

Thermal Dispersion Flow / Level / Temperature Switch Standard Response

FEATURES

- For Liquids, Gases & Small Granular Solids
- One Switch for Gas or Liquid Flow, Liquid Level, Interface Level or Temperature
- 316L Stainless Steel All Welded Construction Standard
- Explosion Proof, No Moving Parts
- Temperature Range -50 to 350°F / -46 to 177°C Standard
- Pressure to 4000 psig / 275 bar Standard

OPTIONS:

- Exotic Alloys for Corrosive Applications
- Temperatures from -320 to 900°F / -195 to 482°C
- Pressure to 10,000 psig / 689 bar
- Extended Sensor
- Remote Mounting
- Flange Mounting
- Ceramic Glass To Metal Feedthrough Provides Secondary Pressure Boundary



SPECIFICATIONS

Sensor

Materials of Construction	316L Stainless Steel Standard, Exotic Alloys Optional
Response Time	No Flow to Flow: From 3 Seconds; Flow to No Flow: From 8 Seconds Level: +/- 1/8"; Temperature: From 1 second
Operating Temperature	-50 to 350°F / -46 to 177°C Standard Options: -320 to 500°F / -196 to 260°C -100 to 900°F / -73 to 482°C
Operating Pressure	Full Vacuum to 4000 psig / 275 bar Standard Option: 10,000 psig / 689 bar maximum
Repeatability	Flow: 0.5% of maximum flow rating at Constant Conditions Standard ; Level: +/- 1/8"; Temperature: +/- 1°C
Process Connection	3/4" MNPT Standard Options: 1", 1-1/4", 1-1/2", 2" MNPT, Flanges, Retractable Probes
Insertion Length	1.8" / 45.7mm Standard Option: 1.2" / 30.5mm; Customer Specified (1.2" / 30.5mm minimum)

Electronics

Housing	Powder Coated Aluminum Standard Optional: Dual Compartment Aluminum; Dual Compartment 316L SS
Operating Temperature	-50 to 140°F/-46 to 60°C Ambient Option: Remote Mounting of Electronics Up to 2000 ft. / 609 meters
Power Input	90-132 VAC, 50/60 Hz, 5.5 watts max Options: 24 VDC, 24 VAC, 208-240 VAC
Relay Output	DPDT 8 amps @ 250 VAC
Conduit Entry	3/4" FNPT Standard
Approvals	CL I, Div I, GP A,B,C,D; CL I, Div II, GP E,F,G; Div III, DIP, NEMA or Type 4X FM: T3A @ Ta = 60C CSA: T3C @ Ta = 60C (For A, A1 and S housing options) GOST Russia, GOST Kazakhstan: 1ExdIICT3



Shipping Weight

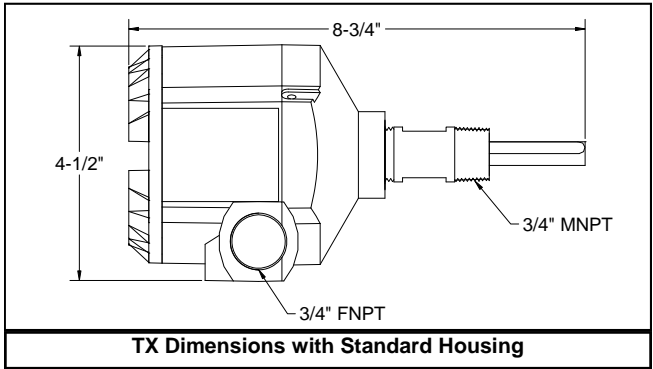
5 lbs standard

ORDERING INFORMATION:

TX/a/b/c/d/e/f/g/h:

- /a Housing**
 - A1 Single Compartment Aluminum Housing **Standard**
 - A1W Single Compartment Aluminum Housing with glass window cover
 - A Dual Compartment Aluminum Housing
 - AW Dual Compartment Aluminum Housing with Glass Viewing Window
 - S Dual Compartment 316L Stainless Steel Housing
 - SW Dual Compartment 316L Stainless Steel Housing with Glass Viewing Window

- /b Material Type**
 - S6 316L Stainless Steel **Standard**
 - HB Hastelloy B-3
 - HC Hastelloy C-276
 - AM Monel
 - T2 Titanium GR. 2
 - T7 Titanium GR. 7
 - A20 Carpenter 20



