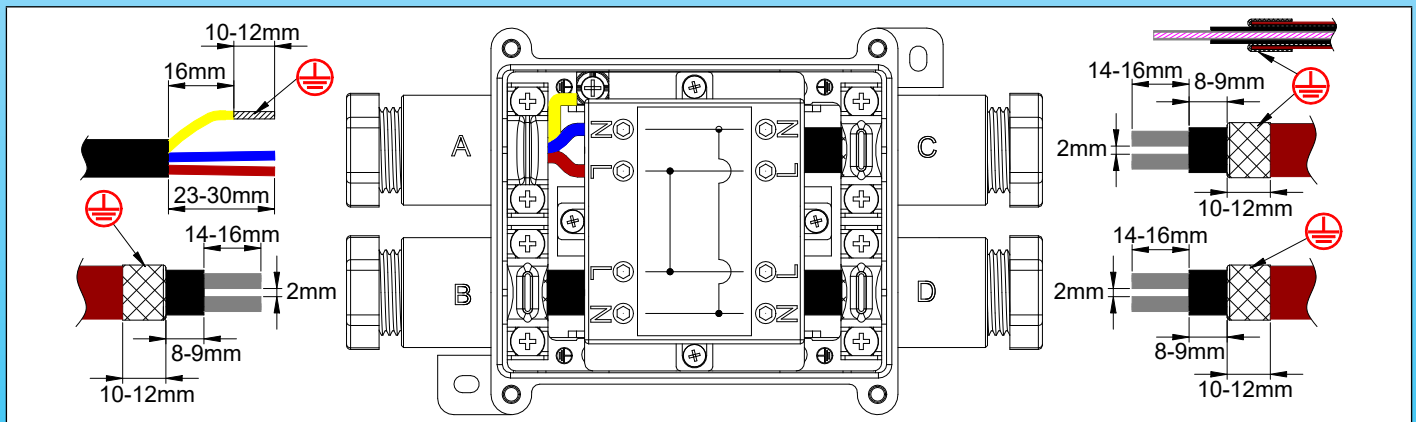
Model for 3 self-regulating cable and one power supply cable (Y414)

| Part numbers | Hole dimension of the seal of cable gland on side A | Hole dimension of the seal of cable gland on side B, C, D |
|---------------|--|---|
| Y414N2N5N5N51 | NBR seal for round cable dia. 12mm max. | NBR seal for oblong cable from 11 × 4 to 13 × 6mm. |
| Y414N7N8N8N81 | Set of 3 NBR seal for round cable dia. max. 8, 12, 14mm. | Set of 4 NBR seals for oblong cables, from 8 × 5 to 9.5 × 6mm ; from 9.5 × 2.5 to 11 × 3.5mm ; from 11 × 4 to 13 × 6mm ; from 12,5 × 8 to 14.2 × 9.2mm. |

* Includes 2 plastic tabs for wall mounting and 2 snap-on plastic legs for a 10mm offset mounting from the surface of a pipe.

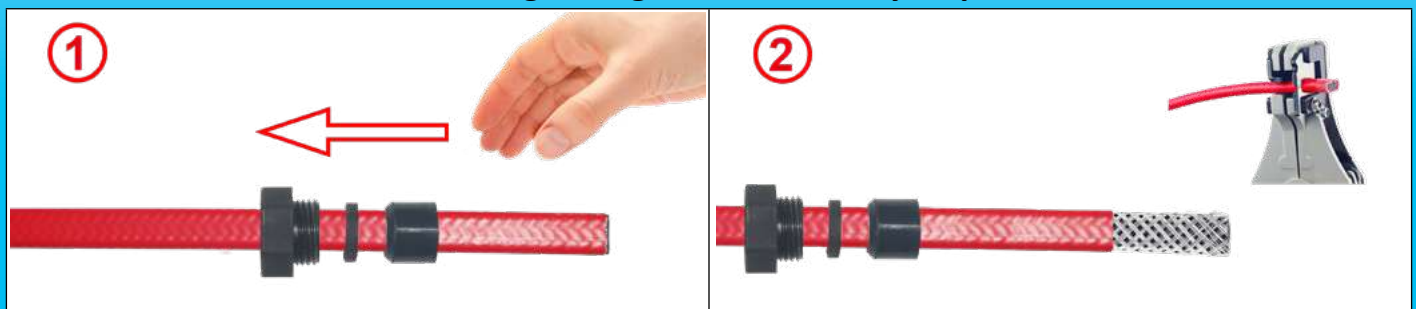
Stripping dimensions of the braided self-regulating cable, and stripping dimension of the power supply cable.

