


## Characteristics

1 - BIMETAL - THERMOSTAT - LIMITER - CONTROLLER -

|   |                             |                                       |
|---|-----------------------------|---------------------------------------|
|  | - Switching temperature:    | 5...180 °C                            |
|   | - Output:                   | 1 contact (normally closed / open)    |
|   | - Type of contact:          | creep action without hysteresis       |
|   | - Accuracy:                 | ±5 K, Option: ±3 K                    |
|   | - Contact rating:           | 12 VDC 8 A / 24 VDC 4 A / 240 VAC 4 A |
|   | - Temperature medium:       | maximum 180 °C                        |
|   | - Fitting / Nominal length: | 27...1000 mm                          |
|   | - Process connection:       | several options possible              |
|   | - Electrical connection:    | several options possible              |
|   | - Material:                 | stainless steel, PBT GF30             |
| - Protection:   | at least IP65               |                                       |

## Technical data

### Input

Temperature medium: 0...180 °C  
 Switching temperature: 5...180 °C, in steps of 1 °C (factory fixed)

### Ausgang

|          |                    |   |
|----------|--------------------|---|
| Contact: | Type:              | 1x normally closed<br>1x normally open  |
|          | Character:         | creep action without hysteresis   |
|          | Ratings:           | 12 VDC, 6 A, 5000 cycles (resistive load)<br>24 VDC, 3 A, 5000 cycles (resistive load)<br>120 VAC, 6 A, 100000 cycles (resistive load)<br>120 VAC, 5 A (induktive load)<br>240 VAC, 4 A, 100000 cycles (resistive load)<br>240 VAC, 2,5 A, 18 cycles (induktive load) |
| Action:  | Contact area:      | gold diffused contact   |
|          | bimetallic release |   |

### Accuracy

Switching temperature: ±5 K (standard)  
±3 K (option)

### Supply

Current, voltage: without

### Ambient conditions

|               |              |             |
|---------------|--------------|-------------|
| Temperature:  | Operation:   | 0...+85 °C  |
|               | Medium:      | 0...+180 °C |
|               | Storage:     | 0...+100 °C |
| Condensation: | uncritically |             |

## Applications

For use as temperature limiter in machines or devices (e. g. switching-off, switch on of cooling) as possible for mobile hydraulics, motors or compressors. Advatage: The switch is self-operated.



Photo: pixelquelle.de



Photo: © Klaus Dosch @pixelio.de



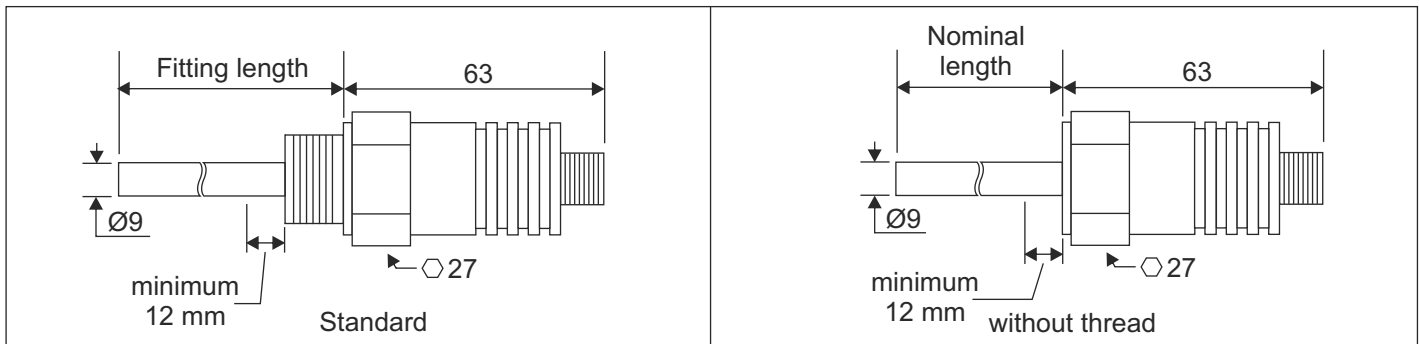
Photo: pixelquelle.de

● **Technical data (continued)**

**Mechanics**

|                        |   |   |
|------------------------|---|---|
| Dimensions:            | see below   |   |
| Process connection:    | 3/8", 1/2", 3/4", 1", 3/8NPT, 1/2NPT, without thread                                    |   |
| Thermowell:            | Ø9x0,5 mm   |   |
| Material:              | Thermowell:   | stainless steel                                     |
|                        | Body of enclosure:  | stainless steel                                     |
|                        | Adapter piece:  | PBT GF30 (electrical connection)                    |
|                        | Switching contact:  | silver, gold diffused                               |
| Vibration protection:  | body of enclosure is potted   |   |
| Protection:            | Enclosure:  | at least IP 65 (with plugged electrical connection) |
| Electrical connection: | see page 3  |   |
| System pressure:       | up to maximum 100 bar (depending on the medium, temperature, thermowell design)         |   |
| Vibration resistance:  | up to 10 g (depending on the mounting situation, medium, temperature, insertion length) |   |
| Shock resistance:      | up to 100 g (depending on the mounting situation, medium, temperature)                  |   |

