

Direct Mount Temperature Switch – Model TSB



Features

- Limit Switch for Critical Temperature
- Activates Indicator Lights, Alarms or Shutdown Equipment
- SPDT Snap-Acting Switch
- Fits Most Engine Applications
- Time-Proven Swichgage® Construction
- Easy Wiring Terminal Block
- Steel Housing Specially Coated to Resist Corrosion
- Trip Point is Factory Preset to Your Specifications

* Products covered by this bulletin comply with EMC Council directive 89/336/EEC regarding electromagnetic compatibility except as noted.

The TSB switch is a direct mount switch for temperature sensing. It has one limit contact that can be used to activate an alarm, actuate indicator lights or shut down equipment.

The construction of this instrument is the same as our time-proven Swichgage®. A precision machined brass mounting plate and port captures a high quality stamped beryllium copper diaphragm. The single-pole, double-throw (SPDT) snap switch is operated directly from the diaphragm, for quick acting and positive switching. Trip point is factory preset according to your specifications.

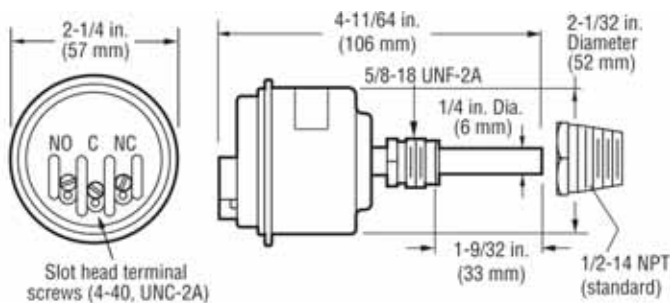
Housing is weather sealed to prevent entry of moisture, dust, etc. A glass-filled nylon terminal block with quick-screw terminal connections gives the TSB switch a real advantage in industrial engine applications. The TSB is ideal when reading is not desired, but temperature is critical to operational efficiency.

Intended for use in general purpose nonclassified areas.

Applications

- Engine Coolant
- Irrigation Systems
- Compressors
- Oil Field Systems
- Engine Lubrication
- Construction equipment
- Mobile Equipment
- Marine Engines
- Generators
- Electric Motors

Dimensions



Specifications

Housing: Plated steel.

Connections: Popular NPT and metric (specify).

Diaphragm: Formed beryllium copper (heat treated).

Sensing Bulb: Copper.

Terminal Block: Three # 4-40 screws.

Accuracy	Switch Trip Point Range 150–295°F (66–146°C)
Trip Point	±3°F (1.7°C)
Switch Reset Differential	± 15°F (9°C)
Repeatability	±3°F (1.7°C)

Contact Rating: SPDT 3 A @ 30 VDC inductive.

Maximum Temperature: 325°F (163°C).

Factory Trip Point Setting: 210°F (99°C) Rising. Other trip point setting must be specified at time of order (see How to Order on reverse side).

Contact: Operates on rising or falling temperature (specify).

Shipping Weight: 10 oz (0.31 kg).

Shipping Dimensions: 4-3/4 x 4-3/4 x 2-5/8 in. (121 x 121 x 67 mm).

■ **NOTE:** No customer replacement parts.

How to Order

To order the TSB model use the diagram below.

TSB – R230 – 3/8

Standard Switch Trip Point	
Specify trip point value. Example: TSB-R200	
Standard Switch Trip Point Values (rising)*	
	Accuracy
R165 = 165°F (74°C)	
R180 = 180°F (82°C)	165–210°F ±5°F (±2.7°C)
R200 = 200°F (93°C)	Water/glycol 10% used for setpoint
R205 = 205°F (96°C)	
R210 = 210°F (99°C)	
R220 = 220°F (104°C)	
R225 = 225°F (107°C)	215–230°F ±7°F (±3.8°C)
R230 = 230°F (110°C)	240–250°F ±10°F (±6.5°C)
R240 = 240°F (116°C)	Heat transfer fluid used for setpoint
R250 = 250°F (121°C)	(276 viscosity @ 100°F)
* Non standard trip points require a minimum quantity order. Trip point must be in 5°F increments between 165–250°F (74–121°C).	
Switch Reset Differential	±15°F (±8.3°C)
Switch Repeatability	±3°F (1.7°C)

Connection Size	
Blank = 1/2-14 NPT**	10-05-0131**
1/4 = 1/4-18 NPT	10-05-0167
3/8 = 3/8-18 NPT	10-05-0069
5/8 = 5/8-18 UNF	10-05-0068
3/4 = 3/4-14 NPT	10-05-0105
7/8 = 7/8-9 UNC	10-05-0093
3/8B = 3/8-19 BSPT	10-05-0284
1/2B = 1/2 BSPT	10-05-0330
M14 = 14 mm x 1.5 †	10-05-0104 †
M16 = 16 mm x 1.5 †	10-05-0514 †
M18 = 18 mm x 1.5 †	10-05-0399 †
M20 = 20 mm x 1.5 †	10-05-0670 †
M22 = 22 mm x 1.5 †	10-05-0606 †
M24 = 24 mm x 1.5 †	10-05-0907 †
** Standard connection. † Includes copper seal.	

Warranty - A limited warranty on materials and workmanship is given with this FW Murphy product.
A copy of the warranty may be viewed or printed by going to <http://www.fwmurphy.com/warranty>