

Type F9.00, F9.01 and F9.02

Flow Monitor/ Transmitters

Type F9.00, F9.01 and F9.02 Flow Monitors/Transmitters are designed to process the pulse signals from all FlowX3 Hall Effect flow sensors. All units have a number of control outputs including 4 to 20mA, open collector (pulse) and relays. They have 3 line LCD displays and LED indicators for control output status (see page 25). The instruments supply voltage to the flow sensor. Modular design allows the same instrument to be mounted in three different ways: directly to the flow sensor or remotely either panel or wall mount.

■ Displays

Flow Rate – 5 digits
 Resettable Total – 6 digits
 Non-Resettable Total – 10 digits

Backlit display versions are available for F9.01 and F9.02 Monitors**

■ Output Signals

Item No.	4 – 20 mA	Wiring	Open Collector†	Relay (SPDT)*	No. of LEDs
F9.00	1	2 Wire	1	–	1
F9.01	1	3/4 Wire	3	–	3
F9.02	1	3/4 Wire	1	2	3

† User selectable as MIN alarm, MAX alarm, Pulse Out, Frequency Out or Off.

* User selectable as MIN alarm, MAX alarm, Pulse Out or Off.

**Add "L" to the Item No. for backlit versions for F9.01, F9.02.

■ Connectable FlowX3 Sensors

Instrument Mounting	Sensor No.
Direct	F3.01.H
Panel or Wall	F3.00.H, F3.15.H, ULF3.15H
	F111.H, ULF.H (for F9.01, F9.02)
	ULF.R (for F9.00)

Digiflow®
FLOWX3



F9.01, F9.02

■ Features

- **Easy Set-up** – Setting up the instrument is easy using the keypad and self-explanatory menus
- **Plug-In Removable Terminals** – Makes instrument connection and removal easy
- **Epoxy Encapsulated Electronics** – For durability and reliability
- **Auto-calibration** – Automatic calculation of K-factors
- **Auto Systematic Error Compensation (ASEC)** – For increased linearity and accuracy
- **Output Simulation** – For system testing

■ Technical

Supply Voltage:

- 12 to 24 VDC ± 10% regulated
- 110/230 VAC with F9.KW2 Wall Mount Kit

Sensor Input (Frequency):

- Sensor Power: 3.8 to 5 VDC @ < 30 mA
- Range: 0.5 to 1,000 Hz
- Optically isolated from current loop
- Short circuit protected

Enclosure:

- NEMA 4, 4X (IP65) front
- 1/4 DIN Size
- Monolithic clear polycarbonate plastic with silicone rubber keypad

For dimensions and technical specifications, see page 33.

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■ Output Specifications

F9.00 – 2 Wire:

4 to 20 mA Output: Isolated, fully adjustable and reversible

- Maximum Loop Impedance: 150Ω @ 12 VDC, 330Ω @ 18 VDC, 600Ω @ 24 VDC

One Open Collector Output with LED display:

- User selectable as MIN alarm, MAX alarm, Pulse Out, Frequency Out or Off
- Optically isolated, 50 mA maximum sink, 24 VDC maximum pull-up voltage
- Maximum pulses per minute: 300
- Hysteresis: Adjustable

F9.01 – 3/4 Wire:

4 to 20 mA Output: Isolated, fully adjustable and reversible

- Maximum Loop Impedance: 150Ω @ 12 VDC, 330Ω @ 18 VDC, 600Ω @ 24 VDC

Three Open Collector Outputs with LED display:

- User selectable as MIN alarm, MAX alarm, Pulse Out, Frequency Out or Off
- Optically isolated, 50 mA maximum sink, 24 VDC maximum pull-up voltage
- Maximum pulses per minute: 300
- Hysteresis: Adjustable

F9.02 – 3/4 Wire:

4 to 20 mA Output: Isolated, fully adjustable and reversible

- Maximum Loop Impedance: 150Ω @ 12 VDC, 330Ω @ 18 VDC, 600Ω @ 24 VDC

One Open Collector Output with LED display:

- User selectable as MIN alarm, MAX alarm, Pulse Out, Frequency Out or Off
- Optically isolated, 50 mA maximum sink, 24 VDC maximum pull-up voltage
- Maximum pulses per minute: 300
- Hysteresis: Adjustable

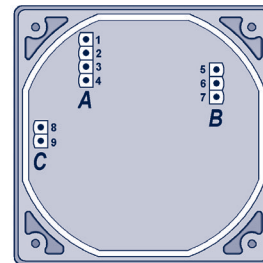
Two Relay Outputs with LED display:

- User selectable MIN alarm, MAX alarm, Pulse Out or Off
- Mechanical SPDT contact
- Rated maximum: 3A @ 30 VDC, 3A @ 250 VAC resistive load
- Maximum pulses per minute: 300
- Hysteresis: Adjustable

■ Wiring – Rear Terminal View

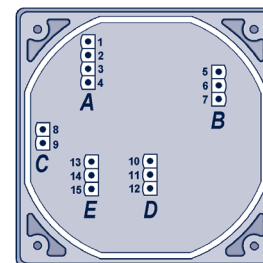
(See Instruction Manual for detailed wiring information)

F9.00



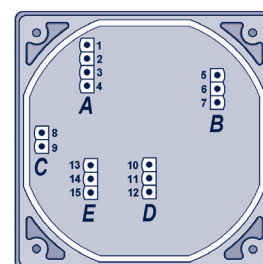
Power Supply A	1	+ VDC
	2	+ LOOP
	3	- LOOP
	4	- VDC
SENSOR		
Sensor B	5	GND
	6	IN
	7	V+
Open Collector Output C	8	O.C.+
	9	O.C.-

F9.01



Power Supply A	1	+ VDC
	2	+ LOOP
	3	- LOOP
	4	- VDC
SENSOR		
Sensor B	5	GND
	6	IN
	7	V+
Open Collector Output C	8	O.C.+
	9	O.C.-
Open Collector Output D	10	OUT 1+
	11	
	12	OUT 1-
Open Collector Output E	13	OUT 2+
	14	
	15	OUT 2-

F9.02



Power Supply A	1	+ VDC
	2	+ LOOP
	3	- LOOP
	4	- VDC
SENSOR		
Sensor B	5	GND
	6	IN
	7	V+
Open Collector Output C	8	O.C.+
	9	O.C.-
RELAY 1		
Relay OUT 1 D	10	NC
	11	COM
	12	NO
RELAY 2		
Relay OUT 2 E	13	NC
	14	COM
	15	NO