

# Temperature switch series PT

Ex-proof according UL or ATEX (EEx d)  
 One or two independent setpoints  
 Accuracy:  $\pm 1\%$



## Features

- Setpoint adjustment separated from electrical system
- Easy setpoint adjustment, with setpoint indication
- $\text{Ex}$  II 2 GD
- Protection IP66 or NEMA 7 and 9
- Rigid stem and capillary up to 15 m

## Ranges

-40/16 °C up to 260/400 °C  
 -40/60 °F up to 500/750 °F

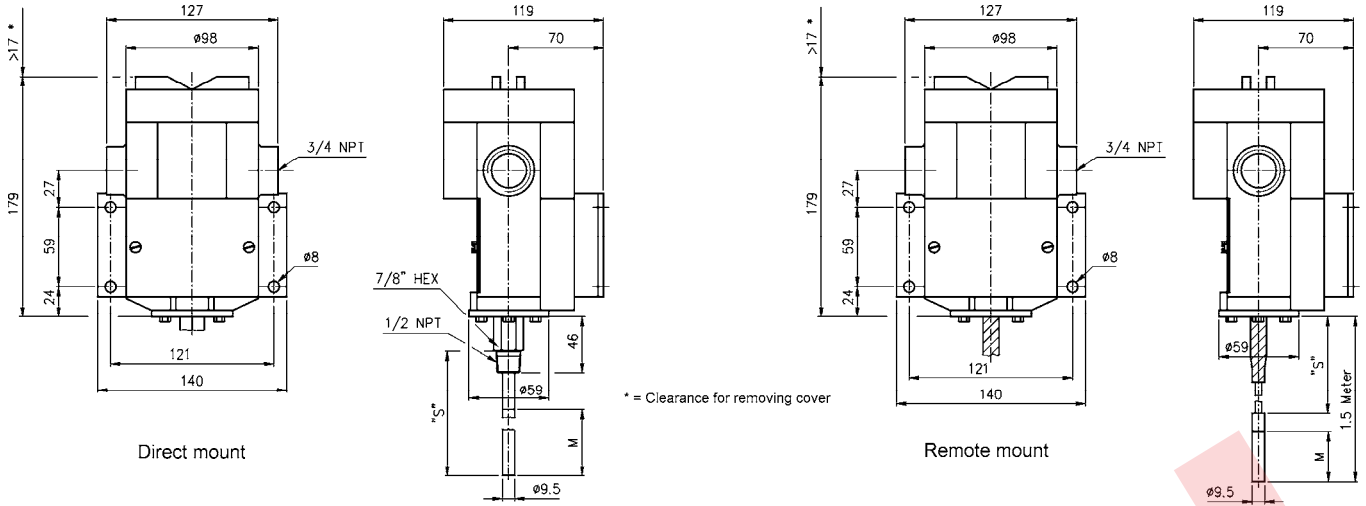
## Applications

Chemical and petrochemical industry  
 Machine and apparatus construction  
 Food and beverage industry  
 Pulp and paper industry



