



Magnetic-Inductive Flowmeters MID1... Family





- For all conductive liquids
- No moving parts inside the measuring tube
- High overload protection
- Low pressure loss
- Compact design
- Different nominal diameters

Benefit

The MID1 system consists of a number of sensors that measure the flow velocity of a liquid according to the principle of Faraday's law of induction. For this purpose, the liquid must have a minimum conductivity of 50 μ S. Dependent on the cross-section of the measuring tube, the velocity is converted into a flow volume. Three different nominal diameters are available. The sensors may be supplied with distinct signal-evaluation electronics that differ in the type and number of outputs and in their ease of operation.

Programming

Adjustment of all parameters is done by means of a PC including a HONSBERG interface. In addition, "teaching" of individual parameters is possible for the MID1 and Flex series. In case of MID1 sensors, this is accomplished via one strand of the connection cable, in case of Flex devices by means of a magnet included in the delivery. For "omni" devices, many parameters can be set by means of a detachable adjusting ring and the integrated LC display.

All sensors are delivered with pre-settings according to customer's demand so that there is no need for reading voluminous manuals prior to commissioning into service.



MID1-P...AM
Frequency output with fixed frequency
Status display via LED
(no adjustments possible)



MID1-P...AF Frequency output (adjustable)
MID1-P...AS Switch point output (min/max)
MID1-P...AU Analogue voltage output
MID1-P...AI Analogue current output (all design types with LED status display, adjustments via HONSBERG interface / configurator)



Flex-MID1
Frequency output (adjustable) or switch point output (min/max) and analogue output (0...10 V or 4...20 mA)



omni-MID1
Analogue output (0...10 V or 4...20 mA) and 2 switch point outputs (min/max)

Adjustments via programming ring on the device
Status display via LCD and LED

For further details on the Flex and omni device series, please refer to the appropriate data sheets.

Installation

The R threads fit into every G inch thread and seal it without any sealing materials (such as Teflon tape). Strong friction on the connecting pieces has to be avoided.

In order to obtain the levels of accuracy indicated in the specifications in practice as well, an inflow and outflow section of 10 x D each should be observed. Always install the flow meters upstream, not downstream a valve (on the pressure side). Good bleeding and an operation free of air bubbles must be provided for.

Prior to electrical connection make sure that the power supply corresponds to the values indicated in the specifications.

All other information on the electronic module can be found in the respective EF..., Flex..., omni.. electronics description.

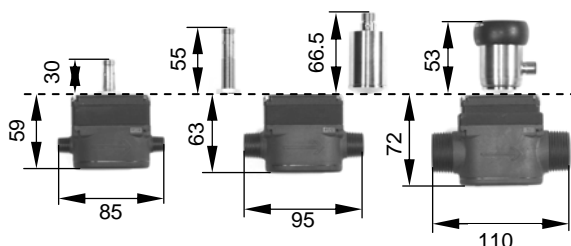
Magnetic-Inductive

Specifications

Measuring ranges	R1/4"	0.05 ... 1 l/min
	R1/2"	0.5 ... 10 l/min
	R1"	3 ... 60 l/min
Accuracy	R1/4"	0.5 % FS at 0.05 ... 0.2 l/min 2.5 % MV at 0.2 ... 1 l/min
	R1/2"	0.5 % FS at 0.5 ... 2 l/min 2.5 % MV at 2 ... 10 l/min
	R1"	0.5 % FS at 3 ... 12 l/min 2.5 % MV at 12 ... 60 l/min
Minimum conductivity (medium)	50 µS	
Working pressure	max. 10 bars	
Working temperature	0...60 °C (avoid frost and dew)	
Medium temperature	0...60 °C	
Storing temperature	-20...80 °C	
Pressure loss	max. 0.3 bar at max. flow	
Supply voltage	12...24 V DC	
Power consumption	approx. 100 mA	
Connection	Circular connector M12x1	
Materials (with contact to medium)	Stainless steel 1.4404 PPS, FKM (Viton)	
Materials (without contact to medium)	Ms nickel-plated, PA66, V2A	
Degree of protection	IP 64	
Weight	MID1-P008: approx. 200 g MID1-P015: approx. 200 g MID1-P025: approx. 300 g + Flex head: approx. 120 g + omni head: approx. 150 g	

Legend: FS = Full Scale, MV = Measured Value

Dimensions



Adapters as accessories on request:

- Female thread G
- Hose adapter
- Ermeto compression joint
- Customer-specific

Type Nomenclature

MID-	P	008	A	M	001	S	Example Description
	P						Casing material PPS
	X						Casing material PEEK (upon request)
		008					Connection R1/4"
		015					Connection R1/2"
		025					Connection R1"
			A				Male thread
				M			Frequency output NPN o.C.
				E			Output via local electronic module (e.g. omni-MID1, Flex-MID1, EFF..)
					001		Range 0.05 - 1 l/min
					010		Range 0.5 - 10 l/min
					060		Range 3 - 60 l/min
						S	Terminal for circular connector M12x1, 4-pin (Version M)

Combinations

Please see separate datasheets with detailed information and nomenclatures:

Omni-Flex-EFF/i/