Expansion thermometer  
Safety temperature controller  
Model SW15

Applications
- Temperature monitoring for water, oil and gas
- Compressors
- Steam generators
- Temperature controlling and limiting device for heat generation plants

Special features
- High switching reliability
- Temperature display and safety controller in one instrument
- Monitoring of measuring line breakages

Description
The safety temperature controller model SW15 is used for monitoring faults of a plant.

When a fixed switch point is reached, the micro switch triggers a switching operation. This action is carried out by means of a switching disc that is arranged at the pointer shaft.

Another switching operation is triggered after a measuring line breakage. As soon as the plant runs reliably again, the instrument switches back to the initial state.
Standard version

Nominal size in mm
60, 72 x 72

Indication accuracy
Class 2 per DIN EN 13190

Scale range
0 ... 400 °C

Permissible temperature
Ambient: -40 ... +60 °C

Dial
Aluminium, white, black lettering

Measuring principle
Bourdon tube system

Contact
Micro switch

Contact design
1 fixed changeover switch

Switch rating
5 A, AC 250 V

Electrical connection
0.8 x 6.3 mm blade terminal or terminal connection

Case
Plastic, black

Mounting option
Panel mounting with mounting bracket

Ingress protection
Case IP 53, terminals IP 00

Capillary
Plastic coated max. +120 °C
Copper braided max. +350 °C
Stainless steel max. +400 °C

Length of the measuring line
Max. 5 m

Measuring line outlet
Lower back mount

Options
- Other nominal sizes NS 80, 100, 96 x 96
- Case sheet steel
- Panel mounting flange
- Protection cap IP 51 or IP 54
- Switch rating 10 A at AC 250 V
- Other connection designs

Special designs

Temperature controlling and limiting device for heat generation plants
Design tested in accordance with DIN EN 14597 and pressure equipment directive 97/23/EC/VdTÜV

Permissible temperature sensors

<table>
<thead>
<tr>
<th>Temperature sensor Model</th>
<th>Ø in mm</th>
<th>Material</th>
<th>Stem Model</th>
<th>Material</th>
<th>Operating media Water p = 16 bar T = 150 °C</th>
<th>Oil p = 32 bar T = 350 °C</th>
<th>Air p = 16 bar T = 200 °C</th>
<th>p = 32 bar T = 350 °C</th>
<th>unpressured T = 350 °C</th>
<th>unpressured T = 400 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF91</td>
<td>6</td>
<td>Brass</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>6</td>
<td>Brass</td>
<td>SH16</td>
<td>Brass</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>6</td>
<td>Brass</td>
<td>SH16 1.4571</td>
<td>Brass</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>8</td>
<td>Brass</td>
<td>SH16</td>
<td>Brass</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>8</td>
<td>Brass</td>
<td>SH16 1.4571</td>
<td>Brass</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>10</td>
<td>Brass</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>6</td>
<td>1.4571</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>6</td>
<td>1.4571</td>
<td>SH16 1.4571</td>
<td>1.4571</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>8</td>
<td>1.4571</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>8</td>
<td>1.4571</td>
<td>SH16 1.4571</td>
<td>1.4571</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF91</td>
<td>10</td>
<td>1.4571</td>
<td>-</td>
<td>-</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dimensions in mm
Standard version

NS 60 (model SW1560)

NS 72 x 72 (model SW1572)

Protection cap

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>38</td>
</tr>
<tr>
<td>b</td>
<td>23.5</td>
</tr>
<tr>
<td>c</td>
<td>22.5</td>
</tr>
</tbody>
</table>

Pin assignment

2

3

S1

1
Connection designs

Connection design SF91 / SV20 with sealing cone

SV20 with M14 x 1.5, M16 x 1.5, M18 x 1.5
G ¼ B, G ½ B, G ¾ B, G ½ B
Copper alloy, stainless steel 1.4571
Insertion length ET = variable
Stem diameter d = 6, 8, 10 mm

Connection design SF91 / SV19 with loose threaded connection

SV19 with M14 x 1.5, M16 x 1.5, M18 x 1.5, M30 x 1.5
G ¼ B, G ½ B, G ½ B, G ¾ B, G 1 B
Copper alloy, stainless steel 1.4571
Insertion length ET = variable
Stem diameter d = 6, 8, 10 mm

Connection design SF91 / SH16 with protective sleeve

SH16 with G ½ B, G ¾ B
Copper alloy, stainless steel 1.4571
Insertion length ET = variable
Stem diameter d = 6, 8, 10 mm
Approvals

- UL, safety (e.g. electr. safety, overpressure, ...), USA
- GOST, metrology/measurement technology, Russia
- CRN, safety (e.g. electr. safety, overpressure, ...), Canada

Certificates

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. indication accuracy)

Approvals and certificates, see website

Ordering information
Model / Nominal size / Scale range / Contact design / Switching points / Measuring line / Length of the measuring line / Connection design / Options