



The FLS FLOWX3 F9.00.BD Flow Monitor and Transmitter is designed to convert the signal from the bi-directional flow sensors (F111.HT.BD & F3.11.H.BD) into a display indication and a 4-20mA signal for long distance transmission and it also perform a fully programmable Open Collector digital output. Only one packaging for panel or wall installation makes the device very flexible.

Self explaining calibration menus allow a customized setup of all measuring parameters and the state of the art electronic design ensures long-term reliable and stable signals.

Main Features

- Wall or Panel installation
- Adjustable analog output.
- Flow rate and direction display.
- 2 resettable totalizers (6 digit).
- 2 permanent totalizers (10 digit).
- Digital Open Collector output.
- Output simulation for system testing.
- IP65 monolithic packaging.
- Auto-calibration.


Applications

- Flow control and monitoring.
- Water distribution.
- Leak detection.
- Water treatment.
- Filtration systems.
- Groundwater remediation.
- Irrigation.

Technical Features



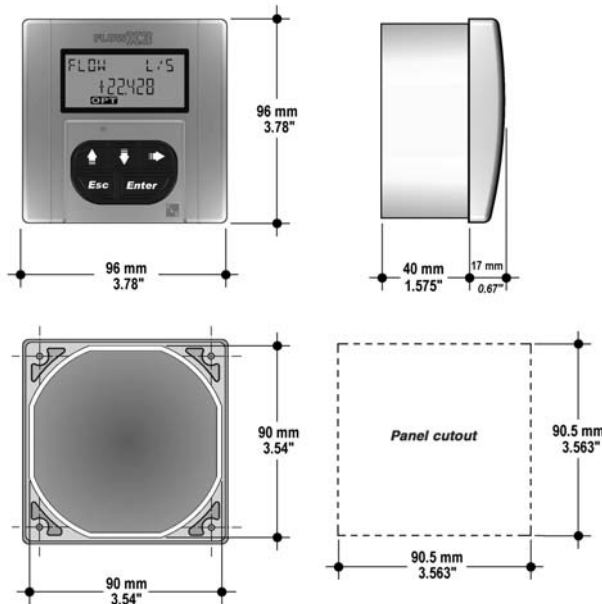
Technical Features

Flow Monitor	Part. No.	Wire Power Tech.	Associated Sensor	4-20mA Output	Open Collector Output	Relay Output
	F9.00.BD	2 wire	Bi-directional Hall Effect F3.11.H.BD F111.HT.BD	1 Positive Flow, Negative Flow, Bi-directional Flow	1 - MIN, MAX, Pulse, Off	----

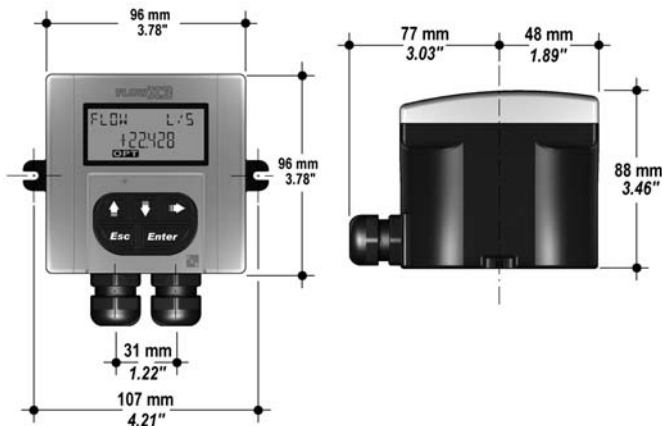
Engineering Data

- The flow transmitter is designed with only one packaging for panel or wall installation.
- The flow transmitter has ¼ DIN panel mount standard dimensions: 96 x 96 mm (3.6 x 3.8 inch).
- The instrument provides bi-directional flow rate indication and dual totalization (resettable and permanent) for each flow direction.
- The 4-20mA output can be proportional to positive flow, negative flow or bi-directional flow with elevated zero (4 – 12 –20 mA).
- The instrument provides auto-calibration and simulation options.

