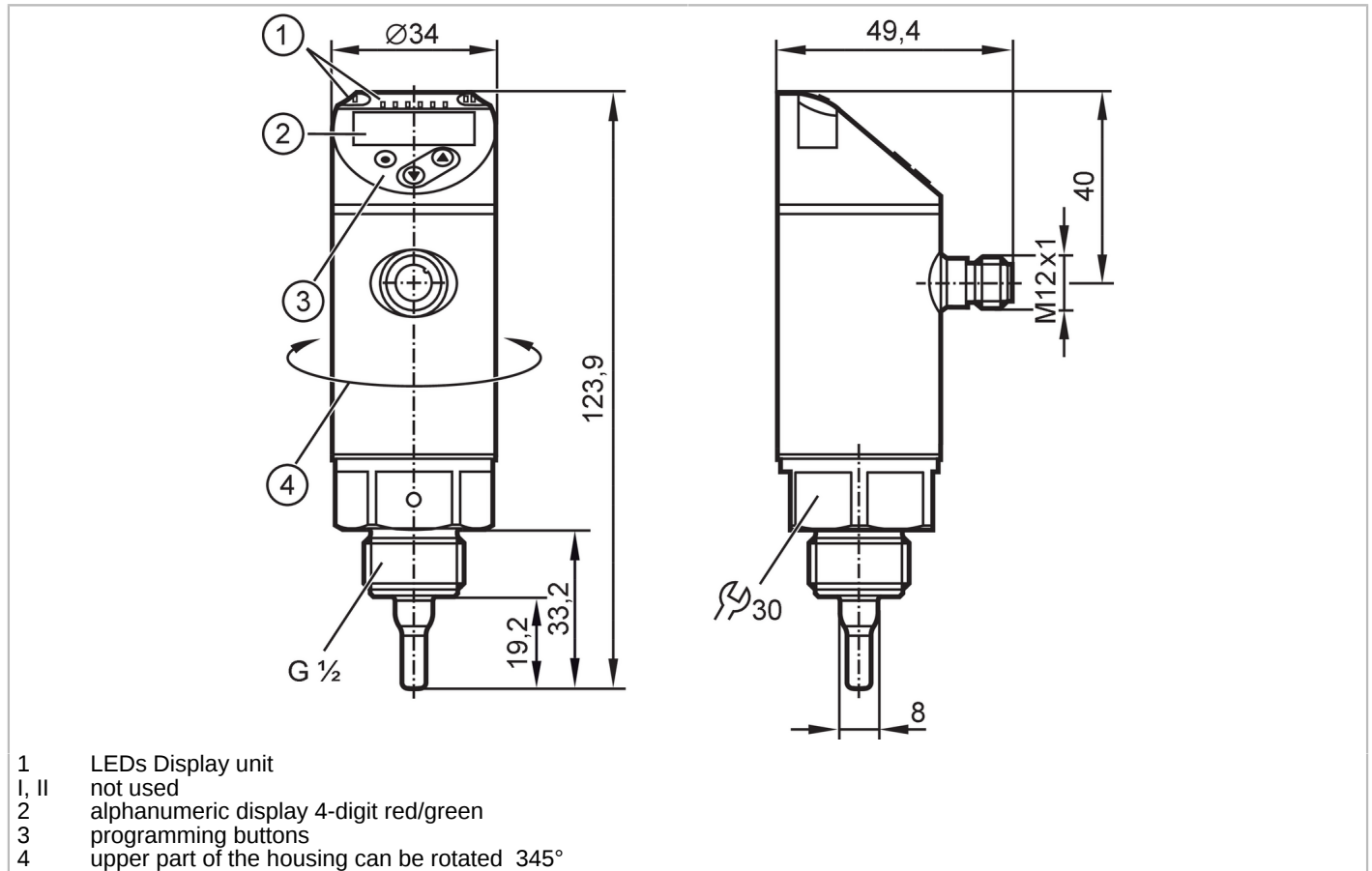


SA2004



Flow sensor

SAR12XDB50KG/US-100



Product characteristics	
Number of inputs and outputs	Number of analogue outputs: 2
Process connection	threaded connection G 1/2 external thread
Application	
Special feature	Gold-plated contacts
Media	water; glycol solutions; air; oils
Note on media	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...90
Pressure rating	100 bar 10 MPa
MAWP for applications according to CRN [bar]	85
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
Measuring principle	calorimetric



