

CF12 EX Proof Flow Switch

Characteristics

- Explosion-proof housing (EX d).
- Robust with no moving parts.
- Corrosion resistant 316SS Body
- Can be Halar coated to corrosive and aggressive media
- Excellent sensitivity at low flow
- Quick response time for flow or level
- Protection Class: IP66 (IEC 60529)
- Set-Point Range:
3cm/s to 3m/s (Liquids)
5cm/s to 5m/s (gas)
- Signal Output:
Relay 2x SPDT
- Protection:
Reverse Polarity
Voltage Surge
Electromagnetic Interference
- Various types of process connections:
Thread, Flange and Sanitary



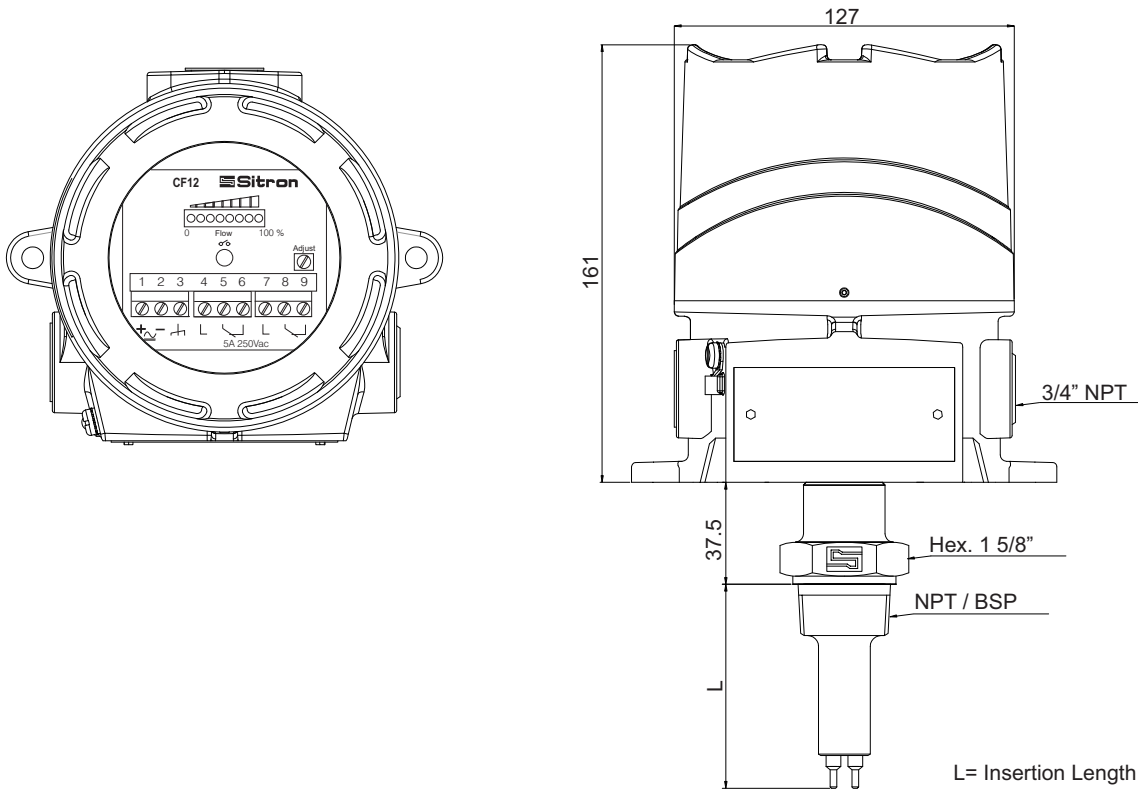
Description

The CF12 Thermal Dispersion Flow Switch with Ex-Proof (GX) housing comes standard with either an AC or DC power supply (CF12AC or CF12 DC). This unit offers reliable liquid and gas flow detection ideally suited for just about any Flow/ No Flow application. Unlike the CF12 with either the small nylon housing (N1) or the small aluminum housing (G1), the CF12 with large aluminum housing (G2 & GX) comes with two independent SPDT relays.

Like all of Sitron's products, the CF12 can be configured to accommodate our customer's unique process control requirements. All models can be ordered with a great variety of threaded, flange or sanitary process connections as well as Halar for aggressive mediums. The CF12 is also offered with extended necks for higher temperature applications up to 120°C. And while the CF12 is designed to monitor flow status of liquids and gases, with its no moving parts technology it can also be an ideal solution for liquid level detection.

The GX comes standard with a glass window which enables visualization of LED switch status. The GX housing comes with the following certifications: UL, cUL, IECEX and ATEX for installation in hazardous environments.