● **Dimensions connection M12 (in mm)**



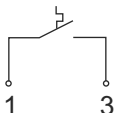
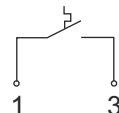
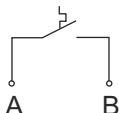
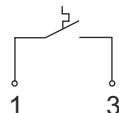
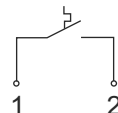
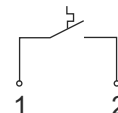
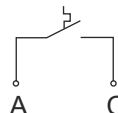
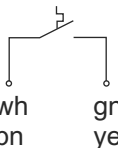
● **Electrical connection**

| M12x1  | Super Seal  | Deutsch   | Deutsch   | Bayonet   | Valve  | MIL   | Cable   |
|--|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |  |
| 4-pole<br>5-pole<br>8-pole   | 3-pole  | 3-pole  | 4-pole  | 4-pole  | 4-pole   | 6-pole  | 4-pole  |

● **Maximum ratings of plugs/cable**

|                      |              |                           |             |
|----------------------|--------------|---------------------------|-------------|
| M12x1, 4-pole        | 250 V, 4 A   | M12x1, 5-pole             | 60 V, 4 A   |
| M12x1, 8-pole        | 30 V, 2 A    | Super Seal 1.5, 3-pole    | 14 A        |
| Deutsch DT04, 3-pole | 13 A         | Deutsch DT04, 4-pole      | 13 A        |
| Bayonet DIN, 4-pole  | 300 V, 5 A   | Valve plug type A, 4-pole | 250 V, 10 A |
| MIL, 6-pole          | 600 V, 7,5 A | Cable, 4-pole             | 250 V, 6 A  |

● **Contact assignment**

| M12x1   | Super Seal   | Deutsch  | Deutsch  | Bayonet  | Valve   | MIL  | Cable  |
|---|--|--|--|--|---|--|--|
|  |  |  |  |  |  |  |  |
| 4-pole<br>5-pole<br>8-pole  | 3-pole   | 3-pole   | 4-pole   | 4-pole   | 4-pole  | 6-pole   | 4-pole   |

● **Order code**

**M L X X X X X X - X X X**

|                                 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|---------------------------------|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|---|
| <b>Type of contact:</b>         | Normally closed                            | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Normally open                              | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
| <b>Process connection:</b>      | 3/8"                                       | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | 1/2"                                       | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | 3/4"                                       | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | 1"   | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | 3/8NPT                                     | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | 1/2NPT                                     | 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Without thread <sup>2)</sup>               | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
| <b>Electr. connection:</b>      | M12, 4-pole                                | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | M12, 5-pole                                | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | M12, 8-pole                                | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Deutsch DT04, 3-pole                       | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Deutsch DT04, 4-pole                       | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Super Seal 1.5, 3-pole                     | 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Bayonet (DIN), 4-pole                      | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Valve plug, 4-pole                         | 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | Cable, 2 m                                 | 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
|                                 | MIL, 6-pole                                | 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  |   |
| <b>Accuracy:</b>                | ±5 K                                       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |  |  |  |  |   |
|                                 | ±3 K (on request)                          |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |   |
| <b>Fitting, nominal length:</b> | 50 mm                                      |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |  |  |  |  |   |
|                                 | 100 mm                                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |   |
|                                 | 200 mm                                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |  |  |  |  |   |
|                                 | 250 mm                                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3 |  |  |  |  |   |
|                                 | 400 mm                                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 4 |  |  |  |  |   |
|                                 | 600 mm                                     |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |  |  |   |
|                                 | 1000 mm                                    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 |  |  |  |  |   |
|                                 | Other length (please indicate)             |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 7 |  |  |  |  |   |
| <b>Switching temperature:</b>   | 5...180 °C (please indicate) <sup>1)</sup> |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |   |  |  |  |  | 0 |
| <b>Other:</b>                   | Special model                              |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 |  |  |  |  |   |

1) Possible in 1° steps. The switch point is fixed in factory and is not adjustable in the field.  
 2) Without thread = Dip-in temperature switch