

TS

Thermal Dispersion Switch

Thermal Dispersion flow/level/
temperature switch sanitary
K-TEK Products



Features

- For Liquids or Small Granular Solids
- One Switch for Gas or Liquid Flow, Liquid Level, Interface Level or Temperature
- No Moving Parts
- Designed to 3A Standards
- 316L Stainless Steel All Welded Construction Standard
- Explosion Proof
- Temperature Range -50 to 350°F / -46 to 177°C Standard
- Pressure to 500 psig / 34.5 bar Standard

Options

- Electropolished Wetted Parts
- Extended Sensor
- Remote Mounting
- Ceramic Glass to Metal Feedthrough Provides Secondary Pressure Boundry

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SPECIFICATIONS

Sensor

Materials of Construction	316L Stainless Steel 240 Grit Polish Standard
Response Time	No Flow to Flow: From 3 Seconds; Flow to No Flow: From 8 Seconds Level: $\pm 1/8"$; Temperature from 1 Second
Operating Temperature	-50 to 350°F / -46 to 177°C Standard
Operating Pressure	Full Vacuum to 500 psig / 34.5 bar Standard
Repeatability	Flow: 0.5% of maximum flow rating at Constant Conditions Standard Level: $\pm 1/8"$; Temperature: $\pm 1^\circ\text{C}$
Process Connection	1-1/2" Tri-Clamp Sanitary Fitting for Short Leg Tee Mounting
Insertion Length	Options: 2" Tri-Clamp, Flanges, Customer Specified Connections 1.8" / 45.7mm Standard Option: 1.2" / 30.5mm Insertion Length; Customer Specified Insertion Length

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 Standard Option: Remote Mounting of Electronics Up to 2000 ft. / 609 meters
Power Input	90-132 VAC, 50/60 Hz, 5.5 watts max Standard 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

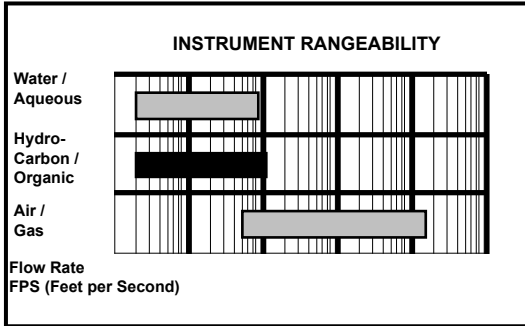
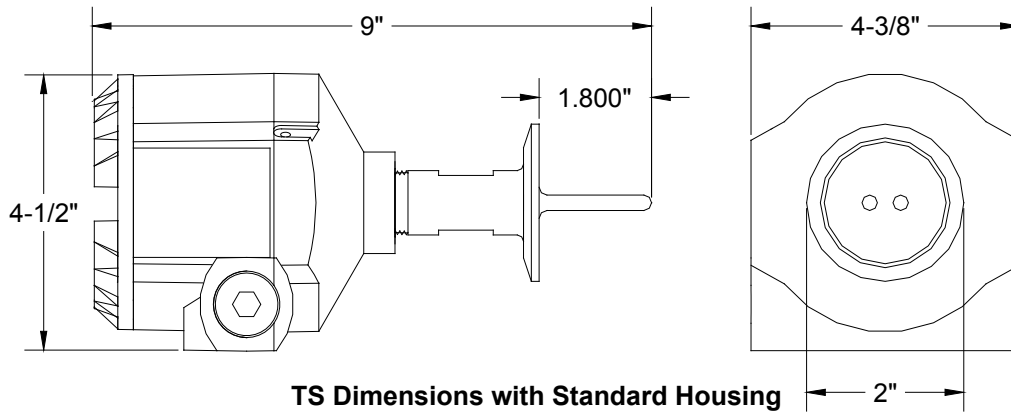


ORDERING INFORMATION:

TS / 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 240 Grit Mechanical Polish Standard		
	EP	316L Stainless Steel 240 Grit and Electropolish		
/c	A) Process Connection			
	1005	1" / 1-1/2" Tri-Clamp Standard	500 psig @ 70°F / 34 bar @ 21°C	300 psig @ 250°F / 20 bar @ 121°C
	2005	2" Tri-Clamp	450 psig @ 70°F / 31 bar @ 21°C	300 psig @ 250°F / 20 bar @ 121°C
/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		
/g	Approvals			
	X	Not FM or CSA Approved		
	FMX	Factory Mutual Research Corp. (FMRC) Explosion Proof Standard		
	CSX	CSA Canadian Standard Association Explosion Proof		
	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® (registered trademark of DuPont) Cable (350°F / 177°C) Specify cable length "xxxx" ft. (Max. Length 2000 ft. / 609 m)		
	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"	1-1/2"
Liquid Multiplier	5.65	3.08	1.68	1.06	0.602	0.371	0.215	0.158
Gas Multiplier	42.19	23.06	12.57	7.909	4.5	2.776	1.61	1.18
Line Size	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	8"
Liquid Multiplier	0.0956	0.067	0.0434	0.0325	0.0252	0.016	0.0111	0.006
Gas Multiplier	0.7161	0.519	0.3248	0.2427	0.1884	0.12	0.083	0.048
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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