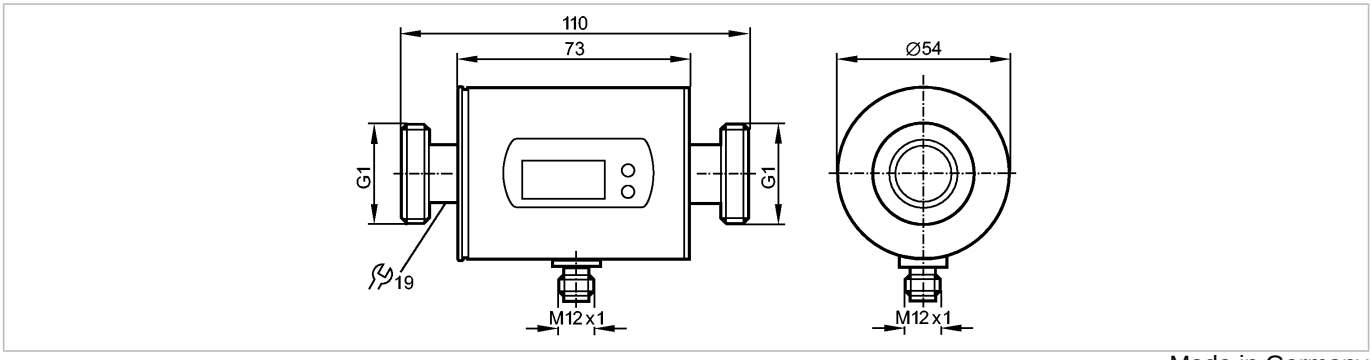
efector300

SM8100

SMR11GGXFRKG/US-100

Flow sensors



Made in Germany

CE cULus LISTED **KTW/W270**

Product characteristics

Magnetic-inductive flow sensor

Connector

Process connection: G1 flat seal

Function programmable

Totalizer 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

connection to pipe by means of an adapter

Measuring range

0.2...100 l/min

-20...80°C

Application

Application		Conductive liquids (conductivity:>= 20 µS/cm / viscosity: < 70 mm²/s at 40 °C)
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]	max. 500 / min. 2000
Pulse output		flow rate meter

Measuring / setting range

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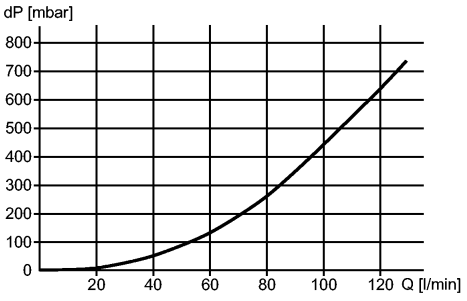
Flow monitoring			
Measuring range		0.2...100.0 l/min	0.010...6.000 m³/h
Display range		-120...120 l/min	-7.2...7.2 m³/h
Resolution		0.1 l/min	0.005 m³/h
Set point, SP		0.7...100.0 l/min	0.040...6.000 m³/h
Reset point, rP		0.2...99.5 l/min	0.010...5.970 m³/h
Analogue start point, ASP		0.0...80.0 l/min	0.000...4.800 m³/h
Analogue 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		0.01 l...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	
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	[% 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 = 30 (Q > 5 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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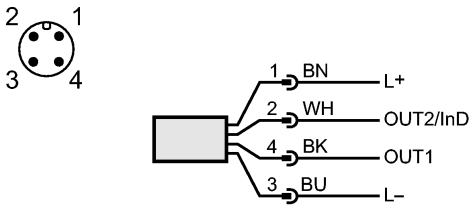
Flow sensors

Environment		
Pressure rating	[bar]	16
Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
Protection		IP 67
Tests / approvals		
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); O-ring: EPDM
Housing materials		stainless steel 316L / 1.4404; PBT-GF 20; PC (Makrolon); EPDM/X (Santoprene)
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

OUT1: 3 selection options
- switching output volumetric flow monitoring
- pulse output volumetric flow
- switching output preset counter

OUT2/InD: 5 selection options
- switching output volumetric flow monitoring
- switching output temperature monitoring
- analogue output volumetric flow
- analogue output temperature
- input for an external reset signal



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