(More detailed instructions are available in the technical introduction)



Model with 3 heating wires and one power supply cable (Y414)

Self-regulating cables assembly steps



1: Cut the cable, slide on it the cable gland nut. Select the cable gland gasket with the compatible hole diameter and slide it on the cable.

2: Remove external jacket on the requested length.



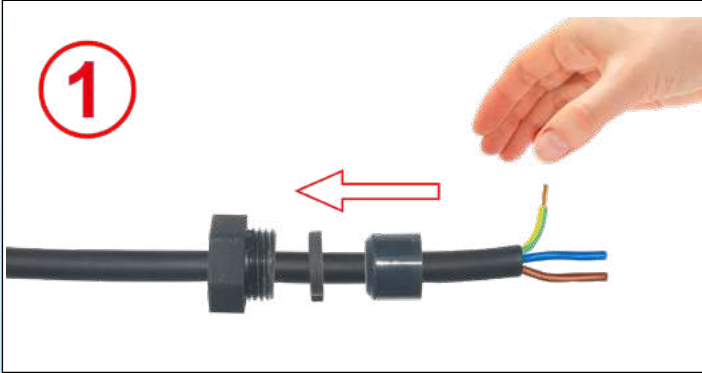
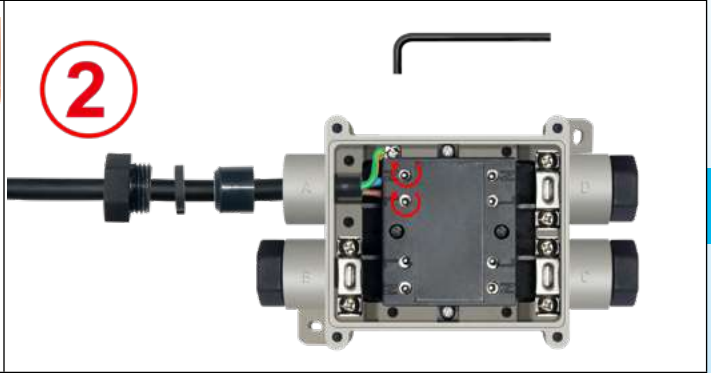
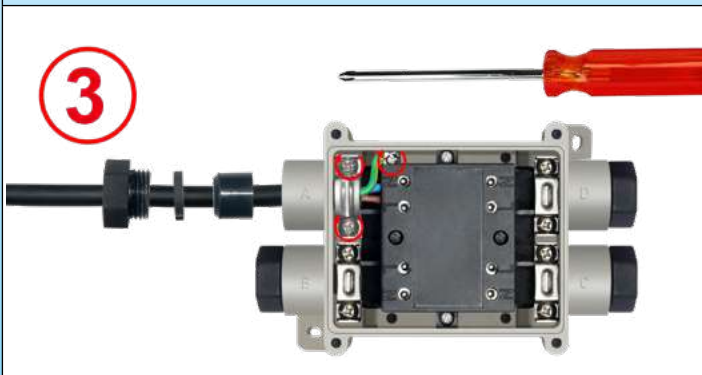
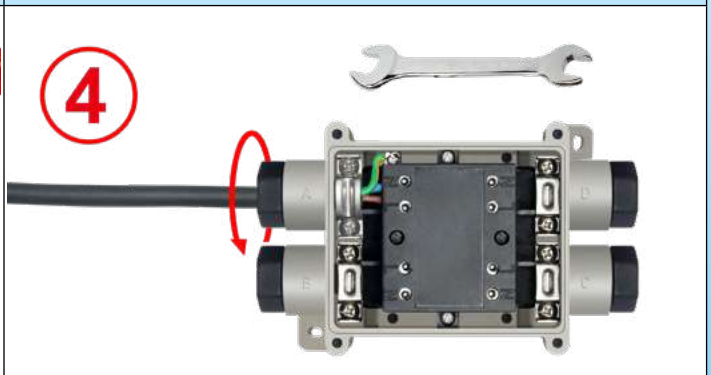
Heat tracing accessories



