PDTF Series – Temperature Switch

- 70°F to 285°F (20°C to 140°C)
- Withstands Acceleration to 8G
- Small Capillary for Harsh Applications

Gems PDTF Series is a factory set temperature switch for the protection of all types of internal combustion engines, pumps, compressors, gear boxes, hydraulic reservoirs, marine and industrial power plants. Model PDTF will withstand acceleration to 8G. Its compact and rugged construction allow it to be mounted in the toughest OEM applications. The PDTF utilizes a liquid-filled capillary to sense temperature changes. The liquid expands as the temperature increases, causing the capillary pressure to increase.

Specifications

Maximum Temperature	55°F (25°C) above Set Point
Switch	Resistive 5 Amp; Inductive 2 Amp @ 12/24 VDC and 125/250 VAC
Setting Tolerance	±6°F (±3°C)
Wetted Parts	
Housing	Zinc Plated Steel
Capillary	Brass
Electrical Termination	DIN 43650A IP65; Flying Leads IP65
Maximum Pressure	350 psi (25 bar)
Deadband	19°F (9°C) Average
Approvals	CE
Weight, Approximate	0.3 lbs. (0.14 kg)

How To Order

Use the **Bold** characters from the chart below to construct a product code.

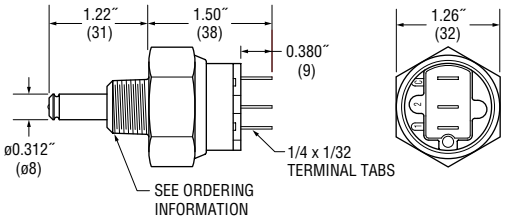
SELECT **PDTF -100°F -R -8MNZ -C -FL18 -WF**

1. Set Point
   Specify 70°F - 285°F (20°C - 140°C) in °F or °C
2. Direction
   -R Rising; **-F** Falling
3. Medium Connection
   -6M 3/8˝ NPT Male; **-8M** 1/2˝ NPT Male
4. Circuit[1]
   -C SPDT; **-A** SPST/NO; **-B** SPST/NC
5. Electrical Termination
   -SP 1/4˝ Spade; **-H** DIN 43650A Male Half Only;
   -HC DIN 43650A 9mm Cable Clamp; **-HN** DIN 43650A 1/2˝ Conduit (Female);
   -FLXX Flying Leads – Specify 18˝ to 48˝ (18˝ Standard);
   -CABXX 18 AWG PVC Cable – Specify 36˝ to 120˝;
   -FLSXX Flying Leads with PVC shrink tubing – Specify 18˝ to 48˝ (18˝ Standard);
6. Options[2]
   -WF Weather Pack Connector, Female;
   -WM Weather Pack Connector, Male;
   -DE Deutsch Connector, Male, DT04 Series

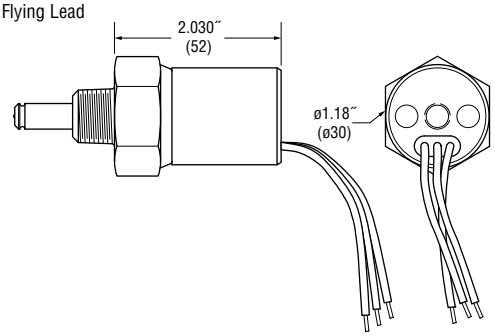
Notes:
1. Lead wires required on all selections except **-C** SPDT option.
2. Other Connectors Available. Consult Factory.

Dimensions

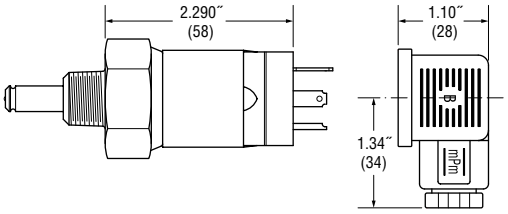
Spades



Flying Lead



DIN 43650A



PRESSURE SWITCHES

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

TM-950 – Open Thermistor Sensor

- Hermetically Sealed
- High Pressure Capability
- Direct Reading Ceramic Thermistor
- Ideal For Non-Conductive Oils & Refrigerants

The Gems TM-950 is an Open Thermistor Sensor ideal for temperature sensing in non-conductive liquids, such as oil and refrigerants. It utilizes a proprietary fused glass hermetic seal, an axial feed-through design to provide exceptional high pressure, and temperature sensing capability.

