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

Power and productivity
for a better world™

ABB
**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
- 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*
- Process Connection: 1-1/2" Tri-Clamp Sanitary Fitting for Short Leg Tee Mounting
- Insertion Length: 1.8" / 45.7mm *Standard*
  - Option: 1.2" / 30.5mm Insertion Length; Customer Specified Insertion Length

**Electronics**
- Housing: Powder Coated Aluminum *Standard*
- Operating Temperature: -50 to 140°F / -46 to 60°C Ambient *Standard*
- Power Input: 90-132 VAC, 50/60 Hz, 5.5 watts max *Standard*
- 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 = 60°C CSA: T3C @ Ta = 60°C (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** Process Connection
    - 1005: 1" / 1-1/2" Tri-Clamp *Standard*
    - 2005: 2" Tri-Clamp
  - **/d** Insertion Length
    - 1.8: 1.8" / 45.7 mm Insertion Length *Standard*
    - 1.2: 1.2" / 30.5 mm Insertion Length
  - **/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)
### INSTRUMENT RANGEABILITY

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>Water / Aqueous</th>
<th>HydroCarbon / Organic</th>
<th>Air / Gas</th>
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<tbody>
<tr>
<td>FPS (Feet per Second)</td>
<td></td>
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#### VOLUMETRIC (GPM OR CFM) TO VELOCITY (FPS) Conversion Chart

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<th>LINE SIZE</th>
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<td>1.68</td>
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<td>7.909</td>
<td>4.5</td>
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<tbody>
<tr>
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<td>0.067</td>
<td>0.0434</td>
<td>0.0325</td>
<td>0.0252</td>
<td>0.016</td>
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<td>Gas Multiplier</td>
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<th>20&quot;</th>
<th>24&quot;</th>
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<td>0.001815</td>
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**TS Dimensions with Standard Housing**