| | |
|---|--|
| | |
| <p>3: Cut the braid at the requested length. Don't unweave it.</p> | <p>4: Strip heating zone insulation at the requested length.</p> |
| | |
| <p>5: Cut the heating zone between the 2 bus wires at the requested length.</p> | <p>6: Adjust, if needed, the length of the bus wires.</p> |
| | |
| <p>7: Unscrew the saddle and remove it if necessary, then pass the cable through the cable gland. Slide the end of the self-regulating cable into the terminal block until it stops.</p> | <p>8: Tighten the saddle on the metal braid. Recommended tightening torque: 1.6Nm.</p> |
| | |
| <p>9: Tighten the terminal screw until electrical contact is made with the conductor of the heating cable. Tightening torque is around 1.5Nm. This tightening torque may vary depending on the thickness and hardness of the material of the semiconductor thermoplastic compound. If necessary, check the continuity with an ohmmeter by measuring the resistance between the two terminals N and L.</p> | <p>10: Slide the flat cable gasket into the cable gland and tighten the nut. Max. tightening torque 3N.m. If not yet made connect the other cable and close the lid.</p> |

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Round cable assembly steps





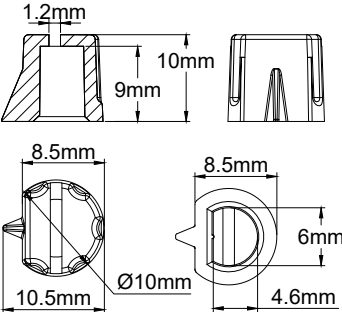
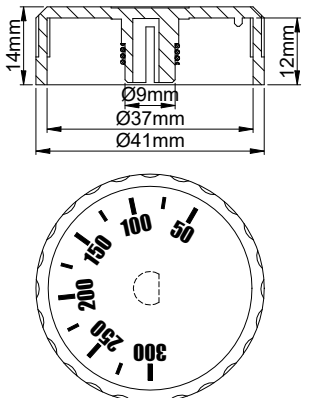
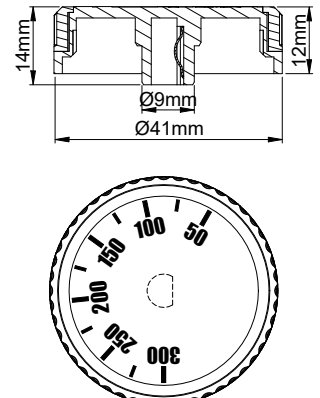
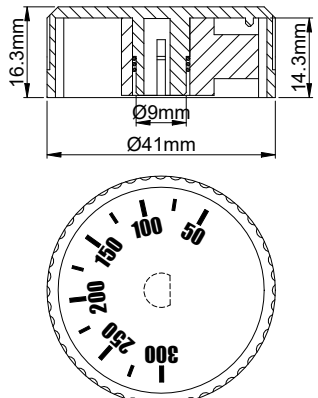
| | |
|--|---|
|  |  |
| <p>1: Remove outer jacket on 24mm. Then strip the conductors on 10mm. Eventually, crimp cable shoes. Slide the cable gland nut on the cable. Select the compatible diameter gasket and slide it too on the cable.</p> | <p>2: Put the neutral and line wires inside the screw terminals and tighten them. Recommended torque 1.6Nm.</p> |
|  |  |
| <p>3: Slide the ground wire under the ground terminal square washer and tighten the screw. Recommended torque 1.6Nm.</p> | <p>4: Slide the round cable gasket into the cable gland and tighten the nut. Maximum tightening torque 3N.m.</p> |