- /c A) Process Connection – Threaded**
 - 0750 3/4" MNPT **Standard**
 - 1000 1" MNPT
 - 1250 1-1/4" MNPT
 - 1500 1-1/2" MNPT
 - 2000 2" MNPT

- B) Process Connection – Flanged**

AABC	AA	B	C
	10 1" Flange	1 150#	1 Raised Face, 316L SS
	15 1-1/2" Flange	2 300#	2 Raised Face, Carbon Steel
	20 2" Flange	3 600#	3 Flat Face, 316L SS
	30 3" Flange	4 900#	4 Flat Face, Carbon Steel
	40 4" Flange	5 1500#	6 Special
	60 6" Flange		

- /d Insertion Length**
 - 1.8 1.8" / 45.7 mm Insertion Length **Standard**
 - 1.2 1.2" / 30.5 mm Insertion Length
 - Length Customer Specified Length in Inches or Millimeters (1.2" / 30.5 mm minimum)

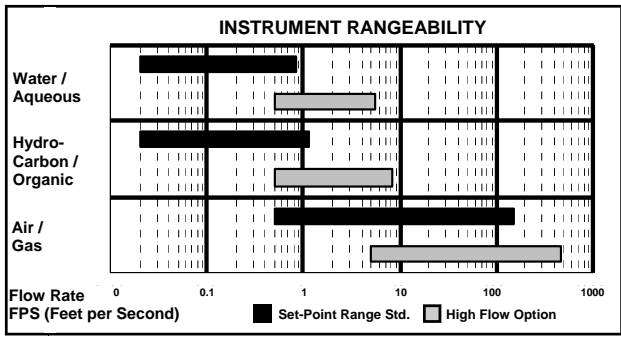
- /e Power Input**
 - 1 90-132 VAC **Standard**
 - 2 24 VDC or VAC (22.8 - 28.8 VDC; 20 VAC - 25 VAC)
 - 3 200-240 VAC



- /f Process Temperature**
 - H0 -50 to 350°F / -46 to 177°C **Standard**
 - H1 -320 to 500°F / -196 to 260°C (Requires remote mounting of electronics)
 - H2 -100 to 900°F / -73 to 482°C (Requires remote mounting of electronics)

- /g Approvals**
 - X Not FM or CSA Approved
 - FMX Factory Mutual Research Corp (FMRC) **Standard**
 - CSX CSA Canadian Standard Association
 - GR GOST Russia
 - GK GOST Kazakhstan

- /h Options (leave blank if no options required)**
 - DS Dual Switch Point Electronics with Millivolt Output
 - RJxxxx Remote Electronics with PVC Cable (200°F / 93.3°C) Specify cable length "xxxx" ft. (Max. Length 2000 ft. / 609 m)
 - RFxxxx Remote Electronics with Teflon Cable (500°F / 260°C) Specify cable length "xxxx" ft. (Max. Length 2000 ft. / 609 m)
 - HF High Flow Option (Requires 1" MNPT or 1-1/2" Flange or larger; for clean liquids only)
 - HP High Pressure Option (10,000 psig / 689 bar)
 - G1 Packing Gland for Retractable Probe, 50 psig / 3.4 bar Maximum
 - G2 Packing Gland for Retractable Probe, 500 psig / 34.5 bar Maximum
 - /HS 5 Pin Hermetic Feed-through (not offered with Titanium)



VOLUMETRIC (GPM OR CFM) TO VELOCITY (FPS) Conversion Chart							
LINE SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"
Liquid Multiplier	5.65	3.08	1.68	1.06	0.602	0.371	0.158
Gas Multiplier	42.19	23.06	12.57	7.909	4.5	2.776	1.18
Line Size	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
Liquid Multiplier	0.0956	0.067	0.0434	0.0325	0.0252	0.016	0.0111
Gas Multiplier	0.7161	0.519	0.3248	0.2427	0.1884	0.12	0.083
Line Size	10"	12"	14"	16"	18"	20"	24"
Liquid Multiplier	0.00407	0.00287	0.00237	0.001815	0.001434	0.001154	0.000798
Gas Multiplier	0.0304	0.0209	0.0177	0.0136	0.0107	0.00863	0.00597

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