Dimensions Panel Mount



Wall Mount

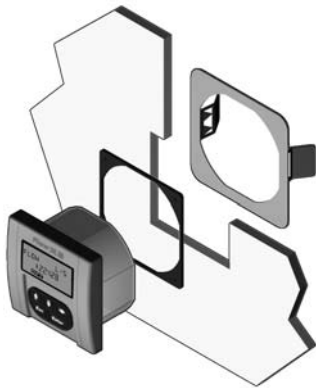


Installation

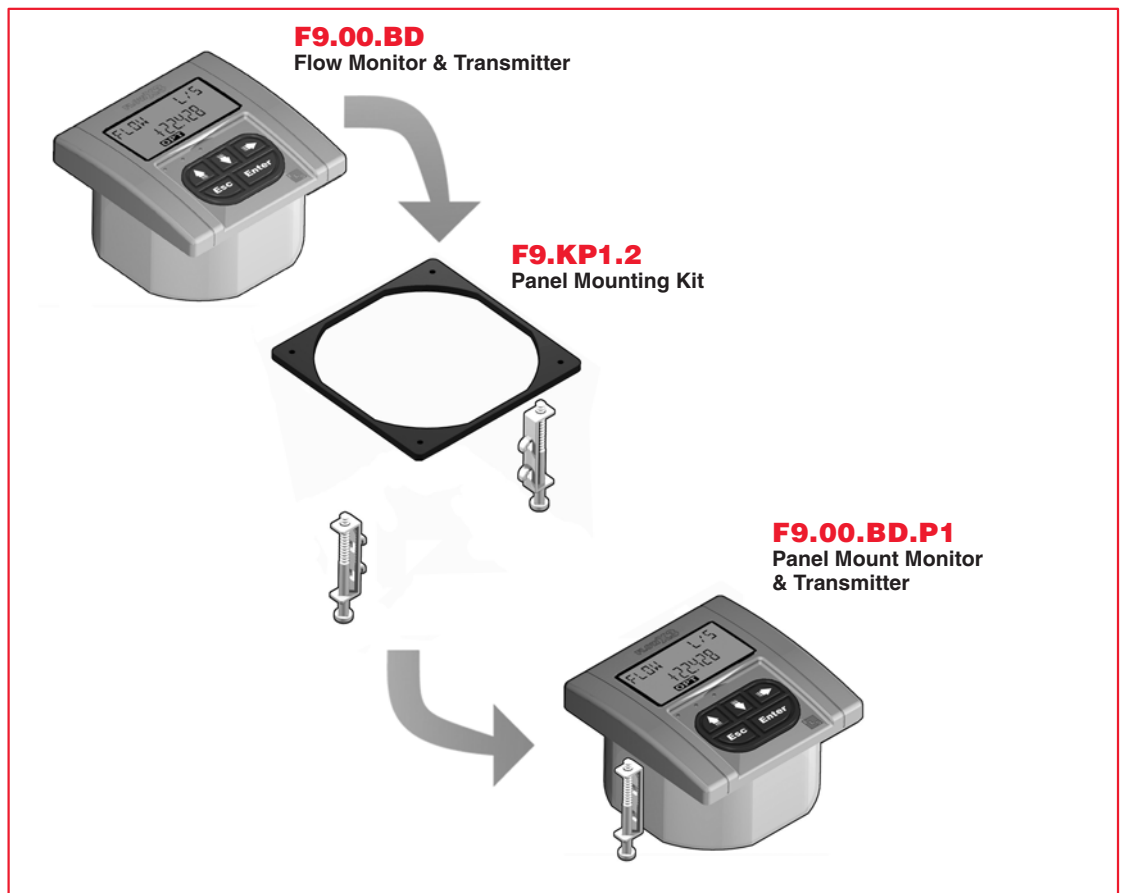
The flow monitor & transmitter is available just in one packaging for panel or wall installation. The panel version is installed using the panel mounting kit (F9.KP1.2), while the wall mounting version is fixed to the wall by the mounting kit (F9.KWX).

The mounting kits can be ordered directly connected to the monitor or separately and then simply installed on it. Please refer to Ordering Data section for a complete listing of part numbers.

Panel Mount



The panel mounting version consists of the monitor and the mounting bracket kit F9.KP1.2 with gasket for IP65 watertight panel installation. The monitor perfectly fits into a standard ¼ DIN panel cutout. The instrument and the kit can be ordered separately (code F9.0X for the monitor and code F9.KP1.2 for the mounting bracket) or together using the code F9.0X.P1.



