



# Electromagnetic Flowmeter

all metal design

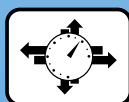


measuring  
•  
monitoring  
•  
analysing

## MIM



- For measuring and monitoring of conductive liquids
- Accuracy:  
<math>\pm (0.8\% \text{ of reading} + 0.5\% \text{ of full scale})</math>
- Flow and temperature measurement
- Monitoring, transmitter function, dosing
- Bidirectional measuring
- $p_{\max}: 16 \text{ bar}; t_{\max}: 70^\circ\text{C}$
- All metal design: stainless steel
- Connection  $\frac{1}{2}$ ",  $\frac{3}{4}$ " and 1"



SS

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Description

The new flowmeter MIM was developed for measuring and monitoring smaller- and medium-sized flow of conductive liquids in pipes.

The device operates according to the electromagnetic measurement principle. According to Faraday's Law of magnetic induction, a voltage is induced in a conductor moving through a magnetic field. The electrically conductive measuring agent acts as the moved conductor. The voltage induced in the measuring agent is proportional to the flow velocity and is therefore a value for the volumetric flow. The flowing media must have a minimum conductivity. The induced voltage is picked up by two sensing electrodes which are in contact with the measuring agent and sent to the measuring amplifier.

The flow rate will be calculated based on the cross sectional area of the pipe.

The measurement is not depending on the process liquid and its material properties such as density, viscosity and temperature. Two given outputs can be set to be switch, analogue or frequency. Also a dosing function can be selected, where output 1 is set as switch NPN/PNP/PP and output 2 is set as control input.

Significant Characteristics

- Stainless steel design
● Flow- and temperature measurement
● Monitoring, dosing and transmitter function
● Dosing function with external control input
● Coloured, multi-parameter configurable TFT-display, rotatable in 90° steps
● Bidirectional measuring
● Intuitive setup menu via 4 optical touch keys
● 2 configurable outputs (pulse-/frequency-/alarm- and analogue output)
● Grand and resettable totaliser

Technical Details

Table with 2 columns: Parameter and Value. Includes rows for Measurement process, Range, Media, Minimum conductivity, Max. medium viscosity, Max. pressure, Accuracy, Repeat ability, Temperature measurement of media, Response time flow, and pulse output.

Table with 2 columns: Parameter and Value. Includes rows for Response time temperature, Mounting position, In-/outlet, Handling, and Housing.

Wetted parts

Table with 2 columns: Part and Material. Includes rows for Connection fitting and housing, Insulation parts, Elektrodes, Seals, Protection, Media temperature, and Ambient temperature.

Electrical data

Table with 2 columns: Parameter and Value. Includes rows for Supply voltage, Display, Display repetition rate, Pulse output, Frequency output, Alarm output, Analogue output, Control input, Dosing function, and Electrical connection.

\* Under reference conditions: media temperatur: 15°C...30°C, 1 cSt, 500 µS/cm, 1 bar ambience temperature: 15°C...30°C

**Configuration of Outputs**

Output 1 (OUT1, PIN 2)	Output 2 (OUT2, PIN 4)
Analogue output 0-10 V <sub>DC</sub>	Analogue output 0-10 V <sub>DC</sub>
Analogue output 0(4)-20 mA	Analogue output 0(4)-20 mA
Switching output NPN/PNP/PP	Switching output NPN/PNP/PP
Pulse output PP	Pulse output PP
Frequency output PP	Frequency output PP
Dosing function switch NPN/PNP/PP*	Control input Start/Stop dosing function

**Connection/Ranges**

Connection	Inside diameter (DN)	Range
G ½	5 mm	0.04 ... 10 l/min
G ¾	10 mm	0.1 ... 25 l/min / 0.2 ... 50 l/min
G 1	15 mm	0.2 ... 50 l/min / 0.4 ... 100 l/min

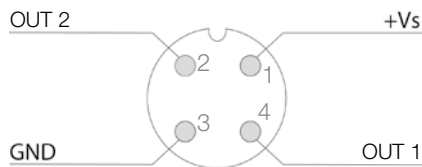
**Order Details** (Example: **MIM-12 15 G5 C3T 0**)