Specifications

Temperature Capability	-40°F to +250°F (-40°C to +125°C)
Referenced Temperature Range	32°F to 100°F (0°C to 38°C)
Setting Tolerance	±6°F (±3°C)
Wetted Parts	
Housing	Zinc Plated Steel
Thermistor	Ceramic, Tinned Copper
Fused Hermetic Seal	Soda Lime Glass
Spacer Disc	PTFE
Electrical Termination	Flying Leads IP65, 18 AWG PTFE Insulated, 6.5″
Maximum Pressure	450 PSIG (31 bar)[1]

Note:
1. Higher Pressure Capability Available Upon Request.

Sensor Color Codes

Color Code	Sensor Type
Green	50 Ohms
Red	100 Ohms

Typical Resistance Values at Referenced Temperatures

Media Temperature	Resistance Reading (Ohms)	
	Green	Red
@ 32°F (0°C)	124.0 – 161.0	242.1 – 321
@ 75°F (24°C)	48.5 – 59.5	97 – 121
@ 90°F (32°C)	31.5 – 42.5	65.6 – 87

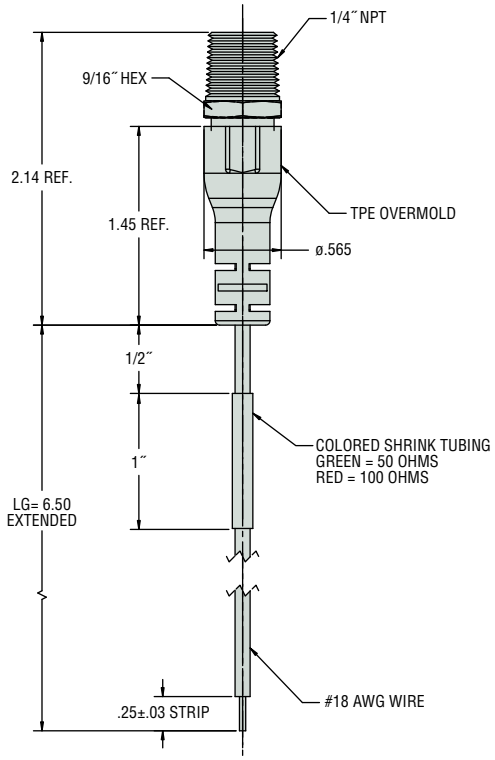
How To Order

Select Part Number based on Thermistor, Nominal Value and Shrink Tubing Color.

Nominal Thermistor Value	Shrink Tubing Color	Part Number
50 Ohm	Green	**243650**
100 Ohm	Red	**243700**

Note: Other alternate Thermistor values with R-T curves are available upon request.

Dimensions



Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

7000 Series

Compact High Pressure Temperature Sensor

- Continuous Output for Temperatures to 212°F (100°C)
- Pressures to 8,700 PSI (600 bar)
- 4-20A Output Accommodates Numerous Systems

7000 Series sensors provide continuous temperature measurement of process fluids typically found in hydraulic and mobile vehicle applications.

High pressure capability and product packaging make it ideal for use in harsh environments.

The sensor has a 4-20mA output, with a variety of industry-standard electrical connections to simplify installation into a broad range of applications and systems.

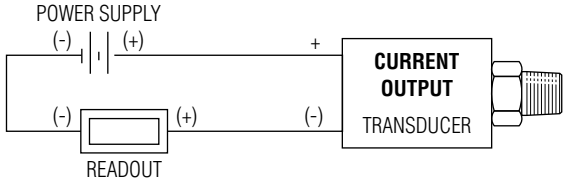
Specifications

Performance	
Accuracy	±1.5% Full Scale
Ambient Temperatures	-13°F to +176°F (-25°C to +80°C)
Storage Temperatures	-40°F to +257°F (-40°C to +125°C)
Measurement Temperatures	See under "How to Order," last page
Measurement Rise Time	T50 = 10 Sec, T90 = 30 Sec (Water)
Operating Pressure, Max.	8,700 PSI (600 Bar)
Proof Pressure	13,050 PSI (900 Bar)
Mechanical Configuration	
Pressure Port	See under “How to Order,” next page
Wetted Parts	17-4 pH Stainless Steel
Electrical Connection	See under “How to Order,” next page
Enclosure	IP67
Vibration	BSEN 60068-2-6 (FC) BSEN 60068-2-64 (FH)
Shock	BSEN 60068-2-2n
Approvals	CE, RoHS
Weight	1.23 to 1.9 ounces (35-53 grams). Configuration dependant

