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Process Industry

SPINK CONTROLS

An ISO 9001:2015 Certified Company



## MASS FLOW CONTROLLER (MFM)

MODEL: SC / R - 1300

FLOW

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## 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

## APPLICATIONS

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

## ENGINEERING SPECIFICATION

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 & ½ DIGIT FOR FLOW RATE
ACCURACY	: ± 0.3% OF FS, ± 1 LSD (FLOW) & ± COUNT (TOTALISER)
TOTALISER	: 8 DIGIT TOTALISER FOR CALCULATED MASS FLOW
SCALING	: FLOW RATE & TOTALISER, SPAN SCALABLE BY FRONT KEY PAD
DATA STORAGE	: TOTALISER VALUE & SETTINGS STORED IN BATTERY BACKED RAM
LED INDICATIONS	: LED INDICATIONS FOR SERIAL COMMUNICATION & 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 Ω
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 CUTOOUT : 92X92mm (H X W)



SPINK CONTROLS®	
Head Office	Plant
303, SIDDHARTH TOWER, G.P. PAI ROAD, KOPRI, THANE(E) - 400 603 MAHARASHTRA, INDIA Fax : +91 22 2532 4845 Phone : +91 22 2532 8223 +91 22 2532 8224 Email : info@spinkcontrolsindia.com	GALA No. F-4 A WING, UDYOG BHAVAN-2 ADDITIONAL AMBERNATH, INDUSTRIAL AREA, ANAND NAGAR MIDC AMBERNATH, Dist - THANE 421501 Phone : +91 9594991196 Email : rupa.thakkar@spinkcontrols.com