Model	Range	Connection	Electronics	Special version
MIM-12= housing/ electrode VA, FKM seal	05H <sup>1)</sup> = 0.04 ... 10 l/min 05G <sup>2)</sup> = 0.01 ... 2.6 GPM	G4 = G ½ male	C3T= compact, TFT display, 2 outputs (current/voltage/ pulse/frequency/alarm output configurable), M12x1 plug	0 = without Y = special (please specify in writing)
	10H <sup>1)</sup> = 0.1 ... 25 l/min 10G <sup>2)</sup> = 0.025 ... 6.6 GPM 15H <sup>1)</sup> = 0.2 ... 50 l/min 15G <sup>2)</sup> = 0.05 ... 13 GPM	G5 = G ¾ male		
	15H <sup>1)</sup> = 0.2 ... 50 l/min 15G <sup>2)</sup> = 0.05 ... 13 GPM 20H <sup>1)</sup> = 0.4 ... 100 l/min 20G <sup>2)</sup> = 0.1 ... 26 GPM	G6 = G 1 male		

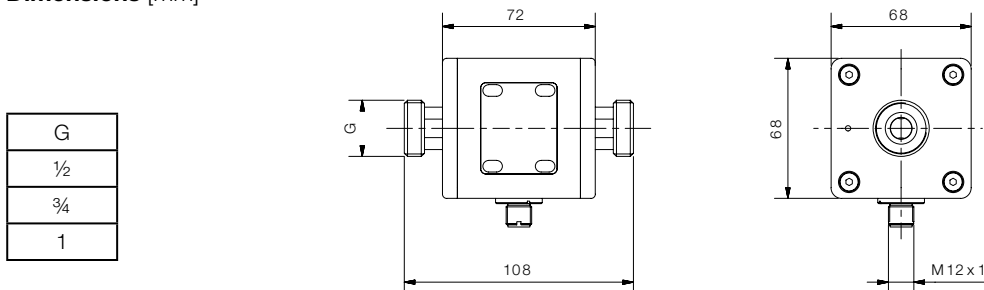
<sup>1)</sup> l/min-package (nameplate l/min, °C, bar), calibrated range and temperature °C

<sup>2)</sup> GPM-package (nameplate (GPM, °F, PSI), calibrated range and temperature °F

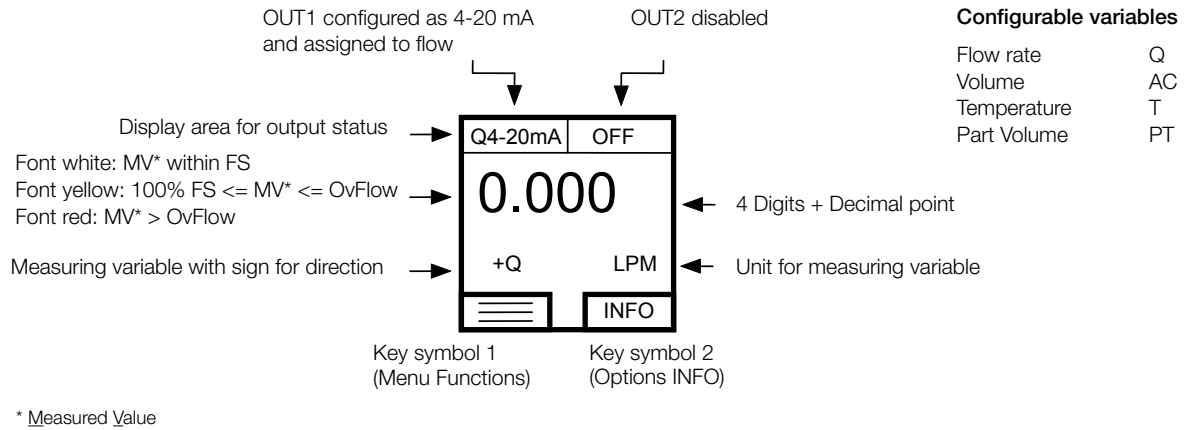
**Electrical Connection MIM-...C3T**



**Dimensions [mm]**



**Measuring mode, Display Layout »Single« configurable**



**Measuring mode, Display Layout »Dual« configurable**