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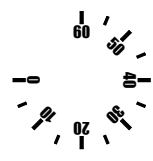
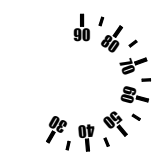

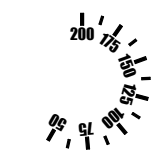
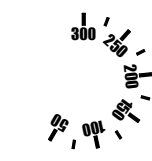


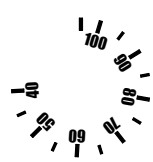




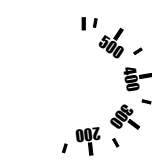


Knobs

All explosion proof thermostat with set point adjustment type KAA, have shafts with a diameter of 6mm and a 4.6mm flat. Except in special applications, these shafts have a length of 10mm. The screwdriver adjustment shaft of models KAC has a projecting length of 1 to 2mm. The set point increases when the knob is turned clockwise.

|  |  |  |  | | | | | | | | |
|---|---|--|---|-----------|--------------|---|-----------|--------------|--|-----------|--------------|
|  |  |  |  | | | | | | | | |
| <p>Dia. 10mm miniature arrow knob, with a slot allowing screw driver adjustment (Material: PA66)</p> <table border="1" data-bbox="175 1110 359 1196"> <tr><th>Reference</th></tr> <tr><td>66MQ006</td></tr> </table> <p>Compatible with printed dials 66CA01 and 66CP</p> | Reference | 66MQ006 | <p>Flat knob, dia. 41mm, height 14mm (Material: PA66)</p> <table border="1" data-bbox="494 1067 742 1153"> <tr><th>Reference</th></tr> <tr><td>66MG006*****</td></tr> </table> <p>Compatible with bezel 66EN1</p> | Reference | 66MG006***** | <p>Flat knob, dia. 41mm, height 12mm with soft grip touch (Material PC+ Santoprene)</p> <table border="1" data-bbox="845 1088 1093 1175"> <tr><th>Reference</th></tr> <tr><td>66MZ006*****</td></tr> </table> <p>Compatible with bezel 66EN Standard knob used for thermostat KAA inside aluminium Ex-e enclosure</p> | Reference | 66MZ006***** | <p>Flat knob, dia. 41mm, height 16,3mm, with built in adjustable stop (Material: ABS)</p> <table border="1" data-bbox="1197 1088 1444 1175"> <tr><th>Reference</th></tr> <tr><td>66ME006*****</td></tr> </table> <p>Compatible with bezel 66EN Knob used for thermostat KAA inside aluminium Ex-e enclosure when restriction to set point adjustment limits are needed</p> | Reference | 66ME006***** |
| Reference | | | | | | | | | | | |
| 66MQ006 | | | | | | | | | | | |
| Reference | | | | | | | | | | | |
| 66MG006***** | | | | | | | | | | | |
| Reference | | | | | | | | | | | |
| 66MZ006***** | | | | | | | | | | | |
| Reference | | | | | | | | | | | |
| 66ME006***** | | | | | | | | | | | |

Knob printings

| White color printing in °C | | | | | | | |
|---|---|---|---|---|--|---|---|
| -35+35°C | -10+40°C | 4-40°C | 0-60°C | 30-90°C | 30-110°C | 50-200°C | 50-300°C |
|  |  |  |  |  |  |  |  |
| -350353AW | -100403AW | 0040403AW | 0000603AW | 0300903AW | 0301103AW | 0502003AW | 0503003AW |
| White color printing in °F | | | | | | | |
| -30-95°F | 15-105°F | 40-105°F | 32-140°F | 85-195°F | 85-230°F | 120-390°F | 120-570°F |
|  |  |  |  |  |  |  |  |
| -350353AX | -100403AX | 0040403AX | 0000603AX | 0300903AX | 0301103AX | 0502003AX | 0503003AX |

*****: The complete reference is achieved by replacing the * in red in the knob part number by the 9 characters, providing the printing and its position. The flat of the shaft is facing the temperature range high end. Other high end position on request.

