



# PDTF Series Temperature Switches

## Technology

Gems PDTF Series temperature switch provides fast, accurate temperature response through a brass tip that protrudes into the application. The PDTF utilizes a liquid-filled capillary to sense temperature changes. The liquid expands as the temperature increases, causing the capillary pressure to increase. The set point of the PDTF is factory set and is not field adjustable.

## Installation

The temperature switch should be installed with reasonable accessibility for service. Pipe joint compound or Teflon tape should be used sparingly to seal the NPT threads. Mount the sensor in a location compatible to an IP65 rating. Position the unit in a horizontal or vertical position, ensuring that the brass tip is in direct contact with the media. Wire the sensor per Wiring Diagram A.

## Operation

The liquid expands as the temperature increases, causing the capillary pressure to increase. When the application temperature reaches the unit set point, the capillary actuates the switch. The switch remains closed until the temperature drops approximately 19 F (9 C) below the set point.



## Specifications

Maximum Temperature	300°F (149°C) Max., 1/4" Spade Term. 340°F (171°C) Max.
Switch	Resistive 5 Amp; Inductive 2 Amp @ 12/24 VDC and 125/250 VAC
Setting Tolerance	± 6°F (± 3°C)
Wetted Parts	
Housing	Brass
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

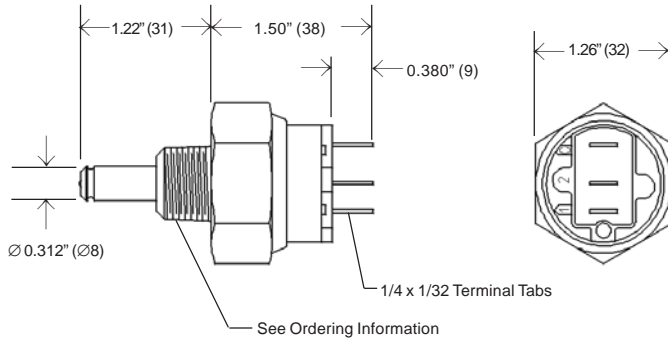
Use the **Bold** characters from below to construct a product code.

### SELECT

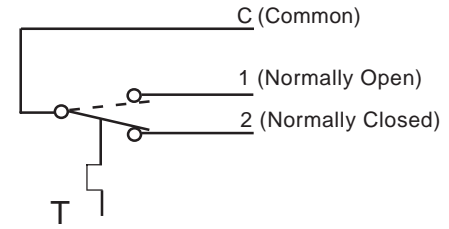
1. Set Point \_\_\_\_\_  
Specify 70°F to 285°F (20°C to 140°C) in °F or °C
2. Direction \_\_\_\_\_  
**R** Rising; **F** Falling
3. Medium Connection \_\_\_\_\_  
**6M** 3/8" NPT Male; **8M** 1/2" NPT Male
4. Circuit \_\_\_\_\_  
**A** SPST/NO; **B** SPST/NC; **C** SPDT
5. Electrical Termination \_\_\_\_\_  
**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 - 18" to 48" (18" Standard)  
**CABXX** 18 AWG PVC Cable - 36" to 120"  
**FLSXX** Flying Leads with PVC shrink tubing - 18" to 48" (18" Standard)
6. Options<sup>2</sup> \_\_\_\_\_  
**WF** Weather Pack Connector, Female; **WM** Weather Pack Connector, Male; **DE** Deutsch Connector, Male, DT04 Series

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

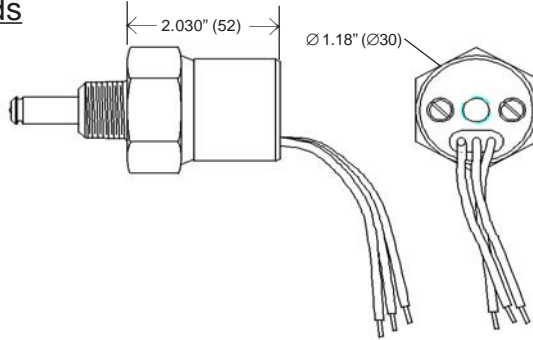
## Spades



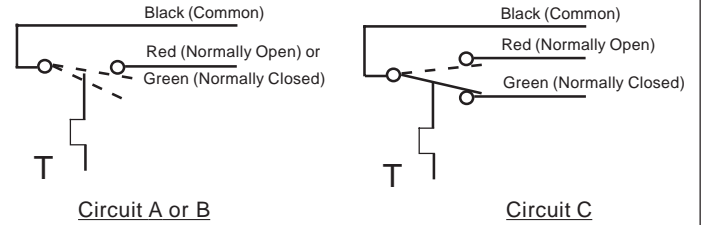
## Spades



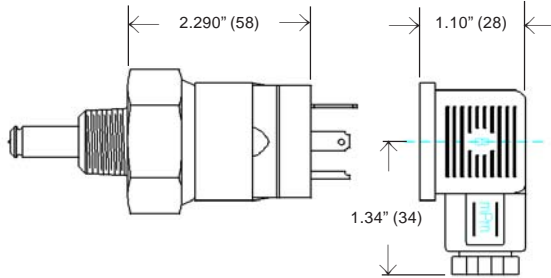
## Flying Leads



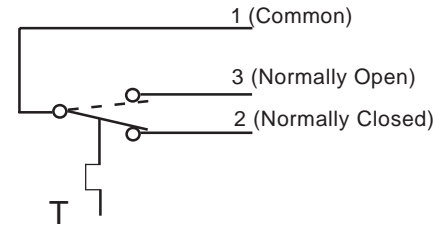
## Flying Leads



## Din 43650A



## Din 43650A



Connector Type	Terminal A	Terminal B	Terminal C
2-Pin Male/Female	Red (Normally Open) or Green (Normally Closed)	Black (Common)	
3-Pin Male/Female	Red (Normally Open)	Green (Normally Closed)	Black (Common)

### Important Points:

- Gems products must be maintained and installed in strict accordance with the National Electrical Code and the applicable Gems Product Instruction Bulletin that covers installation, operation and proper maintenance. Failure to observe this information may result in serious injury or damages.
- For hazardous area applications involving such things as, but not limited to, ignitable mixtures, combustible dust and flammable materials, use an appropriate explosionproof enclosure or intrinsically safe interface device.
- Please adhere to the pressure and temperature limitations shown throughout this bulletin for our sensors. These limitations must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies.
- Selection of materials for compatibility with the media is critical to the life and operation of Gems products. Take care in the proper selection of materials of construction, testing is required.
- Life expectancy of switch contacts varies with application. Contact Gems if life cycle testing is required.
- Our sensors have been designed to resist shock and vibration. However, shock and vibration should be minimized.
- Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.
- Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.
- Our sensors must not be field-repaired.
- Physical damage sustained by product may render it unserviceable.

### Return Policy

Returns are accepted on stock items up to 30 days from date of order. You must contact our Returns Department for a Return Authorization (RA) number. Return the goods - freight prepaid - in the original container and include original packing slip. C. O. D. returns are not accepted. Gems reserves the right to apply restocking charges.

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