FM500

Transmitter

Data Sheet

Benefits

- Volume, velocity and wight measurement in one device
- Compact or remote options available
- Direct sensor configuration
- Battery powered option available
- Low conductivity >5µS/cm

DN25 up to DN1000
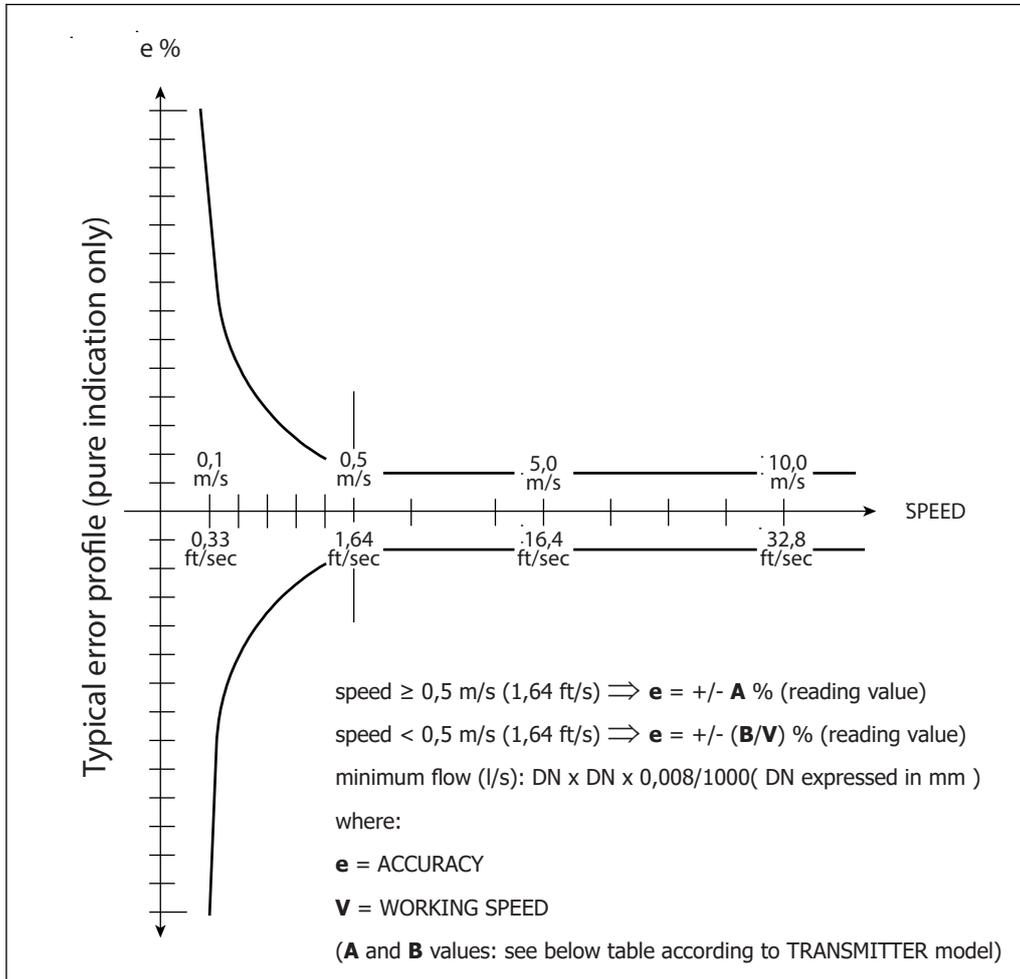Temperature Range: -20°C to +60°C (-4°F to 140°F)
Accuracy: 0.4%
Flexible power device

Typical Applications

- Water / wastewater
- Cooling systems
- Water treatment / filtration
- Pump control
- Leveling
- Water consumption
- Leakage detection

CE

Accuracy

speed ≥ 0,5 m/s (1,64 ft/s) $\Longrightarrow$ **e** = +/- **A** % (reading value)

speed < 0,5 m/s (1,64 ft/s) $\Longrightarrow$ **e** = +/- (**B/V**) % (reading value)

minimum flow (l/s): DN x DN x 0,008/1000(DN expressed in mm)

where:

e = ACCURACY

V = WORKING SPEED

(**A** and **B** values: see below table according to TRANSMITTER model)

Full Bore Sensor

FM130/FM150/FM170		
A	B(m/s)	B(ft/s)
0,8*	0,4**	1,31**

* = 0,4 (special)
**= 0,2(m/s) ; 0,66(ft/s) - special

Insertion sensor

See sensor DATA SHEET

Reference conditions below and as per internal testing procedures:

- Constant flow rate during the test
- Pressure: >30 Kpa
- Flow condition : fully developed flow profile
- Zero stability +/- 0,005 %

