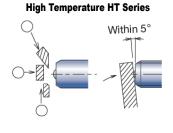
# **METROL** Precision Limit Switches

### High Temperature: HT Series Limit Switches

### **Features**

- Plunger and ball plunger models
- Constructed using heat resistant parts and adhesives
- Heat resistant cable
- Operating temperature upper limit of 200°C [392°F]



Slipping after push-in

X

**×→**∅ ○·

O indicates correct target approach and orientation. X indicates approach and orientation that should be avoided.

| High Temperature Limit Switches Selection Chart |           |                             |                |                           |        |                     |                  |                    |                 |
|---|-----------|-----------------------------|----------------|---------------------------|--------|---------------------|------------------|--------------------|-----------------|
| Part Number                                     | Price     | Actuator/Head Type*         | Barrel<br>Type | Barrel<br>Diameter/Thread | Stroke | Switching<br>Output | Contact<br>Force | Connection<br>Type | Drawing<br>Link |
| Straight/Precision Touch                        |           |                             |                |                           |        |                     |                  |                    |                 |
| <u>HT-CS067A</u>                                | \$04vza:  | Ø2mm plunger, SR 1.5mm      | Threaded       | M6×0.75                   | 2.8mm  | (1) N.O.            | 1N               | Cable 2m [6.56ft]  | PDF             |
| Indexing/Angled/Sliding Touch/Ball Plunger      |           |                             |                |                           |        |                     |                  |                    |                 |
| <u>HT-BP060A</u>                                | \$04vzb:  | Ø 3mm ball plunger          | Threaded       | M6×1.0                    | 0.8mm  | (1) N.O.            | 6-13N            | Cable 2m [6.56ft]  | PDF             |
| Heat Resistant Stopper Bolt                     |           |                             |                |                           |        |                     |                  |                    |                 |
| <u>STS060A-HT2</u>                              | \$045h?:  | 1.5mm plunger<br>3.4mm flat | Threaded       | M6×1.0                    | 0.7mm  | (1) N.O.            | 1N               | Cable 2m [6.56ft]  | PDF             |
| <u>STM82A-HT2</u>                               | \$;045h,: | Ø 3mm plunger with boot     | Threaded       | M10×0.75                  | 0.3mm  | (1) N.O.            | 1N               | Cable 2m [6.56ft]  | PDF             |

\* Ø = diameter, SR = surface radius









STM82A-HT2

#### 1-800-633-0405

# **METROL** Precision Limit Switches

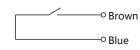
| High Temperature Limit Switches Specifications |   |   |   |   |  |  |  |
|--|---|---|---|---|--|--|--|
| Part Number                                    | <u>HT-CS067A</u>  | HT-BP060A   | STS060A-HT2                             | STM82A-HT2  |  |  |  |
| Environmental                                  |   |   |   |   |  |  |  |
| Degree of Protection                           | IP65**  | IP40**  | IP40**                                  | IP65**  |  |  |  |
| Temperature Range                              | Operating: 0 to 200°C [32 to 392°F] (Ice-free)          |   |   |   |  |  |  |
| Mechanical Ratings                             |   |   |   |   |  |  |  |
| Enclosure Material                             | Stainless Steel   |   |   |   |  |  |  |
| Pretravel                                      | 0.3 mm (0.012 in)                                       | 0.5 mm [0.020 in] from end face                           | 0.3 mm [0.012 in] from<br>stopping face | Middle of stroke  |  |  |  |
| Vibration                                      | 10–55 Hz total amplitude 1.5 for X, Y, Z each direction |   |   |   |  |  |  |
| Shock  | 300 m/s² for X, Y, Z each direction                     |   |   |   |  |  |  |
| Electrical Ratings                             |   |   |   |   |  |  |  |
| Contact Life                                   | 3 million operations                                    |   |   |   |  |  |  |
| Repeat Accuracy                                |   | 0.01 mm [0.00039 in] * **                                 |   |   |  |  |  |
| Recommended Minimum Operating Speed            | 50mm [1.96in]/minute                                    |   |   |   |  |  |  |
| Contact Voltage                                | 5-24 VDC  |   |   |   |  |  |  |
| Steady Current Rating                          | 10mA or less  |   |   |   |  |  |  |
| Max In-rush Current Rating                     | 20mA  |   |   |   |  |  |  |
| Connection Type                                | Cable: 2m [6.56ft]<br>2 cores                           | Cable: 2m [6.56ft] heat-resistant Ø 2.8<br>2 cores, 24AWG |   | Cable: 2m [6.56ft] heat-resistant Ø 2.8<br>2 cores, 26AWG |  |  |  |
| Indicating                                     | N/A   |   |   |   |  |  |  |

\* At operating speed 50-200 mm [1.97-7.87 in]/minute. Operating speed slower than 10mm [0.39in]/min is not recommended. \*\* At normal temperature (0 to 80°C [32 to 176°F]).

## **Circuit Diagrams**

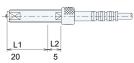
## **Torque Limits**

Normally open (N.O.)





**Ball Plunger** 



|     |    | - 🖂  |  |
|-----|----|------|--|
| L1  | L2 | _ L3 |  |
| 6.5 | 15 | 5.5  |  |

| Tightening Torque for Case Screws and Nuts |        |                      |        |                    |        |                    |  |  |
|--|--------|----------------------|--------|--------------------|--------|--------------------|--|--|
| Applicable<br>Models                       | L1     |                      |        | L2                 | L3     |                    |  |  |
|  | Length | Tightening Torque    | Length | Tightening Torque  | Length | Tightening Torque  |  |  |
| <u>HT-CS067A</u>                           | 6.5mm  | 4 N•m [2.95 lb•ft]   | _      | —                  | —      | —                  |  |  |
| <u>HT-BP060A</u>                           | 6.5mm  | 2.5 N•m [1.84 lb•ft] | 15 mm  | 5 N•m [3.68 lb•ft] | 5.5mm  | 5 N•m [3.68 lb•ft] |  |  |
| <u>STS060A-HT2</u>                         | 20mm   | 5 N•m [3.68 lb•ft]   | 5mm    | 5 N•m [3.68 lb•ft] | _      | _                  |  |  |
| <u>STM82A-HT2</u>                          | 6.5mm  | 10 N•m [7.376 lb•ft] | _      | _                  | —      | —                  |  |  |

Caution: Use the lower torque (i.e. torque corresponding to L1 and L3) while tightening the bolt between lengths L1 and L2 or L2 and L3 in the picture. Please make sure to use a locknut if the bolt is likely to shift in position due to the vibrational impacts.