Dials and bezels

The scale on the dial is in the opposite direction of the knob scale, but the set point remains clockwise increase.

| <p>Square printed dial, mounting with 2 M4 screws, 28mm distance. (Material: PBT)</p> <table border="1"> <tr><th>References</th></tr> <tr><td>66CP01*****</td></tr> </table> <p>Compatible with screwdriver adjustment thermostat type KAC or on 10mm long shaft thermostat type KAA + 66MQ miniature knob</p> | References | 66CP01***** | <p>Square printed dial, push in mounting inside M4 threads, 28mm distance. (Material: PBT)</p> <table border="1"> <tr><th>References</th></tr> <tr><td>66CP02*****</td></tr> </table> <p>Compatible with screwdriver adjustment thermostat type KAC or on 10mm long shaft thermostat type KAA + 66MQ miniature knob</p> | References | 66CP02***** | <table border="1"> <tr><th>References</th></tr> <tr><td>66EN2</td></tr> </table> <p>Compatible with knobs 66MG, 66MZ, 66ME</p> | References | 66EN2 | <p>Black for knobs dia. 41mm (Material: ABS)</p> <table border="1"> <tr><th>References</th></tr> <tr><td>66EN1</td></tr> </table> <p>Compatible with knobs 66MG, 66MZ, 66ME</p> | References | 66EN1 |
|--|------------|-------------|---|------------|-------------|--|------------|-------|---|------------|-------|
| References | | | | | | | | | | | |
| 66CP01***** | | | | | | | | | | | |
| References | | | | | | | | | | | |
| 66CP02***** | | | | | | | | | | | |
| References | | | | | | | | | | | |
| 66EN2 | | | | | | | | | | | |
| References | | | | | | | | | | | |
| 66EN1 | | | | | | | | | | | |

Dials printings

| White color printing in °C | | | | | | | |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| -35+35°C | -10+40°C | 4-40°C | 0-60°C | 30-90°C | 30-110°C | 50-200°C | 50-300°C |
| | | | | | | | |
| -35035CAW | -10040CAW | 004040CAW | 000060CAW | 030090CAW | 030110CAW | 050200CAW | 050300CAW |
| White color printing in °F | | | | | | | |
| -30-95°F | 15-105°F | 40-105°F | 32-140°F | 85-195°F | 85-230°F | 120-390°F | 120-570°F |
| | | | | | | | |
| -35035CAX | -10040CAX | 004040CAX | 000060CAX | 030090CAX | 030110CAX | 050200CAX | 050300CAX |

*****: The complete reference is achieved by replacing the * in red in the dial part number by the 9 characters providing the printing and its position. The flat of the shaft is facing the temperature range high end. Other high end position on request. Many other knobs, dials, bezels exist. See the full list in the catalogue N°1.