Dimensions (mm)



Technical Specifications

CF12AC/DC-X-X-X-X-GX

(2 SPDT)

Power Supply: AC: 85...264Vac (50/60hz) and 125Vdc
DC: 24Vdc ($\pm 10\%$)

Consumption: 130mA

Output: Relay (2 SPDT) 5A - 250Vac

Measuring Range: Liquids: 3cm/s...3m/s
 Gas: 5cm/s...5m/s

Accuracy: $\pm 10\%$

Response time: 1...10 sec

Temperature Gradient: 15°C/min

Indication: Bargraph 8 led's

Flow indication (LED): Red = Flow below the set point
 Yellow = set point (Relay ON)
 Green = flow above the set point

Housing: Aluminum painted (blue) with glass viewing window

Electrical Connection (cable entry): 2 x 3/4" NPT

Process Connection: BSP, NPT, flange or Sanitary

Body Material: 316S.S (Halar coating)

Work Temperature: -10...+80°C (Extended Medium Temperature Neck: peaks of up to 120°C)

Max Pressure: 100 Bar (others pressures upon request)

Class Protection: IP66

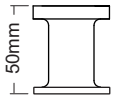
Approvals EX proof Housing (Optional): ATEX, DEMKO 07 ATEX 0622294,
 0539 II 2 G EX d IIC Gb
 0539 II 2 D Ex tb IIIC Db
 IECEX
 IECx UL 08.0005U
 Ex d IIC Gb
 Ex tb IIIC Db

Classifications: Class I, Div. 1, Groups B, C, D
 Class II, Div. 1, Groups E, F, G
 Class III

NEMA Type 4X: Class I Zone 1 A Ex d IIC
 Ex d IIC (Canada)

Extended Neck for Higher Temperatures

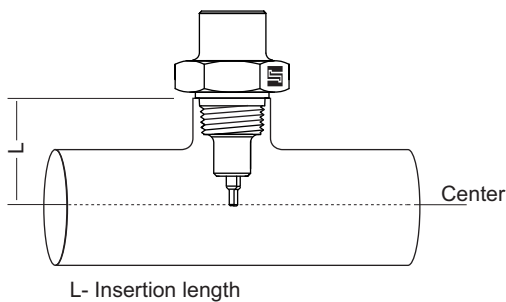
MT



MT - Medium (up to 120°C)

Insertion Length

Providing the measure (L) as illustrated:

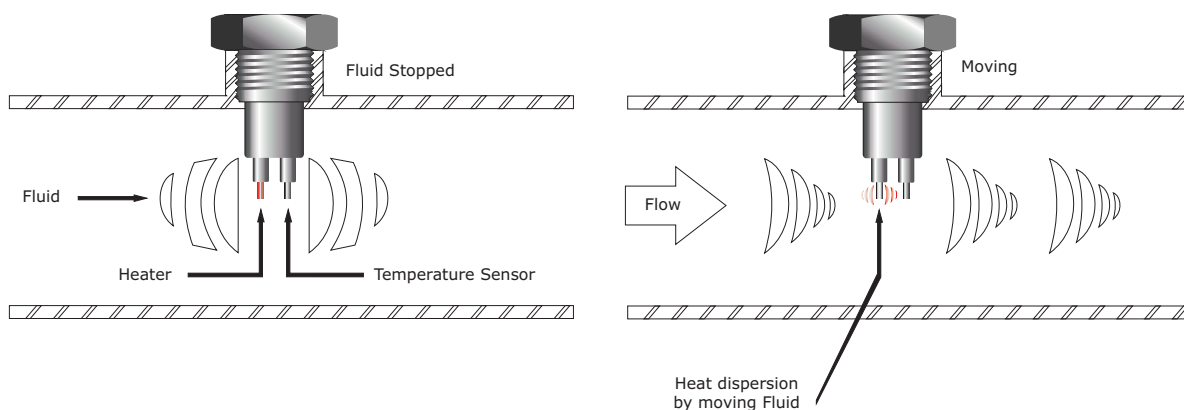


Technology

The CF12 line of flow switches utilize the principle of thermal dispersion. A typical configuration for this flow switch technology incorporates at least two temperature resistance detectors (RTD's), installed within the tip of the sensor. One of the sensors is heated and the other is used as a reference by monitoring the fluid temperature. As the medium (air or fluid) flows over the sensor tip, there is a dispersion of thermal energy which is inversely proportional to the flow. The electronics of the CF12 registers and measures the temperature change and indicates either the presence or absence of flow via LED indication as well as an SPDT relay alarm output.

Operating Principle

Thermal Dispersion



Order Code

MODEL	
CF12AC	Flow Switch / 2 SPDT / Power supply 85...264Vac (50/60hz) and 125Vdc
CF12DC	Flow Switch / 2 SPDT / Power supply 24 Vdc
SIZE	
3	1/2"
4	3/4"
5	1"
PROCESS CONNECTION TYPE	
6	1 1/2" B BSP
7	2" D FLANGE ANSI 150# - Carbon Steel Painted
8	2 1/2" E FLANGE ANSI 150# - 316 SS
9	3" F FLANGE ANSI 150# - PVC
A	1 1/4" G FLANGE ANSI 300# - Carbon Steel Painted
B	Metric Thread H FLANGE ANSI 300# - 316 SS
J	FLANGE ANSI 300# - PVC
0	4" K FLANGE ANSI 150# - 304 SS
X	OTHER L FLANGE ANSI 300# - 304 SS
M	Metric Thread
N	NPT
R	SMS Female
S	SMS Male
T	TRI-CLAMP
COATING	
Y	FEMALE DIN - 316SS S NONE
X	OTHER - SPECIFY H HALAR [®] Coated
INSERTION LENGTH	
L35	35mm
L50	50mm
L75	75mm
L100	100mm
L	SPECIFY
HOUSING	
GX	ALUMINUM w/ GLASS WINDOW (2 SPDT) 5A-250Vac (Ex d)
ELECTRICAL CONNECTION	
9	3/4" NPT
OPTIONS	
MT	Medium Temp - 50mm 316SS Neck (80-120°C)

CF12DC	4	G	S	L50	GX	9	MT
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Rev_4.18