



## IC-FMS FLOW MONITOR

**The FMS is an industrial paddle wheel flow meter specifically designed for measuring the flow rate of liquids.**

The FMS display offers users an easy to read and control interface for Analogue 4-20mA (Flowrate) with a High or Low relay alarm output which can be configured for flowrate deviation or totalisation (Batch control), all packaged in a rugged stainless-steel body and enclosure.

A variety of connection types, high pressures and temperature ratings make the FMS the ideal partner for a wide variety of general purpose, medical and industrial applications where good repeatability accuracy and a long service life are required.

The display itself is a 36mm x 28mm backlit LCD screen, making it easily visible in dimly lit areas. It has 2 x 10 characters of text providing quick access to flowrate, totalisation and alarm status information.

Flexibility is further enhanced with the option of a remote FMS display away from the flow meter when the meter location is in poor access areas or in higher temperature applications.

When the alarm is triggered the display flashes until the alarm setpoint has been exceeded. The alarm can be reset once the problem has been identified and resolved.



### Features include:

- Compact
- Visual alarm
- Local flow rate and totalizer indication
- Resettable totalizer
- Compatible with IC-LPM and IC-LTM

Local or Remote Flowrate Totaliser

4-20mA Analogue Output

Low / High Alarm Output

Backlit LCD Display

Easy to Install

### Summary

- Brand: METRI
- Category: Flow Meters, Flow Switches
- Fluid type: Liquids
- Part ref: IC-FMS
- IWN: FLO-171113

### Suitable for the following market sectors:

- Oil & Gas
- Industrial & Energy
- Research & Development
- Power Generation
- Water & Waste water

### Suitable for use with the following liquids:

- Chemical
- Clean Water
- Fuel & Oil

## SPECIFICATION DETAILS

Nominal size	DN15, DN20, DN25, DN40, DN50	
Process connection	BSPP (parallel) and BSPT (taper) female threaded, DIN and ANSI flanged; other on request eg PNXX, ti-clamp, NPT, RJT	
Flange rating	PN 16, 40, 100 (BS EN 1092-1); ANSI 150, 300, 600 RF (ANSI B16.5)	
Compatibility	Solids free and partially contaminated liquids including water, chemicals, hydrocarbons, mineral oils, alcohols	
Flow range	05.5 to 1200 l/min, various range	
Operating temperature	Compact mount temps:	-40 to 65°C (Standard)
	Remote medium and high temps:	-40 to 350°C
Max operating temperature	All threaded bodies:	up to 100 bar (higher pressure optional)
	Flanged bodies:	depends on flange rating and operating temperature range
	Higher pressure rating on request	
Frequency range	25-750 Hz	
Pressure drop	Varies with size, typically less than 125 mbar at maximum flow rate (standard ranges without flow restrictor)	
Linearity	±0.5% FSD	
Repeatability	±0.1% of reading	
Materials	Body:	304 stainless steel (standard); 316 (optional); other materials available on request
	Rotor:	431 stainless steel
	Rotor shaft:	Tungsten carbide; other materials on request
	Bearings:	Tungsten carbide and jewel bearings (standard and medium temperature); stainless steel ball race (high temperature)
	O-ring:	Buna N (standard); Viton (optional)
FMS electrical specification	Nominal supply voltage: 24VDC, (Galvanic Isolation from the supply is critically important)	
	Load current:	60mA
	Frequency range:	30 - 3Khz
Relay contact rating	Relay - SPST-NO: Voltage free contacts	
	Maximum voltage switching:	200 VDC
	Maximum current switching:	Milliamps - 500mA
	Maximum current carry:	1200mA
	Note: A fuse is recommended that is rated suitably for the rating of the load.	
Installation	Horizontal or vertical flow rising, full pipe only	
Approvals/Rating	CE/IP65	

## DIMENSIONS

Nominal Size	L mm		H mm		Weight kg*	
	Screwed	Flanged	Sensor only	With compact display	Screwed	Flanged
15mm (1/2")	90	152	100	130	1.2	2.8
20mm (3/4")	90	152	100	130	1.2	3.7
25mm (1")	100	181	106	135	1.5	4.8
40mm (1.5")	120	185	110	140	2.5	8.9
50mm (2")	120	205	115	140	3.0	10.1

\* approximate weight based on IC-MV-PO/AN output board and ANSI 300/PN40 if flanged