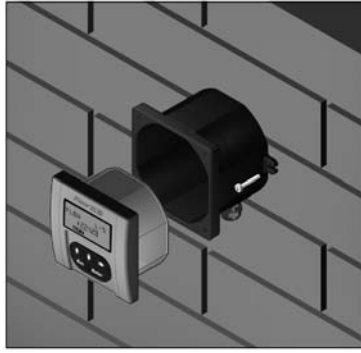
Input from



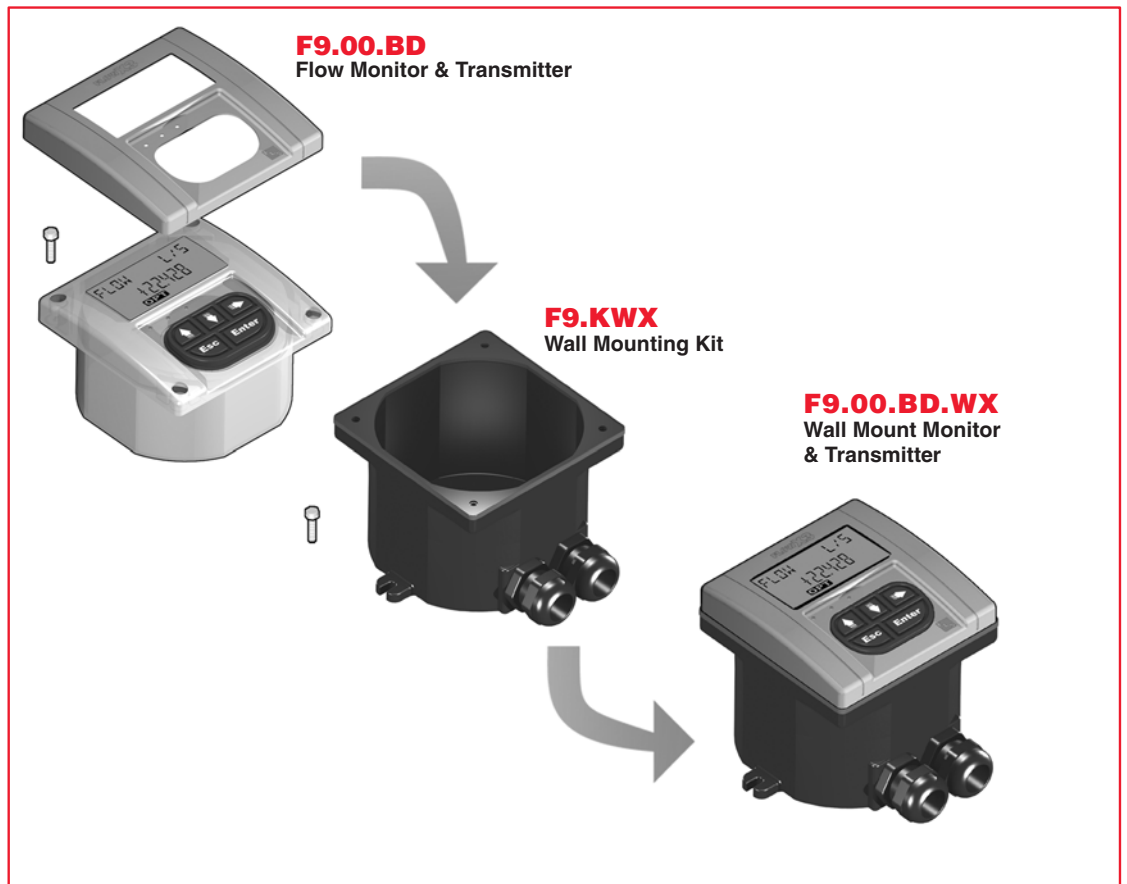
FLS FLOWX3 Flow Sensor (sold separately)

F3.11.H.BD
F111.HT.BD

Installation Wall Mount



The wall mounting version consists of the monitor and the wall mounting kit. The F9.KW1 kit includes the plastic adapter, the gasket for IP65 watertight wall installation and the fixing screws. The F9.KW2 includes also a 110/230 VAC to 24 VDC power supply directly mounted into the plastic adapter to provide a low voltage regulated output to the flow monitor. The instrument and the kit can be ordered separately (code F9.0X for the monitor and code F9.KWX for the kit) or together using the code F9.0X.WX.



Input from

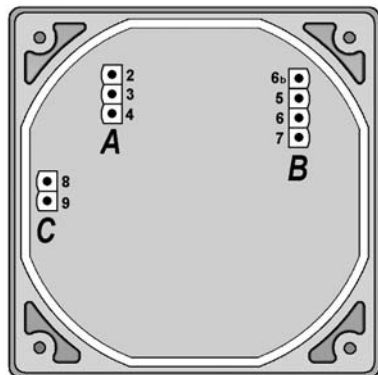


FLS FLOWX3 Flow Sensor (sold separately)

F3.11.H.BD
F111.HT.BD

Rear Terminal View

Terminal F9.00.BD



Power supply	A	2	+ LOOP
		3	- LOOP
		4	- VDC
Sensor	B	SENSOR	
		6b	DIR
		5	GND
		6	IN
		7	V+
Open collector output	C	8	O.C.+
		9	O.C.-

Technical Data

General

- Associated flow sensor:
 - FLS F3.11.H.BD
 - FLS F111.HT.BD.
- Materials:
 - Case: PC
 - Panel gasket: Neoprene
 - Wall gasket: EPDM
 - Keypad: 5 button silicone rubber.
- Display:
 - 3 line LCD: 2 x 12 alphanumeric lines and 1 icon line
 - Update rate: 1 second
 - Contrast: user adjustable with 5 levels.
- Enclosure: IP65 front.