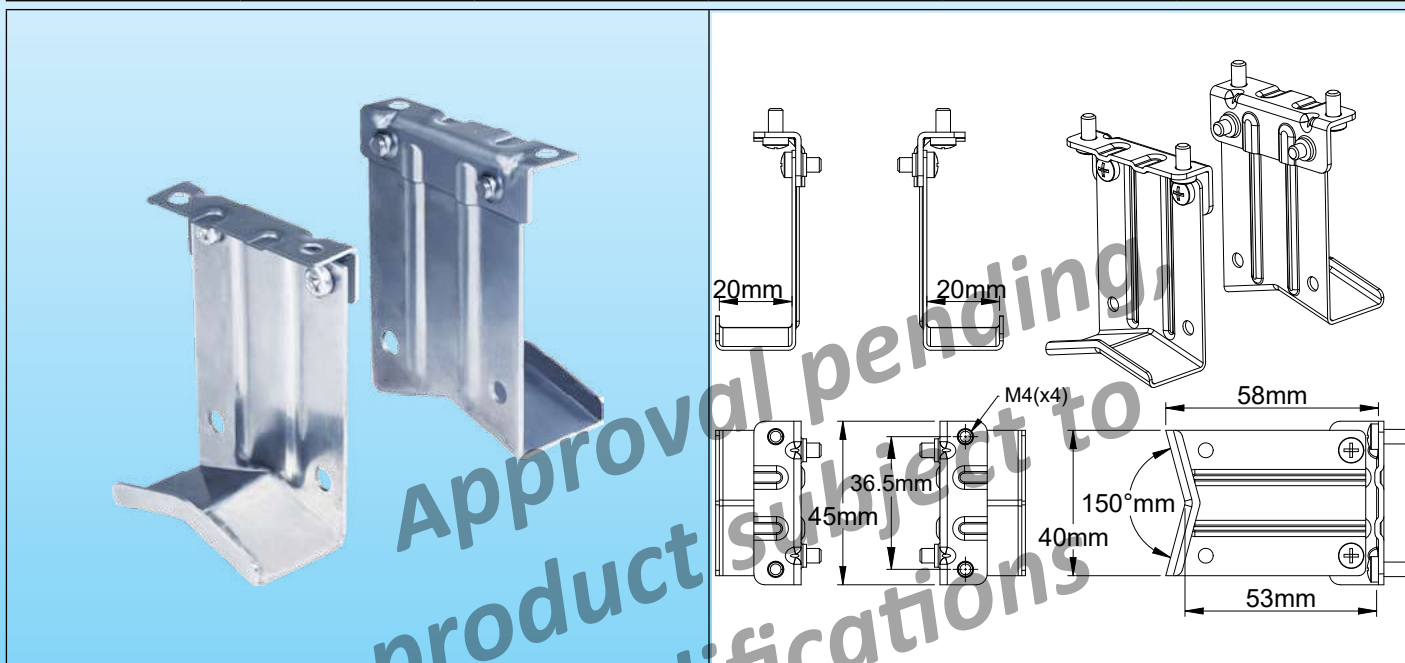
Examples of assembly on thermostats

| | |
|---|---|
|  |  |
| Thermostat type KAA with softgrip knob 66MZ and 66EN1 bezel | Thermostat type KAA with miniature knob 66MQ and 66CP02 printed dial |
|  |  |
| Thermostat type KAA with adjustable stop knob 66ME and 66EN1 bezel | Thermostat type KAC with 66CP01 printed dial assembled with 2 screws M4 |

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Stainless steel mounting feet for explosion proof enclosures, screwed on their bottom. Mounting on pipes by nylon ties or metal clamps.

| Material | Fixing | Distance to pipe | Assembly on box | | Type |
|-----------------|---------|------------------|-----------------|--|----------|
| Stainless steel | On pipe | ~50mm | Screwed | | 6YTQTW46 |



Example of assembly on 140 × 110 × 90mm enclosure (Type Y9)



Example of assembly on Y40 heat tracing connection box

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Approval pending, product subject to modifications

Applications

These metal brackets allow to mount connection boxes for heating cables on pipes, keeping a distance of about 50mm with the pipes, which allows thermal insulation and its protection to be installed. These models allow this insulation to be carried out after the heating cables have been laid and before the boxes have been laid and connected.

The removable legs, fixed by 2 screws on the side of the bracket body can be mounted on the pipe before the thermal insulation, then requesting only two straight cut on it before to screw the legs on the bracket body. The use of stainless-steel limits thermal conduction by the feet from the pipe to the box.

Part numbers

| Material | Part number | Can be used on: |
|----------|-------------|------------------------|
| SUS304 | 6YTQTW46 | Y40, Y41, Y50, Y51, Y9 |
| SUS316 | 6YTQTW66 | Y40, Y41, Y50, Y51, Y9 |

How to install these pipe mounting legs on thermally insulated pipe

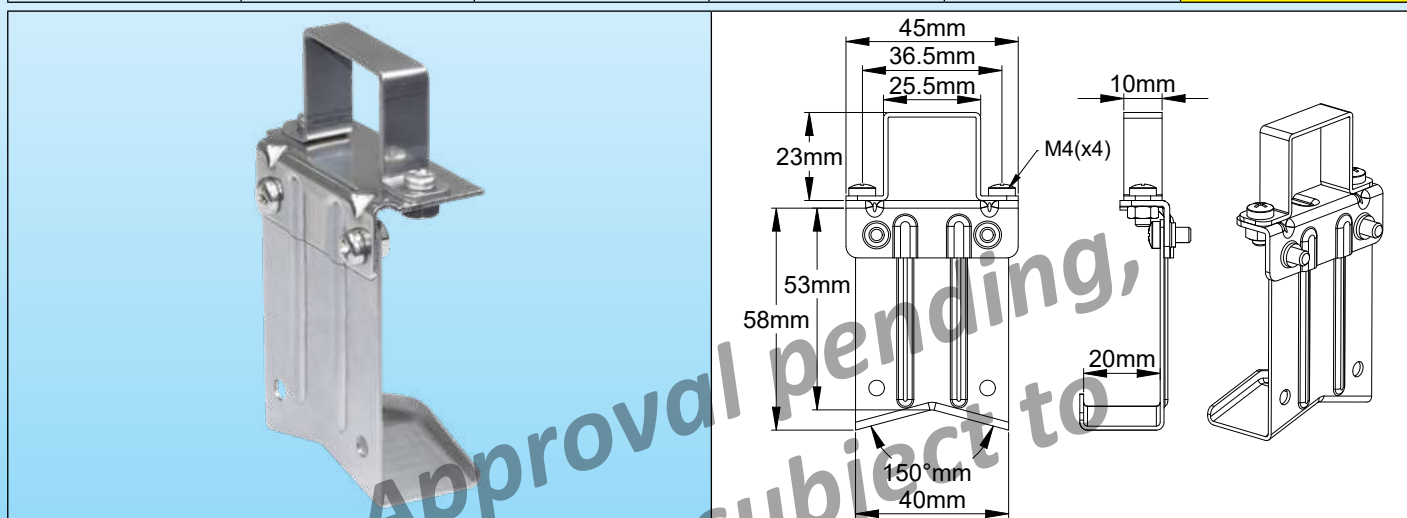
| | | |
|--|---|---|
| | | |
| <p>1: Screw the bracket (A) on the bottom of the selected enclosure ;</p> | <p>2: Take the 2 legs (B) and the 4 screws (C)</p> | <p>3: Screw the 2 legs on the bracket A and enclosure sub-assembly</p> |
| | | |
| <p>4: Assemble on the pipe with cable ties or stainless steel hose clamp</p> | <p>5: Unscrew the bracket and enclosure sub-assembly and remove it</p> | <p>6: wrap insulation on the pipe, just making two straight cuts for the legs</p> |
| | | |
| <p>7: Wrap the mechanical protection around the insulation, making two straight cuts for the legs</p> | <p>8: Inject sealant around the legs</p> | <p>9: Screw the bracket and enclosure sub-assembly again on the 2 legs, and make electrical wiring</p> |

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Stainless steel mounting foot for explosion proof heat tracing cable termination. Mounting on pipes by nylon ties or metal clamps.

| Material | Fixing | Distance to pipe | Assembly on box | | Type |
|-----------------|---------|------------------|-----------------|--|------|
| Stainless steel | On pipe | ~50mm | Screwed | | |



Example of assembly on heat tracing cable termination 6YTEW

Applications

This metal bracket allows to mount heat tracing heating cable termination on pipes, keeping a distance of about 50mm with the pipes, which allows thermal insulation and its protection to be installed and avoid to reach Ex prohibited ambient temperature on the termination, e.a. when the pipe surface temperature is too high. The use of stainless-steel limits thermal conduction by the feet from the pipe to the box.

