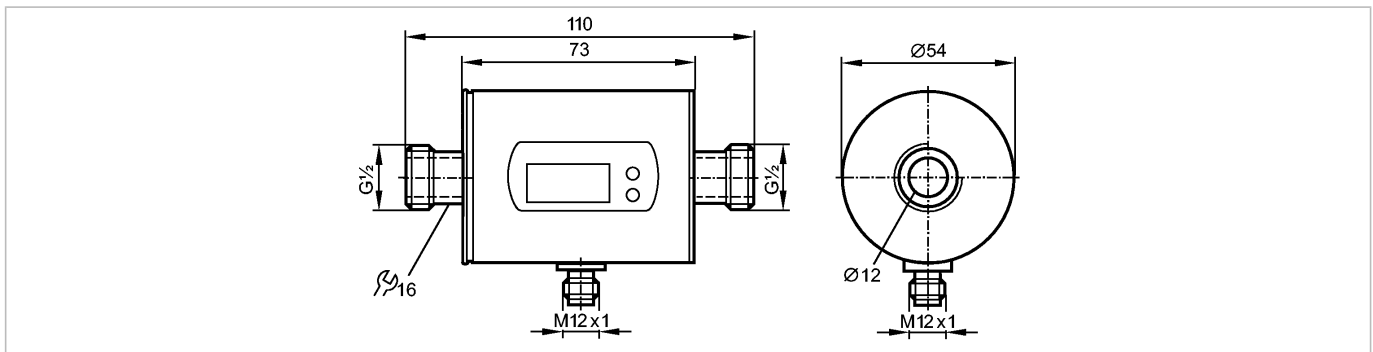


SM6000

SMR12GGXFRKG/US-100

Flow sensors



Made in Germany

Product characteristics

Magnetic-inductive flow meter
Connector
Process connection: G $\frac{1}{2}$ flat seal
connection to pipe by means of an adapter
Function programmable
Totaliser function
2 outputs
OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)
OUT2 = flow monitoring or temperature monitoring (analogue or binary)
Input for counter reset
Measuring range
0.1...25 l/min

Application

Application	Conductive liquids (conductivity: $\geq 20 \mu\text{S/cm}$ / viscosity: $< 70 \text{ mm}^2/\text{s}$ at 40°C)
Pressure rating [bar]	16
Medium temperature [°C]	-10...70

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	19...30 DC ¹⁾
Current consumption [mA]	120
Insulation resistance [MΩ]	> 100 (500 V DC)
Protection class	III
Reverse polarity protection	yes

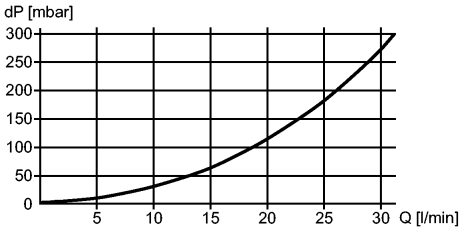
Outputs

Output function	OUT1: normally open / closed programmable or pulse OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scaleable)
Current rating [mA]	2 x 200
Voltage drop [V]	< 2
Short-circuit protection	pulsed
Overload protection	yes
Analogue output	4...20 mA; 0...10 V
Max. load [Ω]	500
Min. load [Ω]	2000
Pulse output	flow rate meter

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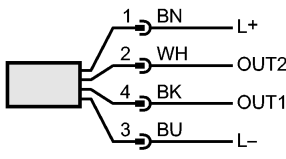
Flow sensors

Measuring / setting range		
Flow monitoring		
Measuring range	0.10...25.00 l/min	0.005...1.500 m ³ /h
Display range	-30...30 l/min	-1.8...1.8 m ³ /h
Resolution	0.05 l/min	0.005 m ³ /h
Set point, SP	0.25...25.00 l/min	0.015...1.500 m ³ /h
Reset point, rP	0.10...24.90 l/min	0.005...1.495 m ³ /h
Analogue start point, ASP	0.00...20.00 l/min	0.000...1.200 m ³ /h
Analogue end point, AEP	5.00...25.00 l/min	0.300...1.500 m ³ /h
in steps of	0.05 l/min	0.005 m ³ /h
Volumetric flow quantity monitoring		
Pulse value	0.01 l...30 000 m ³	
Pulse length [s]	0.01...2	
Temperature monitoring		
Measuring range [°C]	-20...80	
Resolution [°C]	0.2	
Set point, SP [°C]	-19.2...80.0	
Reset point, rP [°C]	-19.6...79.6	
Analogue start point, ASP [°C]	-20.0...60.0	
Analogue end point, AEP [°C]	0.0...80.0	
in steps of [°C]	0.2	
Accuracy / deviations		
Flow monitoring		
Accuracy	± (2% MW + 0.5% MEW)	
Repeatability	± 0.2% MEW	
Pressure loss (dP) / flow rate (Q)		
Temperature monitoring		
Accuracy [K]	± 2.5 (Q > 1 l/min)	
Reaction times		
Power-on delay time [s]	5	
Flow monitoring		
Start-up delay [s]	0...50	
Response time [s]	< 0.150 (dAP = 0)	
Damping, dAP [s]	0.0...5.0	
Temperature monitoring		
Response time [s]	T09 = 20 (Q > 1 l/min)	
Software / programming		
Programming options	hysteresis / window function; N.O. / N.C; output polarity; current / voltage / pulse output; start-up delay; display can be deactivated; display unit	

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Flow sensors

Environment	
Ambient temperature [°C]	-10...60
Storage temperature [°C]	-25...80
Protection	IP 67
Tests / approvals	
Pressure equipment directive	Article 3, section 3 - sound engineering practice
EMC	EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-5 Surge: 0.5 kV EN 61000-4-6 HF conducted: 10 V
Shock resistance	DIN IEC 68-2-27: 20 g (11 ms)
Vibration resistance	DIN IEC 68-2-6: 5 g (10...2000 Hz)
MTTF [Years]	156
Mechanical data	
Process connection	G½ flat seal
Materials (wetted parts)	stainless steel 316L / 1.4404; PEEK (polyether ether ketone); FKM
Housing materials	stainless steel 316L / 1.4404; PBT-GF 20; PC; FKM; TPE
Weight [kg]	0.538
Displays / operating elements	
Display	Display unit 6 x LED green (l/min, m³/h, l, m³, 10³, °C) Switching status 2 x LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display
Electrical connection	
Connection	M12 connector; Gold-plated contacts
Wiring Core colours BK black BN brown BU blue WH white	
	Colours to DIN EN 60947-5-6 ----- OUT1: 3 selection options switching output flow rate monitoring pulse output quantity meter signal output preset counter ----- OUT2: 5 selection options switching output flow rate monitoring switching output temperature monitoring analogue output flow rate analogue output temperature Input for counter reset
Remarks	
Remarks	1) to EN50178, SELV, PELV MW = measured value MEW = final value of the measuring range



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Flow sensors

Pack quantity [piece] 1