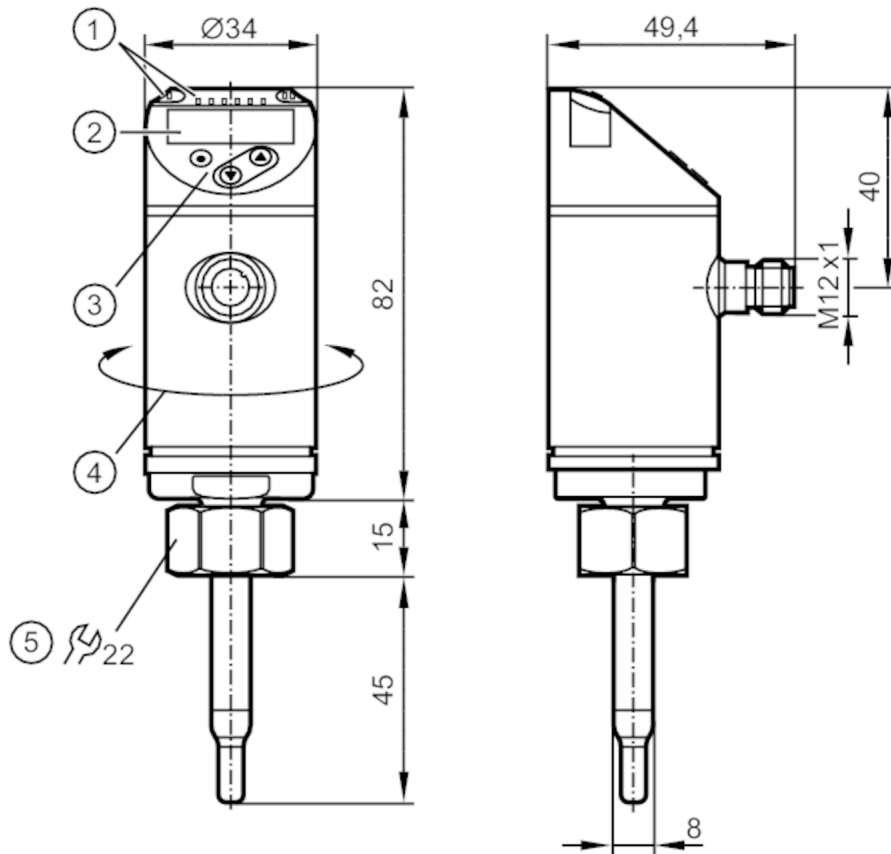


# SA5004



## Flow sensor

SAD10XDB50KG/US-100



- 1 LEDs Display unit
- I, II not used
- 2 alphanumeric display 4-digit red/green
- 3 Programming buttons
- 4 upper part of the housing can be rotated 345°



### Product characteristics

Number of inputs and outputs	Number of analog outputs: 2
Process connection	threaded connection M18 x 1,5 Internal thread

### Application

System	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]	100

### Electrical data

Operating voltage [V]	18...30 DC
Current consumption [mA]	< 100
Protection class	III
Reverse polarity protection	yes

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## Flow sensor

SAD10XDB50KG/US-100

Power-on delay time	[s]	10
Measuring principle		calorimetric
<b>Inputs / outputs</b>		
Number of inputs and outputs		Number of analog outputs: 2
<b>Outputs</b>		
Total number of outputs		2
Output signal		analog signal
Number of analog outputs		2
Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	350
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
<b>Measuring/setting range</b>		
Probe length L	[mm]	45
Operating mode		relative; absolutely liquid; absolutely gaseous; (absolute: reference measurement recommended; Factory setting: relative)
<b>Temperature monitoring</b>		
Measuring range	[°C]	-20...90
Resolution	[°C]	0.2
Analog start point	[°C]	-20...76
Analog end point	[°C]	4...100
In steps of	[°C]	0.2
<b>Liquid media - absolute operating mode</b>		
Setting range	[m/s]	0.04...3
Greatest sensitivity	[m/s]	0.04...3
<b>Liquid media - relative operating mode</b>		
Setting range	[m/s]	0.04...6
Greatest sensitivity	[m/s]	0.04...3
<b>Gases - operating mode "absolute"</b>		
Setting range	[m/s]	2...100
Greatest sensitivity	[m/s]	30...100
<b>Gases - operating mode "relative"</b>		
Setting range	[m/s]	2...200
Greatest sensitivity	[m/s]	30...100
<b>Accuracy / deviations</b>		
Temperature drift	[cm/s x 1/K]	0,003 m/s x 1/K (< 20 °C; > 70 °C)
Max. temperature gradient of medium	[K/min]	100
<b>Absolute operating mode</b>		
Repeatability		0,05 m/s; (water; Flow velocity: 0,05...3 m/s)

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## Flow sensor

SAD10XDB50KG/US-100

Relative operating mode		
Accuracy	$\pm (7 \% \text{ MW} + 2 \% \text{ MEW})$ ; (for relative mode in the range of maximum sensitivity under the following conditions:; 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	$\pm 0,005 \text{ K/}^\circ\text{C}$	
Accuracy	[K]	$\pm 0,3 / \pm 1$ ; (water; Flow velocity: 0,3...3 m/s / air; Flow velocity: > 10 m/s)
Reaction 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 color	
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 number	I004
	File number UL	E174189
Mechanical data		
Weight	[g]	281
Housing	tubular	
Dimensions	[mm]	$\varnothing 34 / L = 142$
Material	stainless steel (1.4404 / 316L); stainless steel (1.4310 / 301); PBT-GF20; PBT-GF30	
Materials (wetted parts)	stainless steel (1.4404 / 316L); Gasket: FKM	
Process connection	threaded connection M18 x 1,5 Internal thread	
Probe diameter	[mm]	8
Installation length EL	[mm]	45
Displays / operating elements		
Display	Display unit	6 x LED, green (% , m/s, l/min, m <sup>3</sup> /h, °C, 10 <sup>3</sup> )
	Measured values	alphanumeric display, red/green 4-digit
Remarks		
Remarks	MW = Measured value	
	MEW = Final value of the measuring range	
Pack quantity	1 pcs.	

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## Flow sensor

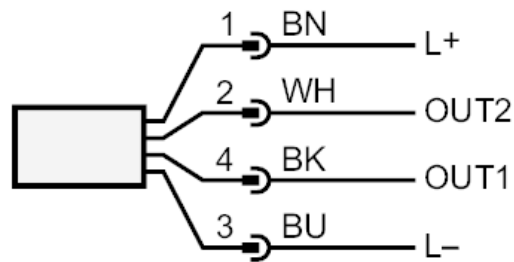
SAD10XDB50KG/US-100

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



OUT1: analog output Temperature monitoring  
OUT2: analog output Volumetric flow quantity monitoring  
Colors to DIN EN 60947-5-2 :  
Core colors :  
BK = black  
BN = brown  
BU = blue  
WH = white