# CONFIGURATIONS

Ordering information for the IC-FMS Display

IC-FMS	Nominal size, flow range (based on H <sub>2</sub> O at 20°C)
015A	15mm (1/2") 0.5 - 5 l/min
015B	15mm (1/2") 1 - 10 l/min
015C	15mm (1/2") 2 - 20 l/min
015D	15mm (1/2") 4 - 40 l/min
020A	20mm (3/4") 6 - 60 l/min
020B	20mm (3/4") 12 - 120 l/min
025A	25mm (1") 15 - 150 l/min
025B	25mm (1") 30 - 300 l/min
040A	40mm (1.5") 30 - 300 l/min
040B	40mm (1.5") 60 - 600 l/min
050A	50mm (2") 60 - 600 l/min
050B	50mm (2") 120 - 1200 l/min
0Z0Z	Other sizes and flow rates on request

Process connection	
A	BSPP (parallel) female
B	BSPT (taper) female
C	PN16
D	PN40
E	PN100
F	ANSI 150 RF
G	ANSI 300 RF
H	ANSI 600 RF
N	NPT female
Z	Other on request (eg. PNXX, tri-clamp, NPT RJT etc)

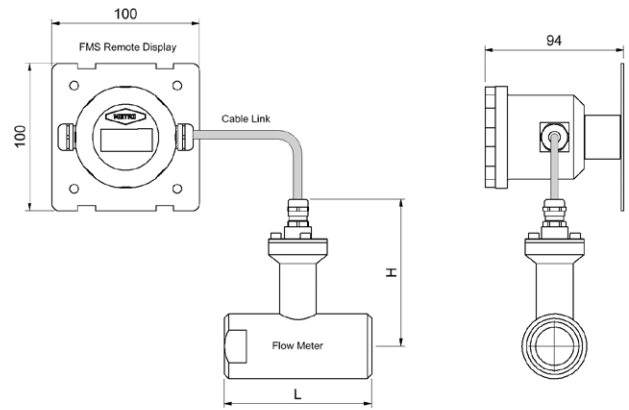
Max operating temperature	
S	Standard: 120°C
M	Medium: 230°C
H	High 350°C

Approvals	
O	General purpose

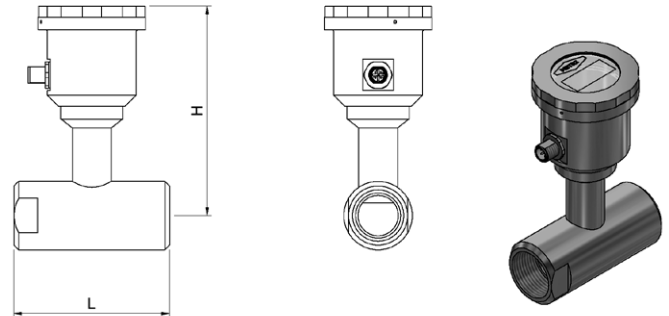
Output/display	
F	Flow rate / totalizer 4-20mA & alarm output

Mounting of instrument	
O	No instrument
C	Compact (locally mounted on flow sensor, excl. high temp version)
R	Wall mounted, incl. bracket (up to 3m from sensor, please specify)

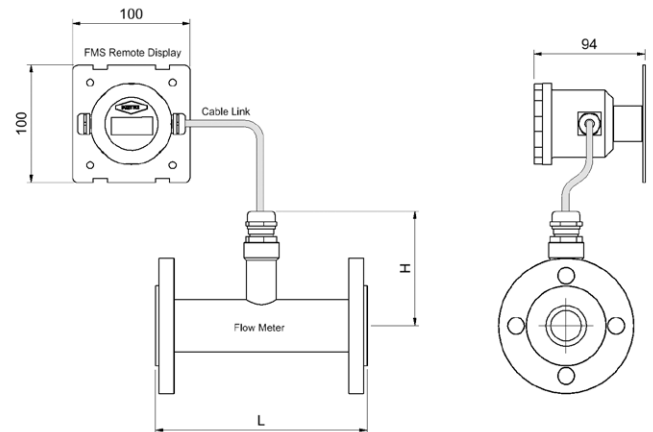
Options	
O	None
I	Specify options



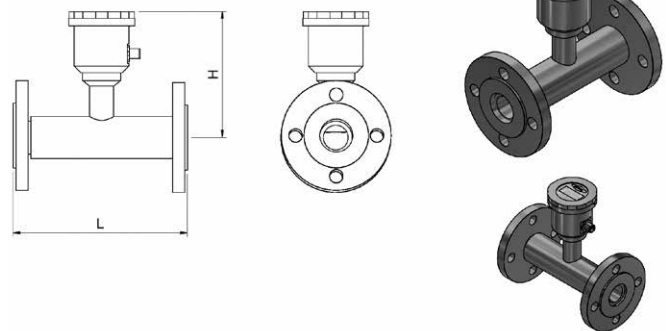
IC-FMS Remote-Screwed Meter



IC-FMS-Screwed Meter



IC-FMS Remote-Flanged Meter



IC-FMS-Flanged Meter

## ORDER CODE EXAMPLE

IC-FMS	015A	A	S	O	F	C	O
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## SCOPE OF DELIVERY

The IC-FMS display is supplied as remote or fitted to IC-LPM paddlewheel and IC-LTM Turbine flowmeters.