Flow sensor

SAR12XDB50KG/US-100

Inputs / outputs	
Number of inputs and outputs	Number of analogue outputs: 2
Outputs	
Total number of outputs	2
Output signal	analogue signal
Number of analogue outputs	2
Analogue current output [mA]	4...20; (scalable)
Max. load [Ω]	350
Short-circuit protection	yes
Type of short-circuit protection	pulsed
Overload protection	yes
Measuring/setting range	
Probe length L [mm]	19.2
Operating mode	relative; absolutely liquid; absolutely gaseous; (absolute: reference measurement recommended; Factory setting: relative)
Temperature monitoring	
Measuring range [$^{\circ}\text{C}$]	-20...90
Resolution [$^{\circ}\text{C}$]	0.2
Analogue start point [$^{\circ}\text{C}$]	-20...76
Analogue end point [$^{\circ}\text{C}$]	4...100
In steps of [$^{\circ}\text{C}$]	0.2
Liquid media - absolute operating mode	
Setting range [m/s]	0.04...3
Greatest sensitivity [m/s]	0.04...3
Liquid media - relative operating mode	
Setting range [m/s]	0.04...6
Greatest sensitivity [m/s]	0.04...3
Gases - operating mode "absolute"	
Setting range [m/s]	2...100
Greatest sensitivity [m/s]	30...100
Gases - operating mode "relative"	
Setting range [m/s]	2...200
Greatest sensitivity [m/s]	30...100
Accuracy / deviations	
Temperature drift [cm/s x 1/K]	0,003 m/s x 1/K (< 20 $^{\circ}\text{C}$; > 70 $^{\circ}\text{C}$)
Temperature gradient [K/min]	100
Absolute operating mode	
Repeatability	0,05 m/s; (water; flow velocity: 0,05...3 m/s)
Relative operating mode	
Accuracy	\pm (7 % MW + 2 % MEW); (for relative mode in the range of maximum sensitivity under the following conditions:; water: 20...70 $^{\circ}\text{C}$; inlet length: 1.5 m; DN25 (DIN 2448); mounting position according to instructions; Accuracy can differ for other media and mounting positions.)

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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)
Response times		
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	medium selection; Damping; Teach function; display can be rotated and switched off; standard unit of measurement; process value colour	
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	20 g (10...2000 Hz)
MTTF	[years]	180
UL approval	UL approval no.	I004
	File number UL	E174189
Mechanical data		
Weight	[g]	296.5
Housing		cylindrical
Dimensions	[mm]	Ø 34 / L = 123.9
Materials	stainless steel (316L/1.4404); stainless steel (301/1.4310); PBT-GF20; PBT-GF30	
Materials (wetted parts)	stainless steel (316L/1.4404); Gasket: FKM	
Process connection	threaded connection G 1/2 external thread	
Probe diameter	[mm]	5
Installation length EL	[mm]	19.2
Displays / operating elements		
Display	Display unit	6 x LED, green (% , m/s, l/min, m³/h, °C, 10³)
	measured values	alphanumeric display, red/green 4-digit
Remarks		
Remarks	MW = measured value	
	MEW = Final value of the measuring range	
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		

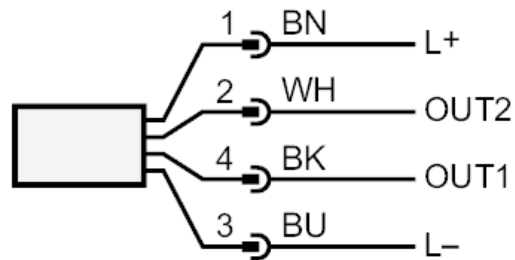
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SAR12XDB50KG/US-100

Connection



OUT1: analogue output Temperature monitoring
OUT2: analogue output volumetric flow quantity monitoring
Core colours :
BK = black
BN = brown
BU = blue
WH = white

colours to DIN EN 60947-5-2