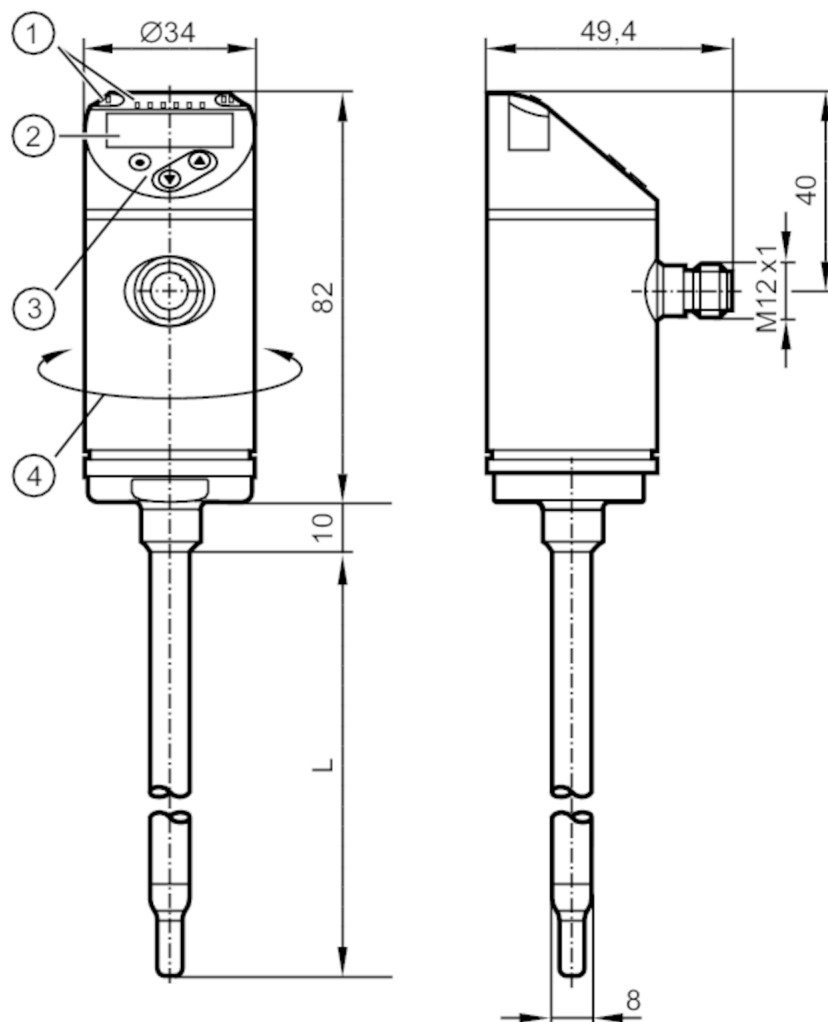


SA4100



Flow sensor

SAEXXXBFRKG/US-100



- L 100 mm
 1 LEDs Display unit / switching status
 2 alphanumeric display 4-digit red/green
 3 programming buttons
 4 upper part of the housing can be rotated 345°

ACS KTW/W270 Reg31

Application

Media	water; glycol solutions; air; oils
Medien	low-viscosity oils with viscosity: $\leq 40 \text{ mm}^2/\text{s}$ (40 °C) high-viscosity oils with viscosity: $> 40 \text{ mm}^2/\text{s}$ (40 °C)
Medium temperature [°C]	-20...100
Pressure rating [bar]	50

Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 100
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	10



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Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1
Outputs	
Total number of outputs	2
Output signal	switching signal; analogue signal; frequency signal; IO-Link; (configurable)
Electrical design	PNP/NPN
Number of digital outputs	2
Output function	normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	250
Number of analogue outputs	1
Analogue current output [mA]	4...20; (scalable)
Max. load [Ω]	350
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes
Frequency of the output [Hz]	0...1000
Measuring/setting range	
Probe length L [mm]	100
Operating mode	relative; absolutely liquid; absolutely gaseous
Note on setting range	Operating mode: relative
Liquids	
Measuring range [m/s]	0.04...3
Setting range [m/s]	0...6
Gases	
Measuring range [m/s]	2...100
Setting range [m/s]	0...200
Temperature monitoring	
Measuring range [°C]	-20...100
Resolution [°C]	0.2
Accuracy / deviations	
Flow monitoring	
Temperature drift [cm/s x 1/K]	0,003 m/s x 1/K (< 20 °C; > 70 °C)
Temperature gradient [K/min]	100
Accuracy (in the measuring range)	± (7 % MW + 2 % MEW); (for relative mode in the measuring range with:; water: 20...70 °C; inlet length: 1,5 m; DN25 (DIN 2448); mounting position according to instructions; Accuracy can differ for other media and mounting positions.)
Repeatability	0,05 m/s; (water; flow velocity: 0,05...3 m/s)
Temperature monitoring	
Temperature drift	± 0,005 K/°C
Accuracy [K]	± 0,3 / ± 1; (water; flow velocity: 0,3...3 m/s / air; flow velocity: > 10 m/s)

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Response times		
Flow monitoring		
Response time	[s]	0.5; (T09; water; glycol: 0,8 s; air: 7 s; oil: 1,8 s; each T09)
Temperature monitoring		
Dynamic response T05 / T09	[s]	1,5 (T09); (water; flow velocity: 0,3...3 m/s)
Software / programming		
Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; current/frequency output; medium selection; Damping; Teach function; display can be rotated and switched off; standard unit of measurement; process value colour	
Interfaces		
Communication interface	IO-Link	
Transmission 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 (REL)	
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port type	A	
Process data analogue	2	
Process data binary	2	
Min. process cycle time	[ms]	3
Operating conditions		
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	UL Approval no.	I003
Mechanical data		
Weight	[g]	299.5
Materials	stainless steel (1.4404 / 316L); PBT-GF20; PBT-GF30	
Materials (wetted parts)	stainless steel (1.4404 / 316L)	
Process connection	diameter Ø 8 mm	
Displays / operating elements		
Display	Display unit	6 x LED, green (% , m/s, l/min, m³/h, °C, 10³)
	switching status	2 x LED, yellow
	measured values	alphanumeric display, red/green 4-digit

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Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	540 d / 00 02 1ch (LIQU)
	547 d / 00 02 23 h (GAS)
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated





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Connection



colours to DIN EN 60947-5-2

OUT1:

- switching output volumetric flow quantity monitoring
- frequency output volumetric flow quantity monitoring
- IO-Link

OUT2:

- switching output volumetric flow quantity monitoring
- switching output Temperature monitoring
- analogue output volumetric flow quantity monitoring
- analogue output Temperature monitoring
- frequency output volumetric flow quantity monitoring
- frequency output Temperature monitoring
- input External Teach

Core colours :

BK =	black
BN =	brown
BU =	blue
WH =	white