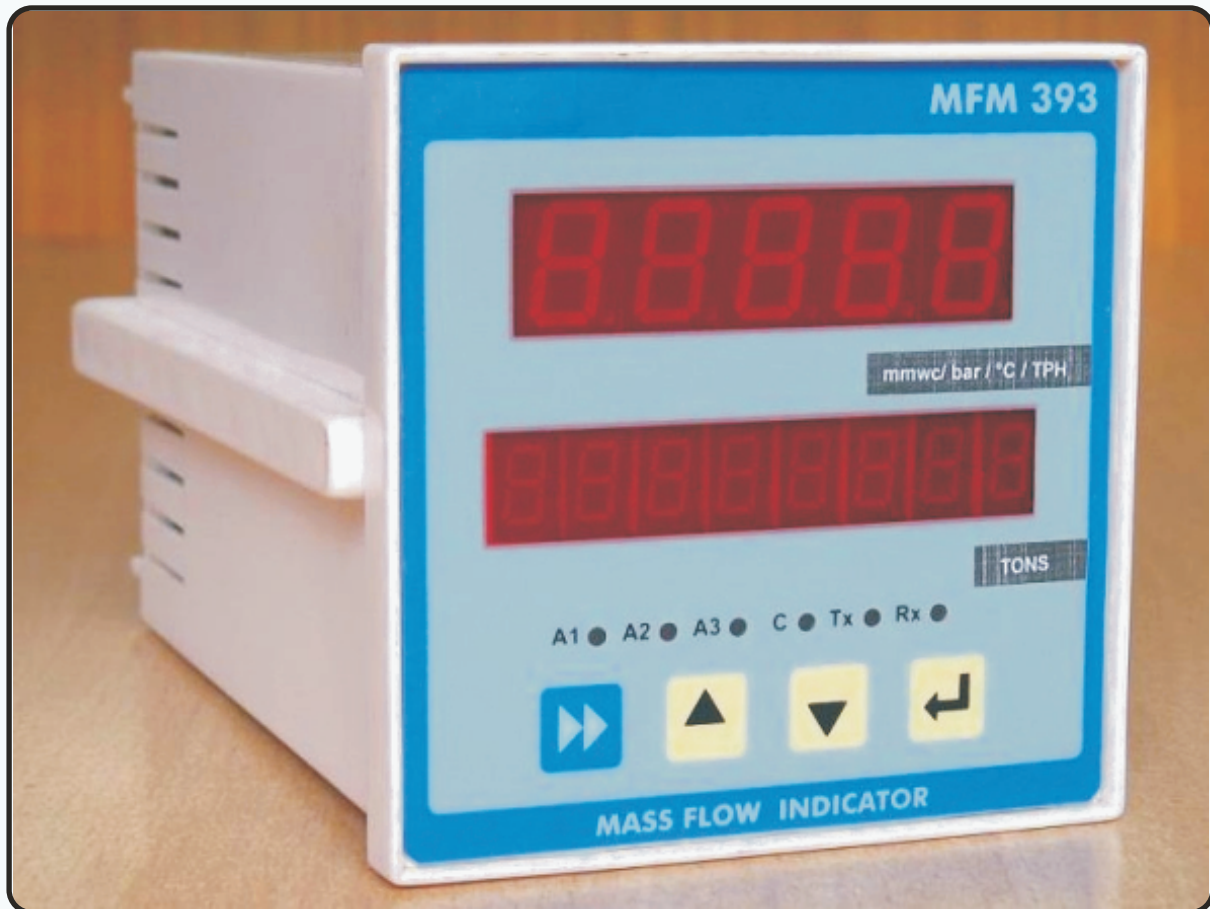


MASS FLOW CONTROLLER

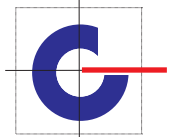
MFM 393



FEATURES

- Dual functionality Mass flow rate indication / 8digit flow totalizing.
- Field settable flow totalizing rate.
- Optional - Retransmission output corresponding to mass flow.
- Optional - Serial communication port with MODBUS protocol.
- User configurable ranges for all three mA inputs viz. Differential Pressure, Temperature, Pressure and Mass Flow rate range.

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APPLICATION

Model **MFM 393** is micro-controller based arithmetical computation unit generally used in mass flow applications. The unit accepts three 4-20mA inputs at a time. Computed output is equal to,

$$\sqrt{\frac{(\text{Input1}) \times (\text{Input2})}{(\text{Input3})}}$$

where,

Input 1 is Differential Pressure from D.P.Tx (Non Square Rooted)

Input 2 is Line pressure from Pressure Tx

Input 3 is Line Temperature from Temperature Tx
Facility to program Gain & Bias to each input and for Calculated Output.

MFM 393 displays instantaneous Mass Flow rate on

4 digit LED Display. Flow Rate and Totaliser range can be configured as required even on site. Totaliser is a 8 digit LED Display. Totaliser can be reset manually from password protected PROG menu.

Power Supply for external transmitter (24VDC@100mA) is a standard feature. It eliminates need of separate power supply to power the transmitter.

Optional

➤ **MFM 393** provides linear 4-20mA retransmission signal corresponding to Calculated Mass Flow Rate for other panel mounted instruments like recorders, controllers etc.

➤ Serial connectivity on RS485 port with MODBUS RTU protocol

TECHNICAL SPECIFICATIONS

Input	4-20mA DC Linear-3
Display	7 Segment LED, 5-Digit Process Value, 8-Digit Totaliser
Keyboard	4 Key Track-tile Keyboard
Resolution	4 and ½ digit for flow rate
Accuracy	± 0.3% of FS, ± 1 LSD (Flow) and ± Count (Totaliser)
Totaliser	8 Digit Totaliser for calculated Mass flow
Scaling	Flow Rate and Totaliser, Span scalable by front key pad
Data Storage	Totaliser value and settings stored in Battery Backed RAM
LED Indications	LED indications for Serial Communication and Input Selection
Excitation	24 VDC, 100 mA excitation supply for external Flow Transmitter
Re-transmission (Optional)	4-20 mA re-transmission output corresponds to Mass Flow Rate for external indicators/recorders or PLC. Maximum load 500
Serial Port (Optional)	RS485 port with MODBUS RTU protocol for on-line communication
Supply	230 VAC or 110 VAC, ±10 % Single Phase, 50Hz. Factory set
Connections	On Screw Type Connectors
Cabinet	On Screw Type Connectors. Bezel: 96x96mm (H x W) Depth: 150mm Cutout: 92x92mm (H X W)

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