

Flow transmitter LABOPLUS-MR1



- Robust industrial-grade flowmeter
- High compressive strength (PN 200, optional PN500)
- No inlet and outlet sections required
- One analog output (10V or 20 mA switchable)
- One switching output
- IO-Link interface

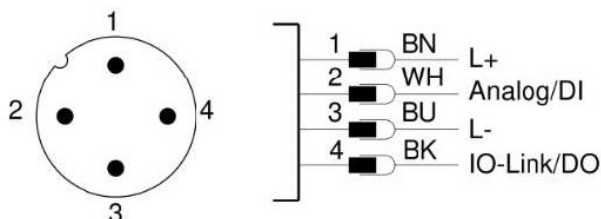
Product description

The flow transmitters of the LABOPLUS-MR1 series work according to the principle of the spring-supported piston. A magnetically equipped piston is deflected by the flowing medium against the force of a spring. Deflection is a measure of flow rate. The position of the floating body is recorded outside the flow chamber with the help of magnetic field sensors.

The integrated electronics have an analog output and a switching output that alternatively can be used as a frequency output. In addition, it has an IO-Link interface, which enables digital communication with the sensor for configuration and to read out measured values.

Connection diagram

Connector M12 x 1 pin assignment



Specifications

Measuring principle	Spring-supported piston	
Nominal size	DN 8 ... DN 25	
Mechanical connection	Female thread G ¼ ... G 1 (other connections on request)	
Measurement ranges	0.4 ... 60 l/min (see table „Ranges and pressure loss“)	
Measurement uncertainty	±5 % F.S.	
Media	Water (oils, gases and aggressive media on req.)	
Pressure loss	0.4 ... 1.4 bar @ Q _{max} (see table)	
Compressive strength	PN 200 (PN 500 on request)	
Media temperature	-20 ... +85 °C optional -20 ... +150 °C (with spacers)	
Storage temperature	-20 ... +80 °C	
Materials (wetted)	<u>Brass version</u>	<u>Stainl. steel version</u>
	CW614N nickelled	1.4571
	CW614N	1.4404
	1.4310	1.4310
	Hard ferrite	Hart ferrite (PTFE coated)
	NBR	FKM
Supply voltage	18 ... 30 V DC	
Current consumption	< 50 mA (SIO mode, unloaded outputs)	
IO-Link specification	IO-Link revision	V1.1.4
	Bit rate	COM2 (38400 bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A
	Block parameterization	yes
	Data storage	yes
Analog output	Current:	4 ... 20 mA 0 ... 20 mA
	Voltage:	0 ... 10 V 2 ... 10 V 0 ... 5 V 1 ... 5 V 0.5 ... 4.5 V
Switching output	transistor output push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant I _{out} = 100 mA max per output Configurable on the device as <ul style="list-style-type: none"> • Limit switch • Frequency output • Pulse output • Signal output for preset counter 	
Electr. connection	M12x1 circular connector, 4-pin	
Protection class	IP65 / IP67	
Conformity	CE	

Product information

LABOPLUS-MR1

Ranges and pressure loss

Range l/min (H ₂ O)	Q _{max} l/min (H ₂ O)	Pressure loss bar @ Q _{max}
0.4 ... 4	10	0.6
1.0 ... 10	20	
2.0 ... 20	30	0.4
3.0 ... 30	40	
4.0 ... 40	60	0.8
6.0 ... 60	80	1.4

Dimensions and weights

	Type LABOPLUS-	G	X mm	AF	Weight appr. kg
Brass	MR1-008GM	G 1/4	15	40	1.4
	MR1-010GM	G 3/8			
	MR1-015GM	G 1/2			
	MR1-020GM	G 3/4	18		1.3
	MR1-025GM	G 1			1.2
Stainless steel	MR1-008GK	G 1/4	15	41	1.3
	MR1-010GK	G 3/8			
	MR1-015GK	G 1/2			
	MR1-020GK	G 3/4	18		1.2
	MR1-025GK	G 1			

Order code

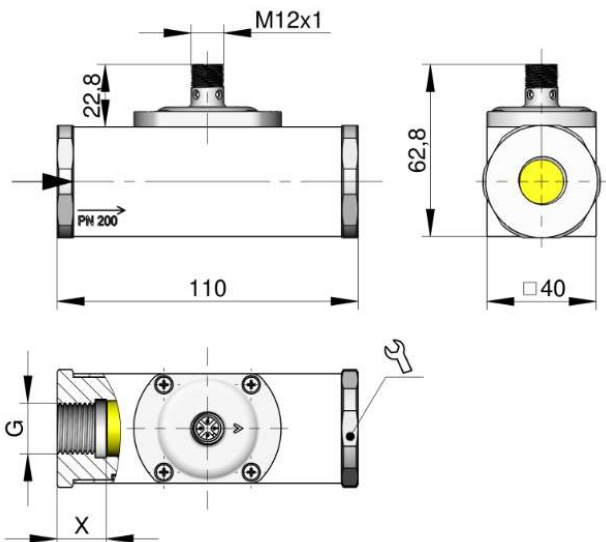
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● = standard ○ = option

1. Nominal size	
008	● DN 08
010	● DN 10
015	● DN 15
020	● DN 20
025	● DN 25
2. Mechanical connection	
G	● Female thread
3. Housing material	
M	● Brass
K	● Stainless steel
4. Measurement range	
004	● 0.4 ... 4 l/min
010	● 1.0 ... 10 l/min
020	● 2.0 ... 20 l/min
030	● 3.0 ... 30 l/min
040	● 4.0 ... 40 l/min
060	● 6.0 ... 60 l/min
5. Option	
H	○ Extended temperature range 150 °C (with spacers)

Accessories

Cable with circular connector M12x1 / 4-pin (not included)



For the "Extended temperature range" option, PEEK spacers and mounting screws are used for thermal insulation of the body and electronics:

