

## TK24 1/2" Disc Thermostat

Operating Temperature Range (-45°C to +200°C)

This is a cyclic operating temperature sensitive device, which is intended to control the temperature between two particular values under normal operating conditions, automatically switching on or off the electrical circuit.

This thermostat can be built to either open or close its electrical contacts as the temperature increases. Once the temperature of the bimetal disc has returned to the specified reset temperature, the contacts will automatically return to their original state.

Besides its variety of standard configurations the thermostat can also be customized to the specific technical needs of the customer, assuring maximum design flexibility and usage in broad range of temperature control applications for consumer, industrial and commercial products.

Contact Type: Normally Closed; Normally Open

**BRYTEC**

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## BASIC TECHNICAL DATA FOR TK24 (10 °C – 175 °C)

| Parameter  | Value                    |
|--|--------------------------|
| Rated voltage, V, not more   | ~250                     |
| Rated current, A, at power coeff. 0,95, not more                                       | 16                       |
| Rated current, A, at power coeff. 0,6, not more  | 10                       |
| Number of automatic cycles, at rated current 16 A and power coeff. 0,95, not less than | 30 000                   |
| Number of automatic cycles, at rated current 10 A and power coeff. 0,95, not less than | 100 000                  |
| Operating temperature, °C  | 10 to 175                |
| Tolerance of operating temperature, %, but not less than °C                            | ±1; ±3                   |
| Reset temperature, lower than operating temperature, °C, on                            | 5±3; 15±5; 40±10         |
| Transient resistance, Ω, not more  | 0,005; 0,01; 0,05        |
| Contact operating time, ms, not more   | 3                        |
| Electric strength of insulation, V, not less than                                      | 1500                     |
| Insulation resistance, MΩ, not less than   | 50                       |
| Heating speed, K/min   | minimum-0,1; maximum-1,0 |
| Degrees of protection provided by enclosure  | IP4X; IP64               |

## BASIC TECHNICAL DATA FOR TK24 (175 °C – 200 °C)

| Parameter  | Value                    |
|--|--------------------------|
| Rated voltage, V, not more   | ~250                     |
| Rated current, A, at power coeff. 0,95, not more                                       | 16                       |
| Rated current, A, at power coeff. 0,6, not more  | 10                       |
| Number of automatic cycles, at rated current 16 A and power coeff. 0,95, not less than | 30 000                   |
| Number of automatic cycles, at rated current 10 A and power coeff. 0,95, not less than | 100 000                  |
| Operating temperature, °C  | 175 to 200               |
| Tolerance of operating temperature, %  | ±3; ±6                   |
| Reset temperature, lower than operating temperature, °C, on                            | 30±10; 50±10             |
| Transient resistance, Ω, not more  | 0,05                     |
| Contact operating time, ms, not more   | 3                        |
| Electric strength of insulation, V, not less than                                      | 1500                     |
| Insulation resistance, MΩ, not less than   | 50                       |
| Heating speed, K/min   | minimum-0,1; maximum-1,0 |
| Degrees of protection provided by enclosure  | IP4X; IP64               |

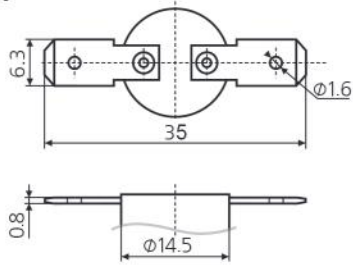
## BASIC TECHNICAL DATA FOR TK24 (-45 °C - +10 °C)

| Parameter  | Value                    |
|--|--------------------------|
| Rated voltage, V, not more   | ~250                     |
| Rated current, A, at power coeff. 0,95, not more                                       | 16                       |
| Rated current, A, at power coeff. 0,6, not more  | 10                       |
| Number of automatic cycles, at rated current 16 A and power coeff. 0,95, not less than | 30 000                   |
| Number of automatic cycles, at rated current 10 A and power coeff. 0,95, not less than | 100 000                  |
| Operating temperature, °C  | - 45 to 10               |
| Tolerance of operating temperature, °C   | ±3                       |
| Reset temperature, lower than operating temperature, °C, on                            | 10±3; 15±5               |
| Transient resistance, Ω, not more  | 0,05*                    |
| Contact operating time, ms, not more   | 3                        |
| Electric strength of insulation, V, not less than                                      | 1500                     |
| Insulation resistance, MΩ, not less than   | 50                       |
| Heating speed, K/min   | minimum-0,1; maximum-1,0 |
| Degrees of protection provided by enclosure  | IP64                     |

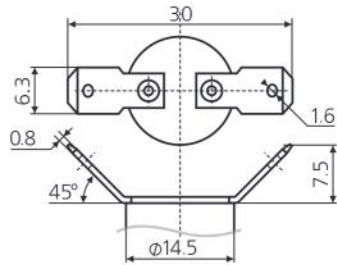
\*May differ depending on the wire type and length

**Table 1.1 (TERMINALS)**

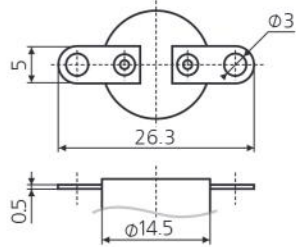
**T 01**



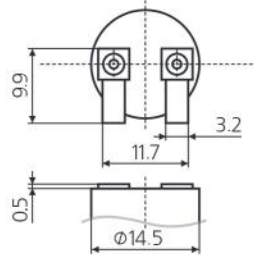
**T 03**



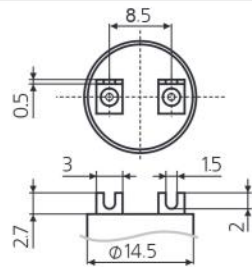
**T 05**



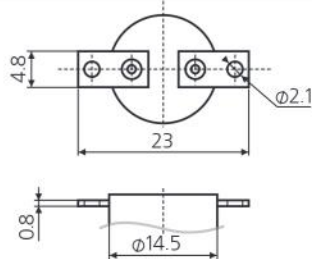
**T 07**



**T 09**

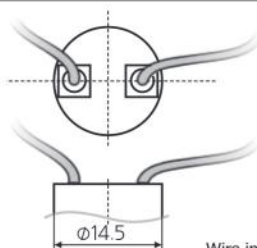


**T 11**



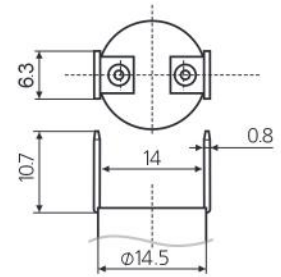
**T 13**

Wire standard length: 150 mm

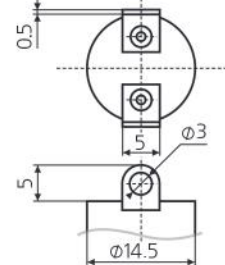


Wire information to be specified on the order form (type; cross-section; lengths; stripping)  
The only option for TK24 (-45+10)

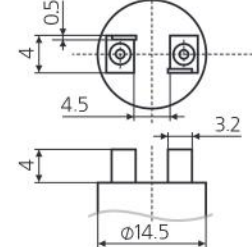
**T 02**



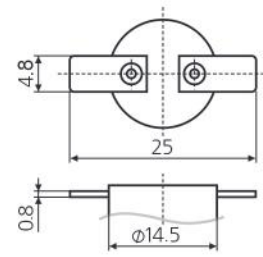
**T 04**



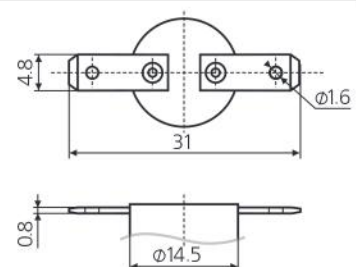
**T 06**



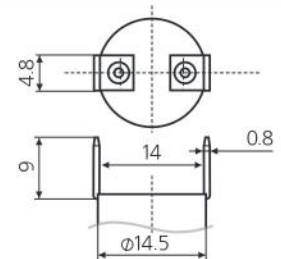
**T 08**



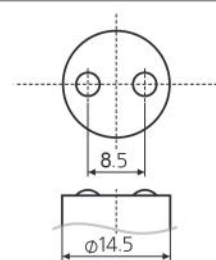
**T 10**



**T 12**



**T 14**

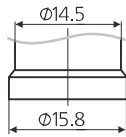


Soldering balls

**Table 1.2 (MOUNTING)**

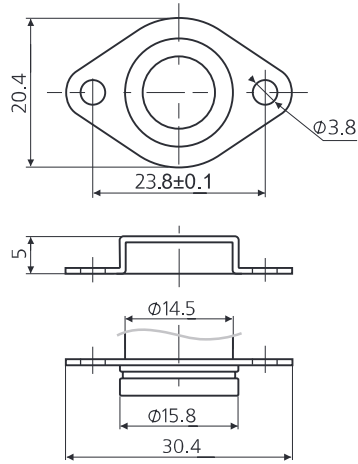
**MG 00**

NO MOUNTING

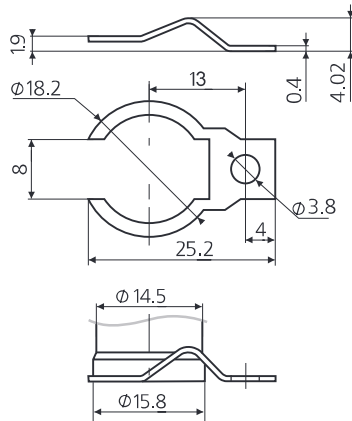


**MG 02**

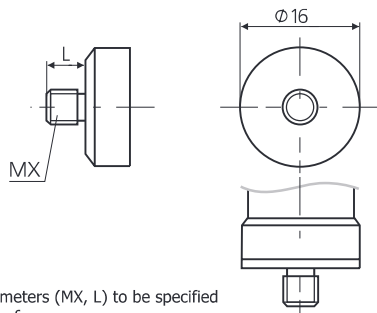
CAP-FLANGE



**MG 04**



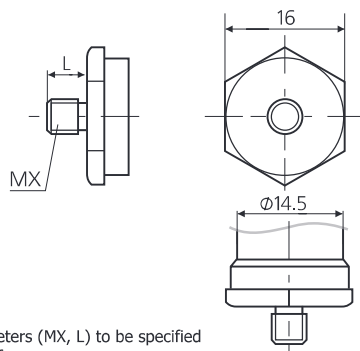
**MG 06**



Screw parameters (MX, L) to be specified on the order form

**MG 08**

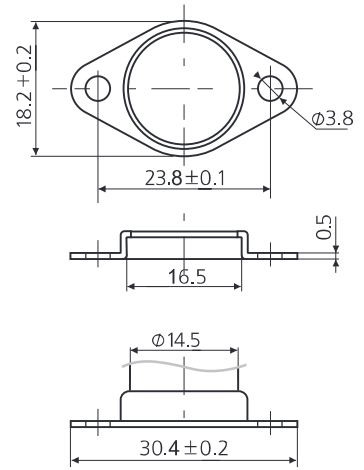
SCREW CAP  
HEXAHEDRAL 16



Screw parameters (MX, L) to be specified on the order form

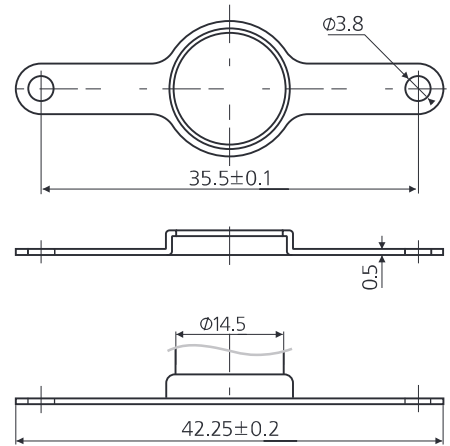
**MG 01**

ROTATION OR  
FIXED CLIP



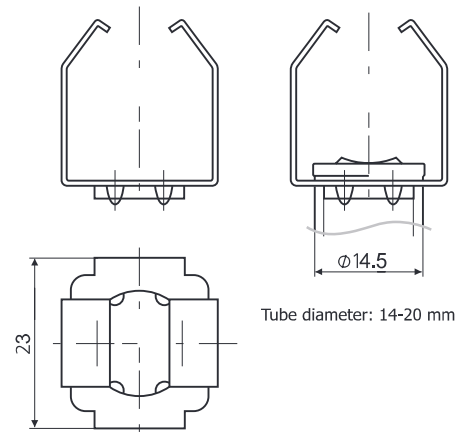
**MG 03**

ROTATION  
CLIP



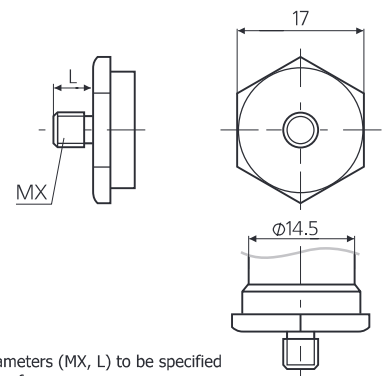
**MG 05**

TUBE  
MOUNTING



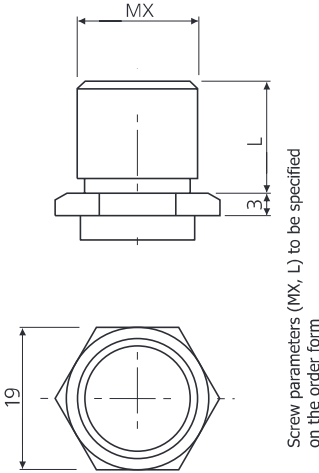
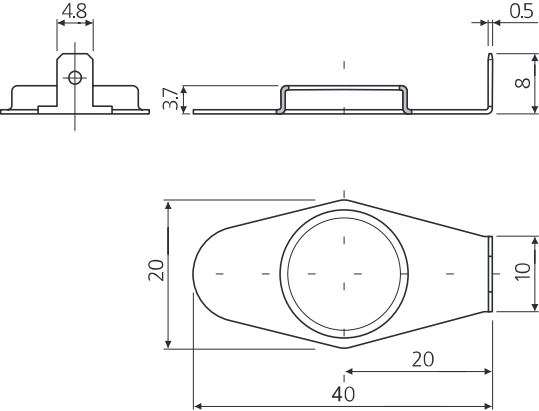
**MG 07**

SCREW CAP  
HEXAHEDRAL 17

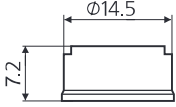

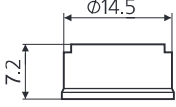
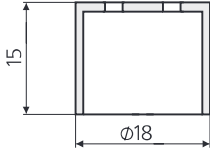
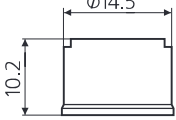
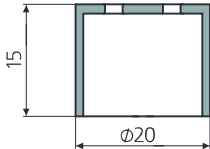
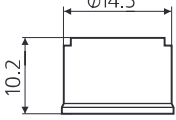
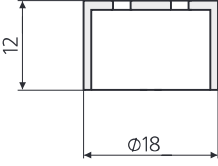
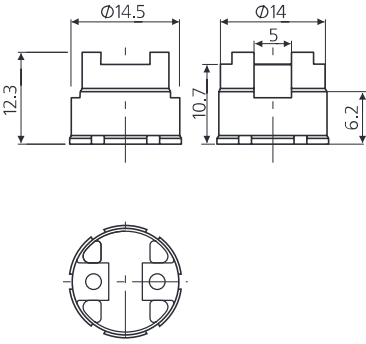
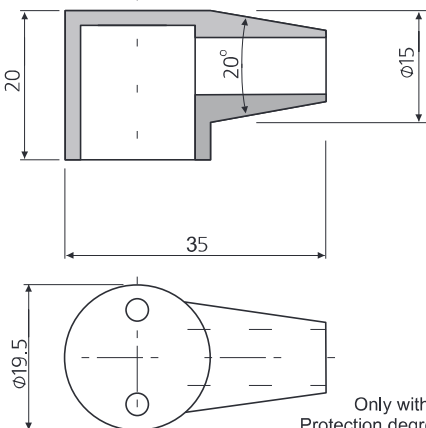


Screw parameters (MX, L) to be specified on the order form

**Table 1.2 (MOUNTING)**

|   |   |  |  |
|---|---|--|--|
| <p><b>MG 09</b><br/>SCREW CAP<br/>HEXAHEDRAL 19</p> |  <p>Screw parameters (MX, L) to be specified on the order form</p> | <p><b>MG 10</b><br/>WITH GROUNDING</p> |  |
|---|---|--|--|

**Table 1.3 (BODY and/or CASE)**

|                                    |   |                                       |  |
|------------------------------------|---|---------------------------------------|--|
| <p><b>B1P</b><br/>PLASTIC BODY</p> |    | <p><b>B3S</b><br/>STEEL CASING</p>    |  <p>Only with lead wires<br/>Protection degree IP64</p>                      |
| <p><b>B1C</b><br/>CERAMIC BODY</p> |   | <p><b>B4P</b><br/>PLASTIC BODY</p>    |  <p>Only with lead wires<br/>and screw caps<br/>Protection degree IP64</p>  |
| <p><b>B2P</b><br/>PLASTIC BODY</p> |  | <p><b>B4C</b><br/>CERAMIC BODY</p>    |  <p>Only with lead wires<br/>and screw caps<br/>Protection degree IP64</p> |
| <p><b>B2C</b><br/>CERAMIC BODY</p> |  | <p><b>B5P</b><br/>PLASTIC BODY</p>    |  <p>Only with lead wires<br/>Protection degree IP64</p>                    |
| <p><b>B3C</b><br/>CERAMIC BODY</p> |  | <p><b>B6S</b><br/>SILICONE CASING</p> |  <p>Only with cables<br/>Protection degree IP64</p>                        |

**Table 1.4 (CONTACT TYPE AND CONTACT TRANSIENT RESISTANCE VALUE)**

| CODE | CONTACT TYPE         | CONTACT TRANSIENT RESISTANCE, mOhm |
|------|----------------------|------------------------------------|
| 1    | Normally closed (NC) | ≤50                                |
| 2    | Normally open (NO)   | ≤50                                |
| 3    | Normally closed (NC) | ≤10                                |
| 4    | Normally open (NO)   | ≤10                                |
| 5    | Normally closed (NC) | ≤5                                 |
| 6    | Normally open (NO)   | ≤5                                 |

**PART ORDERING SYSTEM**

| TK24<br>1 | TX*<br>2  | MGX**<br>3 | BXX<br>4 | X<br>5 | X±X****<br>6 | X±X****<br>7 |
|-----------|---|------------|----------|--------|--------------|--------------|
| 1         | Thermostat model  |            |          |        |              |              |
| 2         | Terminals version (select from Table 1.1)                                   |            |          |        |              |              |
| 3         | Mounting version (select from Table 1.2)                                    |            |          |        |              |              |
| 4         | Body version (select from Table 1.3)  |            |          |        |              |              |
| 5         | Contact type and contact transient resistance value (select from Table 1.4) |            |          |        |              |              |
| 6         | Operating temperature value in °C and tolerance in ± %***                   |            |          |        |              |              |
| 7         | Reset temperature value in °C and tolerance in ± %***                       |            |          |        |              |              |

**Example:** TK24-T01-MG04-B2C-2-60±3%-20±5%

\*For wire terminals, lead wire parameters must be specified when placing an order: insulation type, cross-section area; ends type; length; etc.

\*\*For screw cap mountings, screw parameters must be specified when placing an order.

\*\*\*Tolerance in % or °C, whichever numerical value is bigger.