Electrical

- Supply Voltage: 12 to 24 VDC±10%, regulated.
- Sensor Input (Frequency):
 - Sensor power: 4 VDC @ < 20 mA
 - Range: 0 ÷ 100 Hz
 - Optically isolated from current loop
 - Short circuit protected.
 - Accuracy: ±0,5 Hz.

Output current:

- 4-20 mA, isolated, fully adjustable and reversible
- Max. loop impedance: 150 @ 12 VDC, 330 @ 18 VDC, 600 @ 24 VDC.

Open Collector output:

- User selectable as MIN alarm, MAX alarm, Pulse Out, Off
- Optically isolated, 50 mA MAX sink, 24 VDC maximum pull-up voltage
- Max pulse/min.: 300
- Hysteresis: user selectable.

Environmental

- Operating temperature: -10°C to +70°C (14°F to 158°F).
- Storage temperature: -15°C to +80°C (5°F to 176°F).
- Relative Humidity: 0 to 95% non condensing.

Standard & Approvals

- Manufactured under ISO 9001 (Quality).
- Manufactured under ISO 14001 (Environmental Management).
- CE.

Ordering Data

FLOWX3 F9.00.BD

Part No.	Description	Wire Power Tech.	Power Supply	Input	Output
F9.00.BD	Bi-directional Flow Monitor and Transmitter	2 wire	12 to 24 VDC	1 (Freq.)	1 (4-20mA) 1 (Open Collector)

FLOWX3 F9.00.BD.P1 (Panel Mount Version)

Part No.	Description	Wire Power Tech.	Power Supply	Input	Output
F9.00.BD.P1	Panel Mount Bi-directional Flow Monitor and Transmitter	2 wire	12 to 24 VDC	1 (Freq.)	1 (4-20mA) 1 (Open Collector)

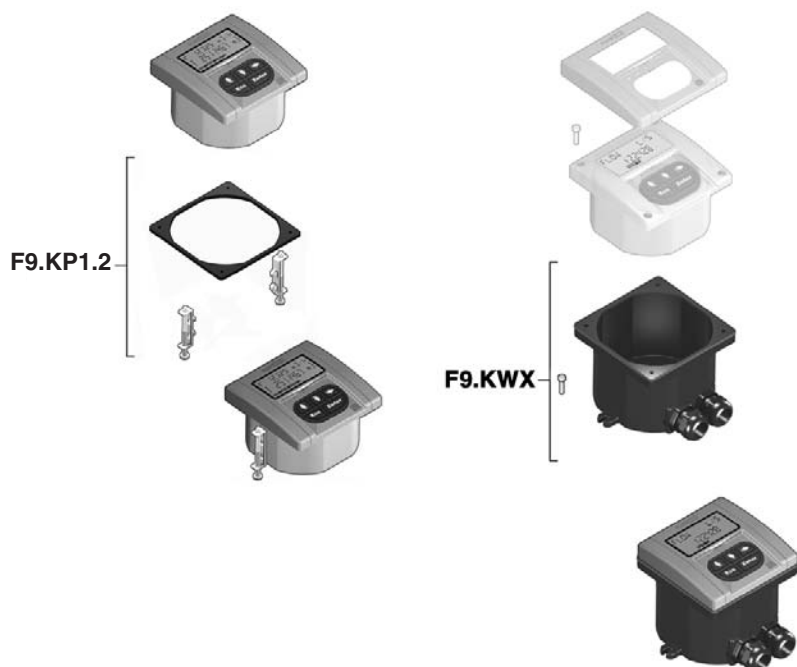
FLOWX3 F9.00.BD.WX (Wall Mount Version)

Part No.	Description	Wire Power Tech.	Power Supply	Input	Output
F9.00.BD.W1	Wall Mount Bi-directional Flow Monitor and Transmitter	2 wire	12 to 24 VDC	1 (Freq.)	1 (4-20mA) 1 (Open Collector)
F9.00.BD.W2	Wall Mount Bi-directional Flow Monitor and Transmitter	2 wire	110 to 230 VAC	1 (Freq.)	1 (4-20mA) 1 (Open Collector)

Ordering Data

Mounting Kits

Part No.	Name	Description
F9.KP1.2	Panel mounting Kit	Mounting bracket with gasket
F9.KW1	Wall mounting Kit	Plastic adapter with gasket and fixing screws
F9.KW2	Wall mounting Kit with Power Supply	Plastic adapter with gasket, fixing screws and 110/230VAC to 24VDC power supply included



Spare Parts

Item	Part No.	Name	Description
1	F9.SP1	Cover	PC front cover, 1 LED
2	F9.SP4.1	PG 13.5	PG13.5 Cable Gland for Wall mounting Kit
2	F9.SP4.2	PG 11	PG11 Cable Gland for Wall mounting Kit

