

FCMI Magnetic-Inductive Flow Meter

TURCK
works

Industrial
Automation

Widely Applicable

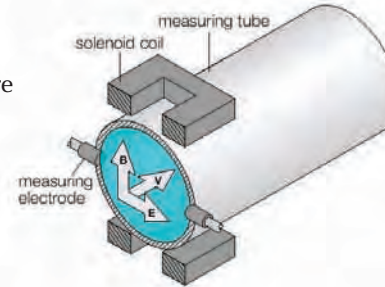
The magnetic-inductive flow meter FCMI is designed for measuring electrically conductive liquids. The new flow meter has a fast response time and a measuring accuracy of 2% of the measured value. The measuring range between 0 and 9.9 gpm is ideally suited for applications with low to medium flow rates.

Cost-Saving

Magnetic-inductive flow meters have no moving parts. The sensor is completely wear-free and resistant to residue in the medium. In contrast to other measuring principles, there is no reduction of the pipe diameter and no obstructions in the flow. There is practically no pressure loss and therefore no increase of operating costs such as larger pumps and the additional electricity and space they require.

Magnetic-Inductive Principle

The measuring method is based on the inductive principle discovered by Faraday. Freely moving charge carriers in the media are driven to the pipe wall due to the magnetic field that permeates the measuring pipe. Because the load is separated, a potential difference is created, which is detected by two laterally mounted electrodes. Based on the known magnetic field and the electrode spacing, the measured potential difference at the electrodes is proportional to the flow speed and therefore the flow rate.



Characteristics

- Flow meter for a broad range of applications
- Measuring accuracy: 2% of the measured value
- Unobstructed pipe diameter without pressure loss
- Minimum conductivity: 10 $\mu\text{S}/\text{cm}$
For Example: water = 15 $\mu\text{S}/\text{cm}$
- Push Button Programming (access code-protected)
- Device available with 1 switching output and linear 4-20 mA analog output
- 3/8" fitting process connection



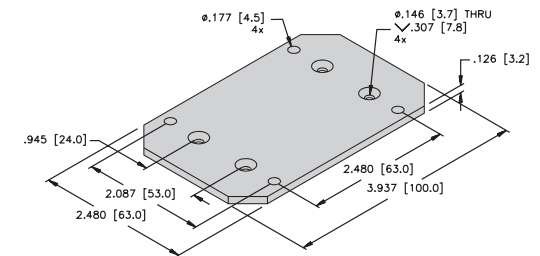
Accessories

The sensor can be secured using the four M4 threaded holes located on the bottom of the housing. An optional mounting plate, FCI-BP, is also available.

Technical Data

ID Number	Part Number	Process Connection Outer Diameter of Pipe	Output Function	Operating Range
M6870816	FCMI-3/8D08DYA4P-Li-UP8X-H1141	3/8" Swage	1 x PNP, N.O./N.C. 4-20 mA (Linear)	0-9.9 gpm

Operating Voltage 21-26 VDC, Ambient Temperature 0 to +60°C, Medium Temperature +5 to +60°C, Pressure Rating 10 bar.
Mating Cordset RK 4T*



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Flow Monitors

Housing Style	Part Number	ID Number	Flow Detection Range	Output Flow
Inline Magnetic Inductive Flow Meter, Digital Readout, 3/8" Tubing Connection 	FCMI - 3/8D10DYA4P-LI -UP8X-H1141	M6870816	0 to 9.99 gpm	4-20 mA Linear Analog w/ 1 PNP N.O./N.C.
Inline Magnetic Inductive Flow Meter, Digital Readout, 3/4" Tubing Connection 	FCMI - 3/4D12DYA4P-LI -UP8X-H1141	M6870817	0 to 20 gpm	4-20 mA Linear Analog w/ 1 PNP N.O./N.C.

Compatible Fluids: Conductive fluids > 10 μ S/cm
 Accessories on pages B73-B74.

Voltage	Current Consumption (mA)	Switching Current (mA)	Pressure Rating (psi)	Fluid Connection	Media Temp (°C)	Ambient Temp (°C)	Protection	Mating Cordset	Wiring Diagram #	Wiring Diagram
21-26 VDC	≤100	200	145	3/8" swage	5-60	0-60	IP 65	RK 4.4T-*	1	<p>Diagram 1</p>
21-26 VDC	≤100	200	145	3/4" swage	5-60	0-60	IP 65	RK 4.4T-*	1	

FLOW

* Length in meters.