Flow Switches, Thermal

The Series TDS Thermal Dispersion Flow Switch offers solid state flow detection of non-coating liquids for pump and process protection. SPDT output allows for interfacing with remote PLC or relay control device. The adjustable switch point is factory calibrated at 0.2 fps with LED indication of flow and calibration status. Units feature selectable NO or NC, and are not damaged by over-ranging flow velocities.

**SPECIFICATIONS**
- **Service**: Liquids
- **Wetted Materials**: Polypropylene/PPS or polyvinylidene fluoride
- **Range**: 0.04 to 10 fps (1.2X10^-2 to 3.05 m/s)
- **Temperature Limits**: 32 to 140°F (0 to 60°C)
- **Pressure Limits**: 150 psi (10 bar) @ 77°F (25°C), derated 1.67 psi (.113 bar) per °C above 25°C
- **Relay Output**: 1 SPDT form C, isolated and sealed
- **Relay Load**: 250 VAC, 10 A resistive, 1/2 hp
- **Switching Mode**: Selectable NO or NC
- **Supplement Voltage**: 120/240 VAC, 50/60 Hz, selectable
- **Current Consumption**: 50 mA (nominal)

**Process Connections**: 3/4 male NPT
**Mounting Orientation**: Any orientation, for pipe sizes 3/4” to 1-1/2” use 3.0” (7.6 cm) length switch; for 2” to 16” pipe sizes use 4.5” (11.4 cm) length switch.

**Setpoint Adjustment**: 0.04 to 3 fps (1.2X10^-2 to .91 m/s)
**Setpoint Drift**: 0.5% of setpoint
**Response Time**: 1-10 seconds
**Viscosity Range**: 1 to 200 centipoise
**Supply Voltage**: 12 to 36 VDC
**Consumption**: 50 mA (nominal)
**Indication**: LED for flow status
**Weight**: 3 oz (84 g)
**Agency Approvals**: CE

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Protect pumps and valves from dry running with the Series TSP Liquid Flow Controller. The Series TSP combine a liquid flow switch with a fail-safe relay controller to detect a flow or no flow situation and provides switching for direct actuation of pumps and valves. Controller features adjustable time delay, selectable NO or NC operation, and LED indication of sensor, relay, and power status. Four models (TSP110S, TSP210S, TSP120S, TSP220S) are designed with an integral flash alarm to provide immediate indication of local alarm conditions.

**SPECIFICATIONS**
- **Service**: Compatible liquids
- **Wetted Materials**: Polypropylene/PPS or polyvinylidene fluoride
- **Temperature Limits**: -40 to 158°F (-40 to 70°C)
- **Pressure Limits**: 150 psi (10 bar) @ 77°F (25°C), derated 1.67 psi (.113 bar) per °C above 25°C
- **Relay Output**: 1 SPDT form C, isolated and sealed
- **Relay Load**: 250 VAC, 10 A resistive, 1/2 hp
- **Switching Mode**: Selectable NO or NC
- **Supplement Voltage**: 120/240 VAC, 50/60 Hz, selectable
- **Current Consumption**: 50 mA (nominal)

**Agency Approvals**: CE

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**Flow Switches, Thermal**

**FLOW**

The Series TDS Liquid Flow Controller offers solid state flow detection of non-coating liquids for pump and process protection. SPDT output allows for interfacing with remote PLC or relay control device. The adjustable switch point is factory calibrated at 0.2 fps with LED indication of flow and calibration status. Units feature selectable NO or NC operation and are not damaged by over-ranging flow velocities.

**SPECIFICATIONS**
- **Service**: Liquids
- **Wetted Materials**: Polypropylene/PPS or polyvinylidene fluoride
- **Range**: 0.04 to 10 fps (1.2X10^-2 to 3.05 m/s)
- **Temperature Limits**: 32 to 140°F (0 to 60°C)
- **Pressure Limits**: 150 psi (10 bar) @ 25°C, derated @ 1.667 psi (.113 bar) per °C above 25°C
- **Repeatability**: ±5% of setpoint
- **Switch Type**: SPDT
- **Electrical Rating**: 80 VAC/60 VDC @ 1 A
- **Electrical Connections**: 22 AWG 3-wire, 10 ft (3 m) length

**Agency Approvals**: CE

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**Series TDS**

**Liquid Flow Controller**

NO or NC Relay Output, Adjustable Time Delay

**Series TDS**

**Thermal Dispersion Flow Switch**

Adjustable Switch Point, LED Indication