

The ROCK

Model SW100 Thermal Flow and Level Switch

- ✕ All-welded 316SS or Hastelloy C-276 sensor
- ✕ FM Approved explosion proof
- ✕ CE approved
- ✕ NEMA 4X wash-down proof
- ✕ Single board, "no-connectors" design
- ✕ 3000 psig (207 barg)
- ✕ No moving parts
- ✕ DPDT 5 amp relay
- ✕ Single pot adjustment
- ✕ Works on gases, liquids and slurries
- ✕ 3A sanitary unit available
- ✕ Clean and steam in place
- ✕ $\pm 1\%$ of reading repeatability



PRODUCT DESCRIPTION

The ROCK flow and level switch was specifically designed for long-term reliable operation in the harshest industrial environments. Simply insert the SW100 in a line or vessel and adjust the single pot to the desired flow or level. Wetted parts are 316 stainless steel for durability and corrosion resistance. Hastelloy C-276 and other materials are available. The sensors utilize reference grade platinum RTD's resulting in excellent repeatability and rangeability. A 3A sanitary version is available.

THEORY OF OPERATION

The model SW100 operates on the thermal principal of flow measurement. Its electronics provide a constant wattage to the sensor, heating it above the temperature of the fluid. Flow of the fluid causes removal of heat from the sensor, measured as a reduction in temperature. Therefore, the measure of mass flow velocity is the sensor's temperature above the fluid temperature.

The ROCK utilizes an advanced Mass-Balanced sensor which causes each sensing element to respond equally and indifferently to changes in temperature. This feature eliminates the "hunting" problem inherent in three-element, unbalanced thermal flow switches.



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SPECIFICATIONS

Performance Specs

Repeatability:

± 1% of reading

Operating Specs

Liquid Range:

0.015 to 3 fps

(0.005 to 1 mps)

Gas Range:

1 to 100 sfps

(0.3 to 30 nmpps)

Note: Extended ranges available or increase/decrease pipe section to bring flow within range.

Sensor:

Std -40 to 250°F (-40 to 121°C)

HT 32 to 482°F (0 to 250°C)

3000 psig (207 barg)

Enclosure:

-40 to 131°F (-40 to 55°C)

Response Time:

2 to 20 seconds

application dependent

Input Power:

24 VDC, ± 10%, 0.5 amp

115/230 VAC, ± 10%, 50/60 Hz,

0.25 amp

Relay Contacts:

2 form C (DPDT) 5 amp,

250 VAC resistive

Physical Specs

Materials:

Sensor: 316 SS, Hastelloy C-276,

others available

Sanitary unit body: 316 SS

Switch point adjustment:

Field set with single pot; or

Factory set to specified flow velocity (optional)

Clean and steam in place

Enclosure:

Cast aluminum; NEMA 4X (IP65)

Factory Mutual approved Class I, Division 1, Groups B, C & D (T2C).

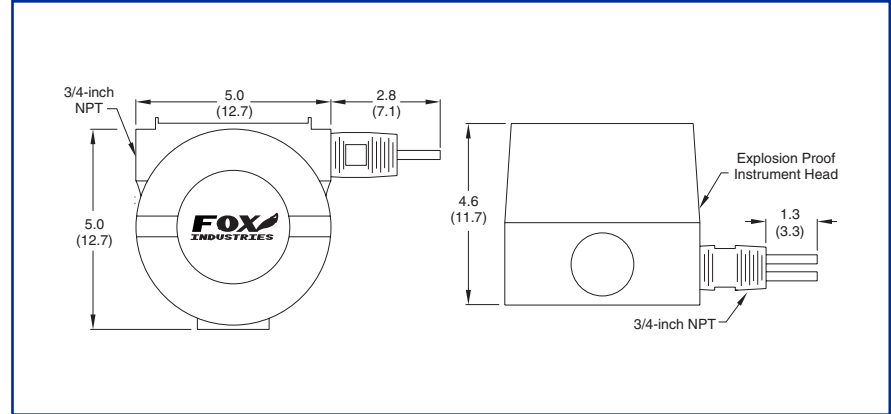
Class II/III, Division 1, Groups E, F & G(T2A).

CE approved.

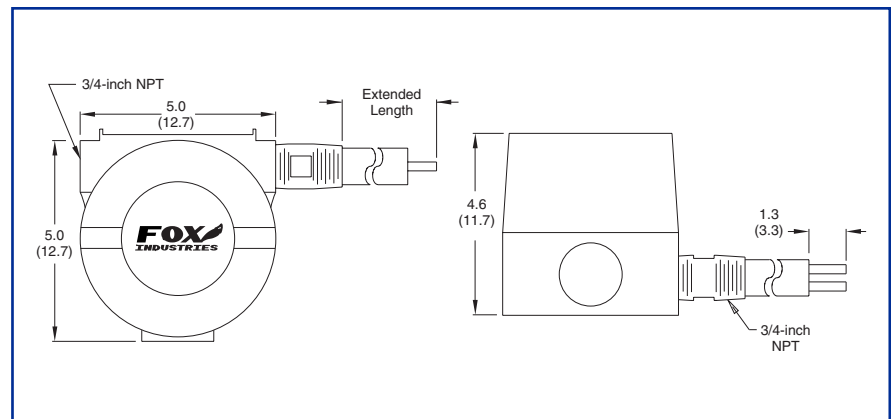
Dimensional

Note: Dimensions in parenthesis are centimeters. For certified drawings consult factory.

Standard Switch



Extended Switch



Sanitary Switch