| Technical specification                | PT   |             |  |             |             |                           |         |
|--|--|-------------|--|-------------|-------------|---------------------------|---------|
|  | PTA  |             | PTD                                    |             |             | PTS                       |         |
| Type                                   | Explosion proof according UL, CSA or CENELEC (ATEX)<br>Separate chambers for setpoint/deadband adjustment and electrical connections, with setpoint indicators |             |  |             |             |                           |         |
| Switch (setpoint) functions            | One single setpoint  |             | Two setpoints independently adjustable |             |             | One single setpoint       |         |
| Deadband                               | Adjustable over 80 %   |             | Fixed                                  |             |             | Fixed                     |         |
| Measuring principle                    | Piston/cylinder system, actuated by a vapor pressure system, SAMA Class II system  |             |  |             |             |                           |         |
| Range                                  | in °C  |             | in °F                                  |             |             |                           |         |
| Limits (temperature ranges)            | -40/16   | -20/40      | 20/95                                  | 65/125      | 110/190     | 175/275                   | 260/400 |
| Max. temperature                       | -40/60   | 0/100       | 75/205                                 | 150/260     | 235/375     | 350/525                   | 500/750 |
| Stem diameter                          | 3/8" (9,5 mm)  |             | 4" (102 mm)                            |             | 6" (152 mm) |                           |         |
| Stem length                            | 2 3/4" (70 mm)   |             | 4" (102 mm)                            |             | 6" (152 mm) |                           |         |
| Bulb length (capillary type)           | 3" (76 mm)   |             | longer lengths on request              |             |             |                           |         |
| Capillary length                       | 5' (1,5 m)   | 10' (3,0 m) | 15' (4,5 m)                            | 20' (6,0 m) | 25' (7,5 m) | longer lengths on request |         |
| Process connection                     | 1/2 NPT male for rigid stem, 1/2 NPT bushing sliding on capillary or bulb  |             |  |             |             |                           |         |
| Connection location                    | Lower  |             |  |             |             |                           |         |
| Material                               |  |             |  |             |             |                           |         |
| Connection                             | Stainless steel 316 (1.4401)   |             |  |             |             |                           |         |
| Bushing                                | Stainless steel 316 (1.4401)   |             |  |             |             |                           |         |
| Capillary and armor                    | Stainless steel 316 (1.4401)   |             |  |             |             |                           |         |
| Housing                                | Aluminum, epoxy coated grey  |             |  |             |             |                           |         |
| Accuracy                               | 1 % F.S.   |             |  |             |             |                           |         |
| <b>Electrical specification</b>        |  |             |  |             |             |                           |         |
| Microswitch ratings                    | Up to max. 6 A 30 VDC respectively 22 A 250 VAC (see microswitch table)  |             |  |             |             |                           |         |
| Ex-proof specification                 | UL Class 1 Div. 1 Gr. B, C and D<br>EEx d IIB+H <sub>2</sub> T6 SIRA 03 ATEX 1470  |             |  |             |             |                           |         |
| Electrical connection                  | 3/4 NPT female, optional cable glands, 1/2 NPT with reducer bushing, M20x1,5, others on request  |             |  |             |             |                           |         |
| <b>General specification</b>           |  |             |  |             |             |                           |         |
| Permissible                            |  |             |  |             |             |                           |         |
| Ambient temperature                    | -25 ... 60 °C  |             |  |             |             |                           |         |
| Storage temperature                    | -40 ... 60 °C  |             |  |             |             |                           |         |
| Effect                                 | Max. 0,4 % / 10 K ref. 20 °C   |             |  |             |             |                           |         |
| Protection according UL                | NEMA 7 and 9   |             |  |             |             |                           |         |
| Protection according EN 60 529/IEC 529 | IP66   |             |  |             |             |                           |         |
| CE-mark                                | Low voltage regulations EN 61 010-1, EN 60 947-1   |             |  |             |             |                           |         |
| Mounting                               | Standard stem, wall or 2" pipe mounting (TM)   |             |  |             |             |                           |         |
| Weight rigid stem/capillary in kg      | 3,0/3,1  |             |  |             |             |                           |         |
| Accessories, options                   | Thermowells screwed or flanged   |             |  |             |             |                           |         |

## General dimensions in mm



S = stem length (specify by customer), L = capillary length (specify by customer), M = active bulb length 59 mm

