MAXIFLO™

100% Customer Satisfaction

Overview

MaxiFlo™ multi-function flow computer MFQ series is a powerful flow computer that can be used as flow indicator, totalizer, batch controller, volume corrector, heat meter, etc.

But it was originally developed for custody transfer of steam in the district heating industry, and features uniquely the function to automatically determine saturated steam and superheated steam. Custody transfer related functions such as printing, billing and reporting functions, power on/off times, unauthorized attempt recording, etc. are available.

Featuring 32-bit ARM MCU and high-speed sampling ADC, convenient user interfaces, various input and output options, it's one of the top-of-the-line flow computers in the industry.

MAXIFLO

Multi-Function Flow Computer (MFCQ Series)

Main Features

- For flow indicator and totalizer function various parameters such as 4-20mA, 0-5V, pulse and differential pressure of various flow elements including orifice plate, venture, etc. can be used.

- High accuracy of 0.2%FS±1d and input and output calibration, scaling and linearity correction functions

- For temperature and pressure compensation and volume correction, various temperature and pressure inputs such as PT-100 ohm, thermocouples, 4-20mA, 0-5V, etc. are available.

- Properties (density, Reynolds number, discharge coefficient, compressibility factor, etc.) of various gases, primary element materials and shapes, are preprogrammed in the system for convenient operation of volume correction using temperature and/or pressure compensation.

- Automatically determines saturated steam and superheated steam

- Convenient user interface featuring a large (3.5"), 128*64 resolution graphic LCD with backlight and 7 buttons

- Various outputs such as current/voltage signals, pulse, alarm relays, and batch control relays, printer and RS485 and RS232 serial interface (MODBUS-RTU)

- Double system protection from hampering and unauthorized manipulation using passwords and logging of on-off times.
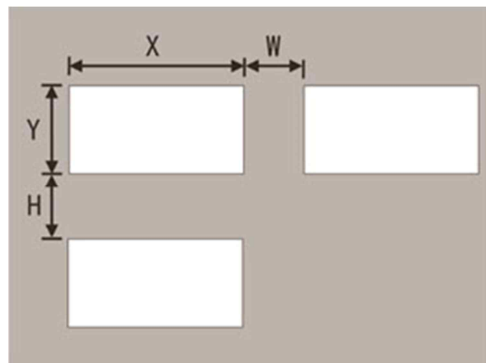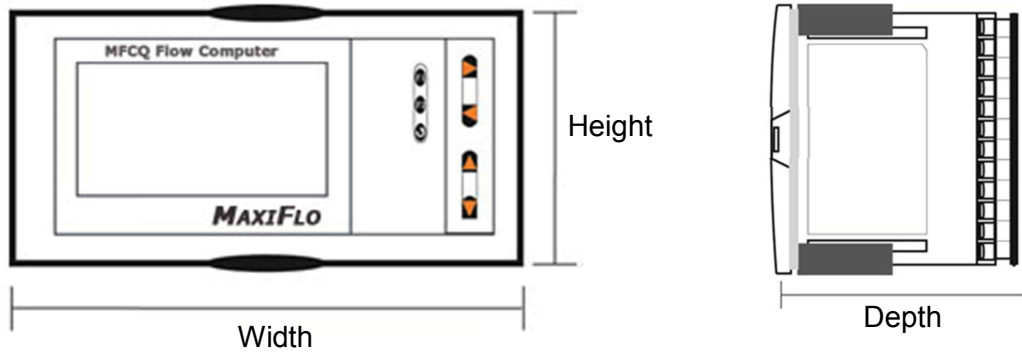

MFCQ installed on panel

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Dimensions

Dimension			Cutout Hole Size		Minimum Distance Between Flow Computers	
Width	**Height**	**Depth**	**X**	**Y**	**W**	**H**
160	80	110	152+0.5	76+0.5	38	34

(Unit: mm)

Technical Specifications

Input

Current (mA): 0-20, 0-10, 4-20, √0-10, √4-20

Voltage (V): 0-5, 1-5, 0-10 (optional), √0-5V, √1-5V

Voltage (mV): 0-20, 0-100

RTD: Pt100, Cu50, Cu53, Cu100, BA1, BA2

Linear Resistance: 0-400Ω

Thermocouple: B, S, K, E, T, J, R, N, F2, Wre3-25, Wre5-26

Output

Current (mA): 4-20, 0-20, 0-10

Voltage (V): 1-5, 0-5, 0-10 (optional)

Relay: 2 relays (Rating: AC220V/2A, DC24V/2A)

Feed Output: DC24V±1

Comm. Interface: RS485/RS232 (MODBUS-RTU)

Accuracy: 0.2%FS±1d

Display: 3.5", 128*64 graphic LCD with backlight

Data Log Interval (s): 1, 2, 4, 6, 15, 30, 60, 120, 240

Printing Interface: RS232C / SP-A40SH

Power Supply

AC 100-240V, 50/60Hz

DC24V

Operating Environment

Temperature: 0-50℃

Humidity: ≤ 85RH

Power Consumption: ≤ 5W

Mounting: Panel Mount

Primary Elements for Flow Input

Flange tap orifice plate   Machined classic venturi tube
Angle tap orifice plate   Thick iron welded venturi tube
D and D/2 tap orifice plate   V-cone flow meter
ISA932 nozzle   Other dP flow meters
Long diameter nozzle   Pulse output flow sensor
Venturi nozzle   Current output flow sensor
Cast venturi tube

Tube and Throttle Materials

15 steel, A3 steel   Cr6SiMo
A3F, Be steel   X20CrMoWv121
10 steel   1Cr18Ni9Ti
20 steel   Carbon steel
45 steel   Industrial copper

1Cr13, 2Cr13	Copper	Pres compensated	Ar	C2H4
1Cr17	Brass	saturated steam	CO	C3H6
12CrIMov	Grey cast iron	Steam	CO2	C4H8
10CrMo910	User defined	6 bar water	H2S	C2H2
		16 bar water	NH3	Other gases
		Air	CH4	Liquid
Measured Media		N2	C2H6	Manufactured Gas
		O2		
Temp compensated	He	C3H8		
saturated steam	H2	C4H10		

Connection Terminal Description

Note:

In the above diagram, if one group of terminals has different functions, only one of them may be available. For example, RS485 and RS232 are in the same group, so only one of them may be used.

MaxiFlo™

MODEL SELECTION CODE TABLE
MFCQ series Flow Computer

MFCQ-I##I##I##-O#-TX#-FD#-P#	Code	Remarks
B	I01	
S	I02	
K	I03	
E	I04	
T	I05	
J	I06	
R	I07	
N	I08	
F2	I09	
Wre3-25	I10	
Wre5-26	I11	
Cu50	I12	
Cu53	I13	Select as many inputs as needed up to 3 channels.
Cu100	I14	
Pt100	I15	For example, the flow signal is pulse type sensor on channel 1, the pressure signal is 4-20mA on channel 2 and the temperature signal is PT-100 ohm RTD on channel 3, the model code should be "I31I23I15".
BA1	I16	
BA2	I17	
0-400Ω linear resistance	I18	
0~20mV	I19	
0-100 mV	I20	
0~20 mA	I21	
0~10 mA	I22	
4~20mA	I23	
0~5V	I24	
1~5V	I25	If you need only channel 1 for 4-20mA flow signal, then just write "I23" and leave the remaining code digits unused.
0~10V customized	I26	
√0~10 mA	I27	
√4~20 Ma	I28	
√0~5V	I29	
√1~5V	I30	
Frequency	I31	
Analog Output 4-20mA	O1	
0-20mA	O2	
0-10mA	O3	
0-5V	O4	
1-5V	O5	
0-10V	O6	
Serial Interface RS-485 MODBUS-RTU	TX1	
RS-232 MODBUS-RTU	TX2	
RS-232 Printer Interface	TX3	
Feed Output 1 24VDC	FD1	
1 24VDC and 1 12VDC	FD2	
Power Supply 100-240VAC, 50/60 Hz	P1	
24 VDC	P2	

(Input Signal is the left-hand category label for codes I01–I31.)