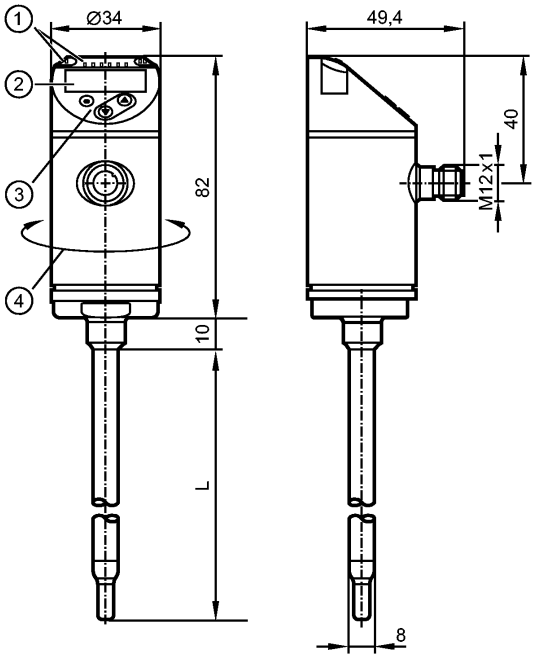
efector300

SA4100

SAEXXXXBFRKG/US-100

Flow sensors



L: 100 mm
1: LEDs (display unit / switching status)
2: 4-digit alphanumeric display / alternating indication of red and green
3: Programming buttons
4: Upper part of the housing can be rotated by 345°

ACS CE cULus LISTED KTW/W270 Reg31 IO-Link

Product characteristics		
Flow sensor		
M12 connector		
Process connection: Ø 8 mm		
Probe length L: 100 mm		
Flow sensor suitable for progressive ring fittings		
Operating modes: relative, absolutely liquid, absolutely gaseous		
Setting range for relative mode: 0...6 m/s (liquids) and 0...200 m/s (gases)		
Application		
Application		water, glycol solutions, air, oils (low-viscosity oils with viscosity ≤ 40 mm²/s at 40°C; high-viscosity oils with viscosity > 40 mm²/s at 40°C)
Pressure rating	[bar]	50
Medium temperature	[°C]	-20...100 *)
Electrical data		
Electrical design		DC PNP/NPN
Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 100
Protection class		III
Reverse polarity protection		yes
Outputs		
Output function		OUT1: normally open / normally closed programmable or frequency or IO-Link OUT2: normally open / normally closed programmable or frequency or analog (4...20 mA scaleable)
Current rating	[mA]	250

Voltage drop	[V]	< 2.5	
Short-circuit protection		yes (non-latching)	
Overload protection		yes	
Analog output		4...20 mA	
Max. load	[Ω]	350	
Frequency range [Hz]		0...1000	
Measuring / setting range			
Flow monitoring			
Measuring range		0.05...3 m/s (liquids)	2...100 m/s (gases)
–		Setting range for relative mode: 0...6 m/s (liquids) and 0...200 m/s (gases)	
Temperature monitoring			
Measuring range	[°C]	-20...100	
Resolution	[°C]	0.2 [K]	
Accuracy / deviations			
Flow monitoring			
Accuracy		± (7 % MW + 2 % MEW); Für Relativmodus im Messbereich mit: Wasser 20...70 °C; Einlauflänge 1.5 m; DN25 (DIN 2448); Einbaulage gemäß Anleitung.; Bei anderen Medien und Einbaulagen kann die Genauigkeit abweichen.	
Temperature drift		0.003 m/s x 1/K (< 20 °C; > 70 °C)	
Repeatability		0.05 m/s; Value applies to water with 0.05...3 m/s flow velocity	
Max. temperature gradient of medium	[K/min]	100	
Temperature monitoring			
Accuracy	[K]	± 0.3 **) ± 1 ***)	
Temperature drift		± 0.005 K/°C	
Reaction times			
Power-on delay time	[s]	10	
Flow monitoring			
Response time	[s]	0.5 (T09) ****)	
Temperature monitoring			
Response time	[s]	1.5 (T09) **)	
Software / programming			
Programming options		Hysteresis/window; NO/NC; switching logic; current / frequency output; fluid selection, damping; teach function; display can be rotated/switched off; standard unit of measurement/colour process value	
Interfaces			
IO-Link Device			
Transfer type		COM2 (38.4 kBaud)	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
IO-Link Device ID		533 d / 00 02 15 h *****)	
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode		yes	
Required master port class		A	
Process data analogue		2	
Process data binary		2	

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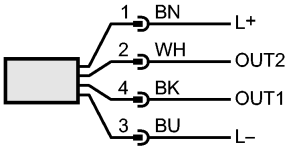
Min. process cycle time	[ms]	3
Environment		
Ambient temperature	[°C]	-40...80
Storage temperature	[°C]	-40...100
Protection		IP 65 / IP 67
Tests / approvals		
EMC		DIN EN 60947-5-9
Shock resistance		DIN EN 60068-2-27 50 g (11 ms)
Vibration resistance		DIN EN 60068-2-6 5 g (10...2000 Hz)
MTTF	[Years]	180
UL approval number		I003
Mechanical data		
Process connection		Ø 8 mm
Materials (wetted parts)		stainless steel (316L / 1.4404)
Probe length L	[mm]	100
Housing materials		stainless steel (316L / 1.4404); PBT-GF 20; PBT-GF 30
Weight	[kg]	0.256
Displays / operating elements		
Display		Display unit 6 x LED green (%, m/s, l/min, m³/h, °C, 10³) Switching status 2 x LED yellow 4-digit alphanumeric display / alternating indication Measured values of red and green
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
- frequency output flow rate monitoring
- IO-Link
OUT2: 7 selection options
- switching output flow rate monitoring
- switching output temperature monitoring
- analogue output flow rate
- analogue output temperature
- frequency output flow rate monitoring
- frequency output temperature monitoring
- input "External Teach"

Remarks

Remarks

MW = measured value
MEW = final value of the measuring range
*) Für Medientemperaturen > 90°C: Abstand zwischen Rohrleitung und Sensorgehäuse ≥ 50 mm
**) Value applies to water with 0.3...3 m/s flow velocity

		) The value applies in case of air with > 10 m/s flow velocity *) Value applies to water (other media: glycol 0.8 s; air: 7 s; oil: 1.8 s, T09 in each case) *****) The value applies if the relative mode in case of factory setting (REL) is selected, for other operating modes the following values apply: 540 d / 00 02 1c h (LIQU) 547 d / 00 02 23 h (GAS)
Pack quantity	[piece]	1