Rev. C

## Order information

| Switch element  | Capillary length   | Execution capillary                              | Bulb length  | Range  | Engineering unit                             | Protection   | Electrical connection  | Options   |
|---|--|--|--|--|--|--|--|---|
| <b>PTA</b><br>single dual<br><b>(H)</b> General purpose<br>(10 A 250 VAC, 6 A 30 VDC)<br><b>(J)</b> Hermetically sealed<br>(11 A 250 VAC, 5 A 28 VDC)   | <b>(00)</b> Direct mounted   | <b>(=)</b> Direct mounted                        | Rigid stem<br><b>(027)</b> 2 3/4" (70 mm) <sup>1)</sup><br><b>(040)</b> 4" (102 mm)<br><b>(060)</b> 6" (152 mm)<br><b>(090)</b> 9" (229 mm)<br><b>(120)</b> 12" (305 mm) | <b>-40/ 16</b><br><b>-20/ 40</b><br><b>20/ 95</b><br><b>65/ 125</b><br><b>110/ 190</b><br><b>175/ 275</b><br><b>260/ 400</b> <sup>1)</sup> | °C<br><br><br><br><br><br><br><br><br><br>°F | <b>(N7)</b> UL NEMA 7 and 9<br><br><b>(CEN3)</b> ATEX EEx d with cable gland<br><br><b>(CEN4)</b> ATEX EEx d 3/4 NPT thread female | <b>(=)</b> Standard<br><br><b>(JL)</b> 3/4 female to 1/2 NPT female reducing bushing<br><br><b>(JM)</b> 3/4 NPT to M20x1,5 female reducing bushing | <b>(NH)</b> Tagging wired<br><br><b>(FS)</b> Factory adjusted setpoint<br><br><b>(TM)</b> 2" pipe mounting bracket<br><br><b>(69C)</b> Adjustable union connection on capillary<br><br><b>(69H)</b> Adjustable union connection on bulb |
| <b>PTS PTD</b><br><b>(C)</b> Heavy duty AC (22 A 250 VAC)<br><b>(F) (FF)</b> Sealed environment sealed (15 A 250 VAC)<br><b>(G) (GG)</b> General purpose <sup>1)</sup> (15 A 250 VAC, 6 A 30 VDC)<br><b>(J) (JJ)</b> Hermetically sealed general purpose <sup>1)</sup> (11 A 250 VAC, 5 A 28 VDC)<br><b>(K) (KK)</b> Narrow deadband (15 A 250 VAC)<br><b>(L) (LL)</b> Hermetically sealed gold contacts (1 A 125 VAC) (for use in intrinsically safe circuits)<br><b>(M) (MM)</b> Low level (gold) contacts (1 A 125 VAC)<br><b>(P) (PP)</b> Hermetically sealed, narrow deadband (5 A 250 VAC)<br><b>(S)</b> Heavy duty DC (10 A 125 VAC, 10 A 125 VDC) (not for protection CEN3 and CEN4)<br><b>(W) (WW)</b> Ammonia service (5A 250 VAC, 6 A 30 VDC)<br><b>(Y) (YY)</b> High temp. (max. 150 °C) (15 A 250 VAC) | <b>(05)</b> 5' (1,5 m)<br><b>(10)</b> 10' (3,0 m)<br><b>(15)</b> 15' (4,5 m)<br><b>(20)</b> 20' (6,0 m)<br><b>(25)</b> 25' (7,5 m) | <b>(A7)</b> Capillary with stainless steel armor | <b>With capillary</b><br><b>(030)</b> Bulb 3" (76 mm)  |  |  |  |  |   |
| <sup>1)</sup> VDC rating not UL listed  | longer capillary on request  |  | <sup>1)</sup> not for 175/275 °C and 350/525 °F  | <sup>1)</sup> only for remote thermal system   |  |  |  |   |

## How to order

|      |                |                  |                     |                  |       |                  |            |                       |        |
|------|----------------|------------------|---------------------|------------------|-------|------------------|------------|-----------------------|--------|
| Type | Switch element | Capillary length | Execution capillary | Bulb/Stem length | Range | Engineering unit | Protection | Electrical connection | Option |
| PTD  | GG             | 05               | A7                  | 030              | 20/95 | C                | UL         | JL                    | NH     |

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