

# Type F9.50/F9.51 Batch Controllers



The Type F9.50 Batch Controller is designed for accurate and reliable batching or blending of liquids. It accepts a pulse input from all FlowX3 Hall Effect flow sensors.

The instrument offers complex control capability. It is easy to calibrate and operate using self explanatory menus. A Simple and Advanced mode are available which allow the choice of quick calibration and basic outputs or a more customized and detailed control set-up. Four separate control outputs (two relays, an open collector and an analog output) allow the operator to set-up for accurate batch operation. State-of-the-art electronic design ensures performance and reliability.

Flow sensor supply voltage is provided by the controller. The same instrument may be mounted in three different ways: directly to the flow sensor or remotely either panel or wall mount.

The Type F9.51 Batch Controller stores up to 10 batch values.



## ■ Backlit Displays

Batch in Progress	– 6 digits
Flow Rate	– 5 digits
Resettable Total	– 6 digits
Non-Resettable Total	– 10 digits

## ■ Output Signals

Item No.	4–20 mA* Wiring	Solid State Relay Output†	Relay (SPDT)††	LEDs	No. of Batches
F9.50	1 3/4 Wire	1	2	3	1
F9.51	– 3/4 Wire	–	2	3	10

† User selectable as START Batch, END Batch or Off.  
 †† **OUT1** – Batch: Batch in Progress indication  
**OUT2** – Option: User selectable Two-Stage Shutdown, End of Batch, Overrun Alarm or Missing Signal Alarm.  
 \* User selectable as Valve Control or Degree of Batch Completion.

## ■ Connectable FlowX3 Sensors

Instrument Mounting	Sensor
Direct	F3.01.H
Panel or Wall	F3.00.H, F3.15.H, ULF.H, ULF3.15H F111.H, F3.10, F3.80, F3.60M, F3.63M

## ■ Features

- **Modular Design** – The same instrument may be mounted in three different ways using mounting kits. See page 25.



Direct Panel Wall

- Simple or Advanced Operating Modes
- External Start, Stop and Resume
- Two-Stage Shutdown Control (F9.50)
- Permanent and Resettable Totalizer
- Auto-Calibration
- Auto Systematic Error Compensation (ASEC) – For increased linearity and accuracy
- Automatic or Manual Overrun Compensation (F9.50)
- Overrun Alarm
- Missing Signal Alarm
- Count-up or Count-down Batch Indication (F9.50)
- End of Batch Pulse Output
- Output Simulation for System Testing
- Advanced Valve Control (F9.50)
- Password Protection
- Stores up to 10 Batches (F9.51)

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## ■ Technical

### Supply Voltage:

- 12 to 24 VDC  $\pm$  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

### Operating Temperature:

- -10 to 70°C (14 to 158°F)

### Storage Temperature:

- -15 to 80°C (5 to 176°F)

For dimensions and more technical specifications, see page 33.

## ■ Output Specifications

### 4 to 20 mA Output (F9.50):

- Isolated, fully adjustable and reversible
- Maximum Loop Impedance: 150 $\Omega$  @ 12 VDC, 330 $\Omega$  @ 18 VDC, 600 $\Omega$  @ 24 VDC
- User Selectable as Valve Control or Batch Completion (F9.50)

### Solid State Relay (F9.50) Output with LED display:

- User selectable as START Batch, END Batch or Off
- Optically isolated, 50 mA maximum sink, 24 VDC maximum pull-up voltage
- Maximum pulses per minute: 300

### Two Relay Outputs with LED display:

- **OUT1** – Batch: Batch in progress indication
- **OUT2** – Option: User selectable Two-Stage Shutdown (F9.50), End of Batch, Overrun Alarm or Missing Signal Alarm
- Mechanical SPDT contact
- Expected Mechanical Life (minimum operations): 10<sup>7</sup>
- Expected Electrical Life (minimum operations): 10<sup>5</sup> NO/NC switching capacity 8A @ 240 VAC
- Rated maximum: 3A @ 30 VDC or 3A @ 250 VAC resistive load
- Maximum pulses per minute: 300
- Hysteresis: Adjustable

### Additional Functions:

- External Start, Stop and Resume

## ■ Wiring

### REAR TERMINAL VIEW

(See Instruction Manual for detailed wiring information)

