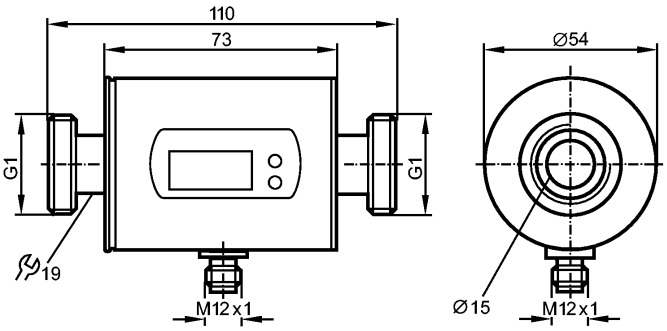
SM8100

SMR11GGXFRKG/US-100

Flow sensors



ACS CE c UL us LISTED

Product characteristics		
Magnetic-inductive flow meter		
Quick disconnect		
Process connection: G1 flat seal		
connection to pipe by means of an adapter		
Function programmable		
Totalizer function		
2 outputs OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary) OUT2 = flow monitoring or temperature monitoring (analog or binary)		
Input for counter reset		
Measuring range		
0.2...100 l/min		

Application		
Application		Conductive liquids (conductivity:>= 20 µS/cm / viscosity: < 70 cSt at 104 °F)
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 analog (4...20 mA / 0...10 V, scaleable)
Current rating	[mA]	2 x 200
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Analog output		4...20 mA; 0...10 V
Max. load	[Ω]	500 (4...20 mA)
Min. load	[Ω]	2000 (0...10 V)

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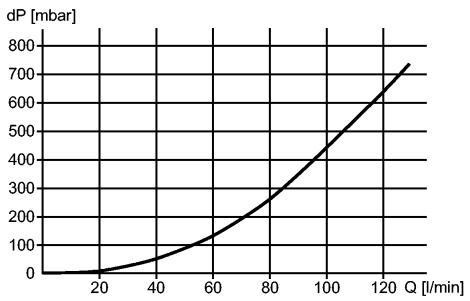
Pulse output		flow rate meter	
Measuring / setting range			
Flow monitoring			
Measuring range		0.2...100.0 l/min	0.010...6.000 m³/h
Display range		-120...120 l/min	-7.2...7.2 m³/h
Resolution		0.1 l/min	0.005 m³/h
Set point, SP		0.7...100.0 l/min	0.040...6.000 m³/h
Reset point, rP		0.2...99.5 l/min	0.010...5.970 m³/h
Analog start point, ASP		0.0...80.0 l/min	0.000...4.800 m³/h
Analog end point, AEP		20.0...100.0 l/min	1.200...6.000 m³/h
in steps of		0.1 l/min	0.005 m³/h
Volumetric flow quantity monitoring			
Pulse value		0.00001...100 000 m³	
Pulse length	[s]	0.0025...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	
Analog start point, ASP	[°C]	-20.0...60.0	
Analog end point, AEP	[°C]	0.0...80.0	
in steps of	[°C]	0.2	
Accuracy / deviations			
Flow monitoring			
Accuracy	[% of the final value]	± (2% MW + 0.5% MEW)	
Repeatability		± 0.2% MEW	
Pressure loss (dP) / flow rate (Q)			
Temperature monitoring			
Accuracy	[K]	± 2.5 (Q > 5 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 > 5 l/min)	
Software / programming			

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Programming options		hysteresis / window function; N.O. / N.C; output polarity; current / voltage / pulse output; start-up delay; display can be deactivated; display unit

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]	151

Mechanical data

Process connection		G1 flat seal
Materials (wetted parts)		stainless steel 316L / 1.4404; PEEK (polyether ether ketone); EPDM
Housing materials		stainless steel 316L / 1.4404; PBT-GF 20; PC; FKM; TPE
Weight	[kg]	0.635

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

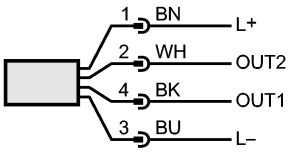
Electrical connection

Connection	M12 connector; gold-plated contacts

Wiring

Core colors

BK black
BN brown
BU blue
WH white



Colours to DIN EN 60947-5-2

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

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Remarks		[1]) to EN50178, SELV, PELV MW = measured value MEW = final value of the measuring range
Pack quantity	[piece]	1