IC-FMS display is a Flow rate and Totaliser with 4-20mA and Relay output Alarm switchpoint that can be set as high or low anywhere in the flow range.

## SWITCH/ALARM ADJUSTMENT - USER SETTABLE

The IC-FMS display internal

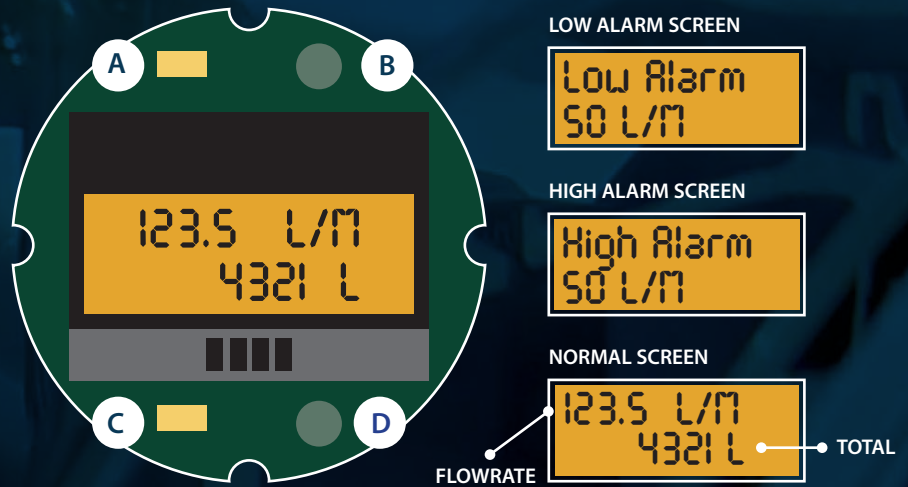
**A.** Top left - Low / High alarm selection

**B.** Top right - Totaliser reset

**C.** Bottom left - set/run alarm switch

**D.** Bottom right - alarm adjust potentiometer

Alarm hysteresis default is 2% of fullscale range

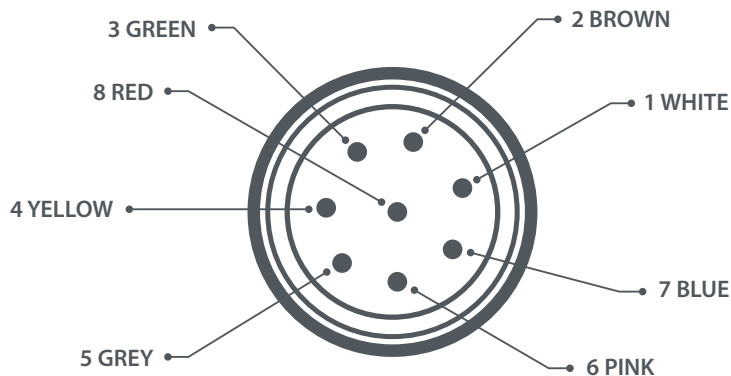


## MODEL FACTORY SET SPECIFICATION

<b>Display update:</b>	Default is 2 seconds
<b>Flow Input sample time:</b>	3 seconds
<b>Flow units:</b>	L = Litres G = gallons M <sup>3</sup> = Metres Cubed
<b>Time:</b>	S = Secs M = Min H = Hour
<b>Totaliser update:</b>	2 secs
<b>Relay mode:</b>	Close on Alarm - option to set to Open on Alarm (Failsafe)
<b>Alarm hysteresis:</b>	Default 2% of FS
<b>Totaliser reset:</b>	Auto Reset on Full, and manual reset button

## CONNECTIONS M12 WIRE COLOURS

<b>+ 24VDC</b>	= Brown
<b>- 0VDC</b>	= Blue
<b>+ 4-20mA</b>	= Red
<b>- 4-20mA</b>	= Green
<b>Relay output</b>	= White
<b>Relay common</b>	= Grey
<b>Pink / Yellow</b>	= Not Used



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