

# THERMAL DISPERSION FLOW SWITCH

## Non-Mechanical, Low Pressure Drop, Large Pipe Sizes

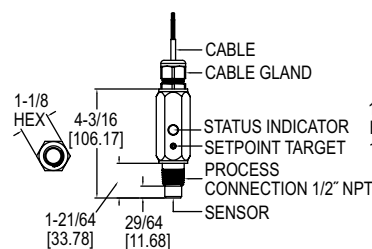
Flow Switches, Paddle / Flow Switches, Thermal



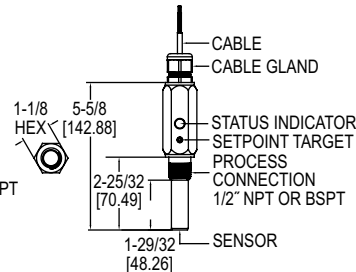
TDFS2-1-P-06



TDFS2-2-P-06



TDFS2-1-P-06



TDFS2-2-P-06

The **Series TDFS2 Thermal Dispersion Flow Switch** is a thermal flow switch that indicates whether the flow rate is above or below a user set flow rate. The unit incorporates two LED status indicators providing visual switch indication. The set flow rate (setpoint) is easily field adjustable with included magnet and the unit has both NO and NC NPN outputs.

### BENEFITS/FEATURES

- Better reliability and life expectancy than mechanical flow switches with no paddles or vanes to wear or break, no jams in the paddle movement, and no seals on movement assembly to wear or leak
- Long operation life, as it is not affected by empty pipe by avoiding overheating with heating above the process temperature and then cooling down to process temperature
- Lower system run cost with low pressure drop with 10% insertion into the flow (e.g. 1/8" for 3/4" schedule 40 pipe)

### APPLICATIONS

- Boiler flow proving
- Hot water heaters
- Chillers
- Liquid transfer systems

MODEL CHART						
Example	TDFS2	-1	-C	-06	-BSPT	TDFS2-1-C-06-BSPT
Series	TDFS2					Thermal dispersion flow switch
Pipe Size		1 2				1/2 to 1-1/2" (15 to 40 mm) 2 to 10" (50 to 250 mm)
Electrical Connection*			C B P			1/2" female NPT with PVC cable for conduit connection Cable gland with burial rated cable Cable gland with PVC jacketed cable
Cable Length				X		Cable length (ft.)
Options					BSPT	1/2" BSPT process connection

\*Per ft cable length adder.

### SPECIFICATIONS

**Service:** Compatible water-based fluids.  
**Wetted Materials:** 316 SS.  
**Pipe Range:** 1/2 to 1-1/2" (15 to 40 mm) or 2 to 10" (50 to 250 mm) (model selectable).  
**Setpoint Range:** 0.5 to 10 ft/s (0.15 to 3.0 m/s).  
**Repeatability:** 0.07 ft/s (0.02 m/s) +3% of setpoint.  
**Typical Deadband:** 0.1 ft/s (0.03 m/s) +15% of setpoint.  
**Temperature Limits:** Ambient: 5 to 140°F (-15 to 60°C); Process: 5 to 140°F (-15 to 60°C), Storage: -40 to 185°F (-40 to 85°C).  
**Pressure Limits:** 300 psig (20.67 bar).  
**Response Time:** Approximately 8 s.  
**Power Requirement:** 9-24 VDC.

**Switching Current:** 400 mA, derate 5 mA/°C above 23°C.  
**Current Consumption:** Average: 93 mA; Peak: 300 mA.  
**Electrical Connection:** 1/2" NPT female or cable gland with 4 conductor 22 AWG 6' (1.83 m) long (model selectable).  
**Process Connection:** 1/2" NPT or BSPT male (model selectable).  
**Enclosure Rating:** NEMA 4X (IP65).  
**Housing Materials:** 316 SS, 416 SS, polycarbonate, neoprene, and acrylated urethane.  
**Switch Type:** 1 NO NPN, 1 NC NPN.  
**Input Power and Protection:** 0.5A fuse (resettable) reverse polarity protected.  
**Switched Output Protection:** 0.5A fuse (resettable) reverse polarity protected.  
**Agency Approvals:** CE.