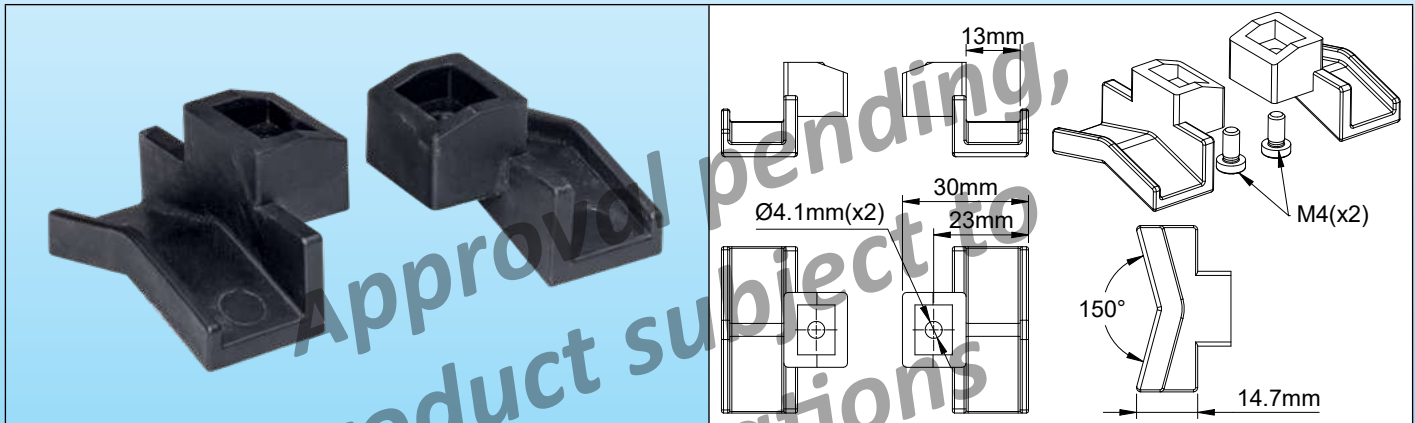
Part numbers

| Material | Part number | Can be used on: |
|----------|-------------|-----------------|
| SUS304 | 6YTQTV47 | 6YTEW |
| SUS316 | 6YTQTV67 | 6YTEW |



PA66 brackets for explosion proof or industrial enclosures in aluminum or PA66, screwed on their bottom. Mounting on pipes by nylon ties or metal clamps.

| Material | Fixing | Distance to pipe | Assembly on box | | Type |
|----------|---------|------------------|-----------------|--|-----------------|
| PA66 | On pipe | ~10mm | Screwed | | 6YTQUVA5 |



Example of assembly on heat tracing connection box in aluminium type Y40



Example of assembly on heat tracing connection box in PA66 type Y51 (see catalogue 12)

Applications

These PA66 brackets allow to mount connection boxes for heating cables on pipes, keeping a distance of about 10mm with the pipes, These PA66 brackets allow to mount connection boxes for heating cables on pipes, keeping a distance of about 10mm with the pipes, they are usually included as standard accessories in these products.

Part numbers

| Part number | Can be used on: |
|-------------|--------------------|
| 6YTQUVA5 | Y40, Y41, Y50, Y51 |

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- Level switches
- Pressure switches and air switches
- Fusible links and fire detection mechanisms
- Tracing equipment
- **Taylor made solutions**

QUESTION 4 EXPLOSION PROOF TESTS & CONSTRUCTION BOXES

QUESTION 4 EXPLOSION PROOF TESTS & CONSTRUCTION BOXES

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