

## Single Channel Mass Flow or Point Level Switch

### Features

- Mass flow Switch for the detection of the mass flow rate of liquids and gases
- Point level switch for liquid level detection
- Wide operating temperature range -100°F to +850°F (-70°C to 458°C)
- Flow Switch range of 0.01 to 5 fps liquids and 0.1 to 500 fps gases
- Level Switch switches on level change 0.03 inch
- Fast flow switch response time of 0.5 to 10 seconds (media dependent)
- Level switch response time of 0.1 to 1 second of wetting (media dependent)
- CE, CENELEC and CSA approvals

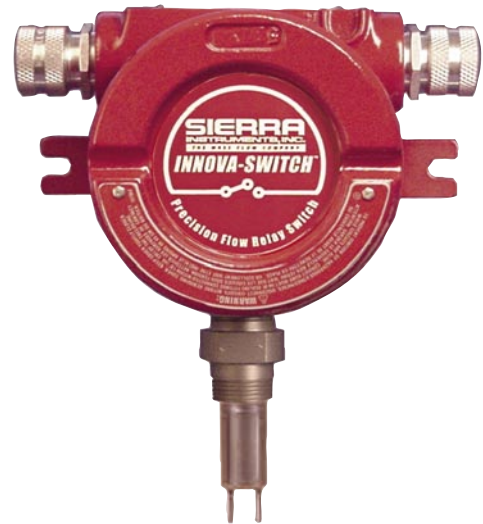


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# Innova-Switch™



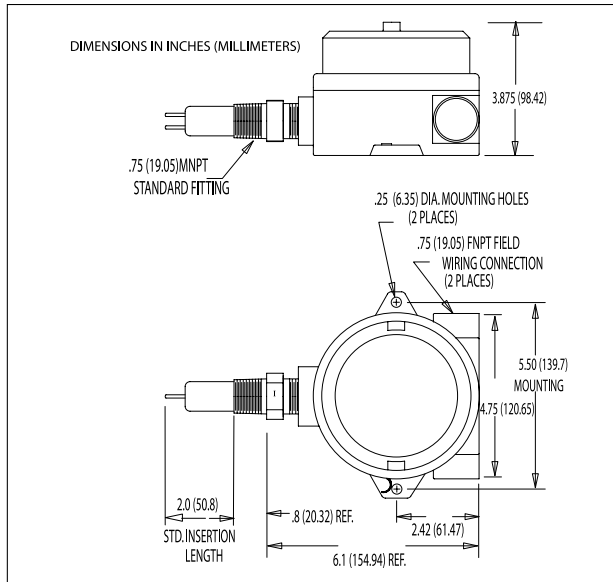
### Description

Sierra Instruments' Innova-Switch represents the State-of-the-art in gaseous and liquid flow switching or liquid level control and continues the Sierra tradition of providing the highest quality mass flow meters and controllers in the industry.

Flow and level detection is accomplished by using a high-resolution thermal differential technique. The sensor consists of a pair of matched Resistance Temperature Detectors (RTD's). One RTD is self-heated using a constant DC current. The other RTD is unheated and provides an accurate process temperature reference. The thermal differential created between the reference and the heated RTD pair is a function of the density and/or velocity of the media with which the sensor is in contact.

The sensor and wetted parts are of durable 316L stainless steel, all welded construction with no moving parts. The switch is easy to install and adjust, giving reliable, low maintenance performance in the most demanding applications.

## Dimensional Specifications



## Performance Specifications

### Operating Range:

Flow Switch: Adjustable flow rate (feet per second-fps), typical: 0.01 to 5.0 fps liquids and 0.1 to 500 fps gases

Level Switch: Switch on level change of 0.03 inch

### Response Time:

Flow Switch: 0.5 to 10 seconds (media dependent)

Level Switch: 0.1 to 1 second (media dependent)

**Repeatability:** +/- 1% of setpoint (Flow) or 1/32" (0.8mm) Level

**Stability:** Drift <0.5% from calibrated setpoint over a range of +/-50F.

Temperature compensated through entire range.

## Ordering Information

### PARENT MODEL NUMBER

**615-LS32** Innova-Switch **LEVEL** Switch  
**615-FS42** Innova-Switch **FLOW** Switch

### AGENCY APPROVALS

**CS** CSA approved  
**CN** CENELEC approved

**NX** Non-explosion proof switch

### PROCESS CONNECTIONS

**3A1** 1.5" Sanitary with 3A stamp  
**075** 0.75" MNPT (STD)  
**050** 0.50" MNPT  
**100** 1" MNPT

**RA1** Raised face flange 150# 1"  
**RA2** Raised face flange 150# 2"  
**RB1** Raised face flange 300# 1"  
**RA1** Raised face flange 300# 2"  
**SPL** Special

### SENSOR MATERIAL

**S6** 316SS (STD)  
**S4** 304SS  
**SL** 304L SS  
**HB** Hastalloy B

**HC** Hastalloy C  
**IO** Inconel 600  
**MN** Monel  
**A2** Alloy 20  
**SM** Special Material

### INSERTION LENGTH

**000.00** 0.5" to 120" in .25" increment

### POWER INPUT

**24D** 24 VDC  
**110** 110 VAC  
**220** 220 VAC

### CONFIGURATION

**RE** Remote Electronics

### SPECIAL OPTIONS

**00** No special options  
**CB** Calibration Required  
**EN** Extended Neck  
**XW** Explosion Proof window  
**V1** Variable insertion  
**LT** Live (hot) tap  
**DS** Double Sided

**MT** Medium T  
**HT** Hi T  
**RTD** RTD output  
**TO** Thermocouple output  
**CA** Additional cable  
**CE** CE approval

## Operating Specifications

### Operating Temperature:

Process: -70° to 200°C (-100°F to 390°F) standard. Medium T to 300°C (572°F) optional

Hi T to 485°C (850°F)

Electronics: -40°C to 60°C (-40°F to 140°F). Optional remote electronics for use in medium and Hi T environments

**Operating Pressure:** to 3000 psia (207 bar)

**Input Power:** 115 VAC, 50/60Hz standard. 230 VAC, 50/60Hz optional, 24VDC optional. 3.1 Watt maximum

**Output:** 5A. 250 VAC. DPDT with fail safe capability

## Physical Specifications

**Wetted Materials:** 316 SS standard. Hastelloy, Monel, Inconel or other materials optional

**Enclosure:** Explosion Proof; NEMA 3,4X,7,9. CSA, FM, UL, CENELEC and EECs approved

**Process Connection:** 0.75" MNPT standard. 0.5" and larger MNPT and various other process connections such as sanitary and flanges optional

**Insertion Length:** 2.0" standard. 0.5" or greater optional

**Approvals:** CE, CSA, CENELEC Class 1 Div 1 Groups B,C,D