How to Order

CODE EXAMPLE		CODE/DESCRIPTION
Display		
A	A	Blind version (without display and programming keys, cable USB type A/USB MINI B is REQUIRED TO PROGRAMMING)
	B	Graphic LCD WSTN - B/W - back light display, point matrix 128 x 64, 8 line/16 characters and 3 programming keys (mandatory for MI001)
Housing material / Protection rate		
	1	Painted aluminum die casting, protection rate IP67
	2	Painted aluminum die casting, protection rate IP68 1,5 meters under water, Compact Version, n° 1 IP 68 MIL connector for power supply (CONNECTORS SUPPLIED: MALE + FEMALE)
	3	Painted aluminum die casting, protection rate IP68 1,5 meters under water, Compact Version, Complete of n° 1 of 10 poles IP68 MIL connector (outputs connections to be specified) and n° 1 IP 68 MIL connector for power supply (CONNECTORS SUPPLIED: MALE + FEMALE)
	7	Painted aluminum die casting, ONLY COMPACT, protection rate IP68 (NO CONNECTORS)
	8	Painted aluminum die casting, protection rate IP68 1,5 meters under water, Separate Version, Complete of n° 2 IP 68 MIL connectors for cable from the sensor, and n° 1 IP 68 MIL connector for power supply (CONNECTORS SUPPLIED: MALE + FEMALE)
	9	Painted aluminum die casting, protection rate IP68 1,5 meters under water, Separate Version, Complete of n° 2 IP 68 MIL connectors for cable from the sensor, n° 1 IP68 MIL connector (outputs connections to be specified) and n° 1 IP 68 MIL connector for power supply (CONNECTORS SUPPLIED: MALE + FEMALE)
Version		
A	A	Compact version with sensor FM.... (liquid maximum temperature 100 °C)
	B	Separate version (CABLE C014) for wall monting, complete with mounting accessories in Aluminum
	C	Compact version with display visible from the top
	D	Separate version (CABLE C014) for wall monting, complete with mounting accessories in AISI 304
Power supply		
	1	Power supply : 100 ... 240 VAC 44/66 Hz (NOT FOR MI001)
	2	Power supply : 24 … 36 VAC/VDC 0...44/66 Hz (NOT FOR MI001)
	3	Power supply : 12…48 VDC (NOT FOR MI001)
	4	Power supply : 100 ... 240 VAC 44/66 Hz + 1 Rechargeable back-up Battery (the use of battery supports only the measure UP TO 30 days; all the outputs are set to OFF) (NOT FOR MI001)
1	5	Power supply : 24 … 36 VAC/VDC 0...44/66 Hz + 1 Rechargeable back-up Battery (the use of battery supports only the measure UP TO 30 days; all the outputs are set to OFF) (NOT FOR MI001)
	6	Power supply : 12…48 VDC + 1 Rechargeable back-up Battery (the use of battery supports only the measure UP TO 30 days; all the outputs are set to OFF) (NOT FOR MI001)
	7	Power supply : 100 ... 240 VAC 44/66 Hz + n° 1 SETTINGS FOR Rechargeable back-up Battery (the Rechargeable Battery is NOT included) (NOT FOR MI001)
	8	Power supply : 24 … 36 VAC/VDC 0...44/66 Hz + n° 1 SETTINGS FOR Rechargeable back-up Battery (the Rechargeable Battery is NOT included) (NOT FOR MI001)
	9	Power supply : 12…48 VDC + n° 1 SETTINGS FOR Rechargeable back-up Battery (the Rechargeable Battery is NOT included) (NOT FOR MI001)
	a	Power supply : 100 ... 240 VAC 44/66 Hz + 1 Pack of n° 2 SUPERCAP (the use of it supports only the measure UP TO 3 minutes; all the outputs are set to OFF) Suitable for MI001
	b	Power supply : 24 … 36 VAC/VDC 0...44/66 Hz + 1 Pack of n° 2 SUPERCAP (the use of battery supports only the measure UP TO 3 minutes; all the outputs are set to OFF) Suitable for MI0011
	c	Power supply : 12…48 VDC + 1 Pack of n° 2 SUPERCAP (the use of battery supports only the measure UP TO 3 minutes; all the outputs are set to OFF) Suitable for MI001
Analogue output		
A	A	Without Analogue output
	B	n° 1 Analogue output 0/4...20/22 mA (Hart optional)
	C	n° 2 Analogue outputs 0/4...20/22 mA (Hart optional over Out.1)
Digital Input/Output		
	0	With Digital Input only
0	1	With n° 1 PROGRAMMABLE Digital Output/n°1 Digital Input (mandatory for MI004)
	2	With n° 2 PROGRAMMABLE Digital output/n°1 Digital Input

How to Order

Communication Gateway			
A	A	Without Gateway	
	B	RS485 port - Protocol MODBUS required	
	C	Hart (4/20 mA/ Analog OUT n° 1 is required)	
	E	M-Bus Module	
	Z	Others	

Protocols			
0	0	Without Protocol	
	1	Modbus (over RS485) requires RS485 port	
	2	BACnet MS-TP (RS485)	

Accuracy			
A	A	Standard accuracy 0,8 %	
	B	Special accuracy 0,4 %	
	C	Special accuracy (to be defined)	

Data Logger			
0	0	Without Data Logger	
	1	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock)	
	2	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV (Built In Verificator)	
	3	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + Meter Data (Real Time Transmitter & Sensor Data on SD Memory)	
	4	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV + Meter Data	

Special Features			
A	A	NONE	
	B	WITH ANTICONDENSE CAP	
	C	n° 5 CABLE GLAND 1/2" NPT - Nickel plated brass CODE 1.609.1200.70 (CABLE 6 - 12 mm)	
	D	n° 5 HOLES FOR CABLE GLAND 1/2" NPT (WITHOUT CABLE GLAND)	
	E	For SANITARY sensor (FM170) In COMPACT Version	

MID Approval			
0	0	NONE	

Complete code example for order → FM500-A0A1A0A0A0A0