Output Specifications

Current Output Units	
Output	4-20 mA
Supply Voltage (Vs)	8-36 Vdc
Max Load Resistance	(Supply Voltage - 8) x 50 ohms

Wiring Diagram



EMC Specifications

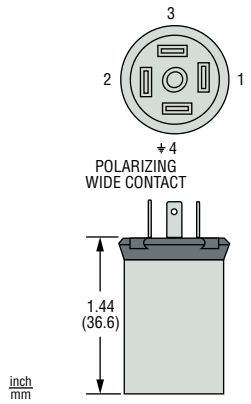
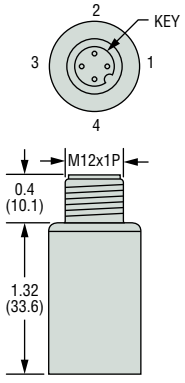
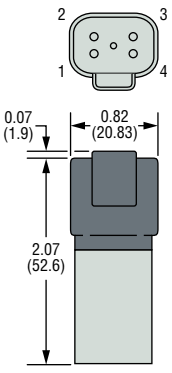
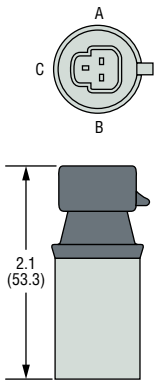
Emissions Tests: EN61326-1:2006 and EN61326-2-3:2006

Test Standard	Test
EN55011:2007	Conducted Emissions
EN55011:2007	Radiated Emissions

Immunity Tests: EN61326-1:2006 and EN61326-2-3:2006

Test Standard	Test
EN61000-4-2:1995 + A1 + A2	Electrostatic Discharge
EN61000-4-3:2006	Radiated Immunity
EN61000-4-4:2004	Fast Burst Transients
EN61000-4-6:2006	Conducted RF Immunity

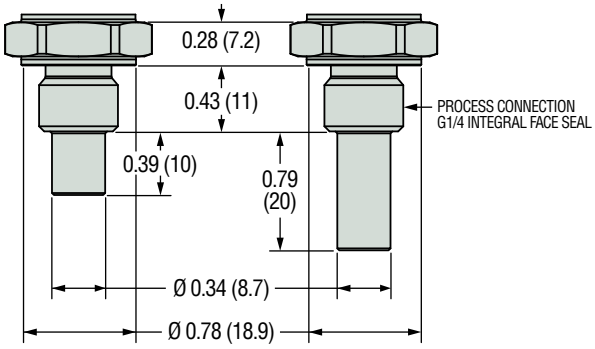
Electrical Connector

DIN 9.4 mm	M12 x 1P	Deutsch DT04-4P	Packard MetriPack
			

	Code B		Code E	Code 8		Code 9
Pin #	Current Mode		Current Mode	Current Mode	Pin ID	Current Mode
1	No Connect		Supply	Return	C	No Connect
2	Supply		No Connect	Supply	A	Return
3	No Connect		Return	No Connect	B	Supply
4	Return		No Connect	No Connect	—	—

Process Connection

10mm Probe **20mm Probe**



How to Order

Use the **bold** characters from the chart below to construct a product code

70 **XX** **B** **05** **XXX** **X** **000** **00**

Series
- **70** - 7000 Series

Temperature Range
- **01** - -13°F to +212°F (-25°C to +100°C)
- **02** - -40°F to +176°F (-40°C to +80°C)

Output
- **B** - 4-20 mA

Process Thread
- **05** - G1/4˝A Integral Face Seal

Probe Length
- **010** - 10mm
- **020** - 20mm

Electrical Connection
- **B** - Industrial DIN 9.4 mm
- **E** - M12 x 1P
- **8** - Deutsch DT04-4P
- **9** - Packard MetriPack

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