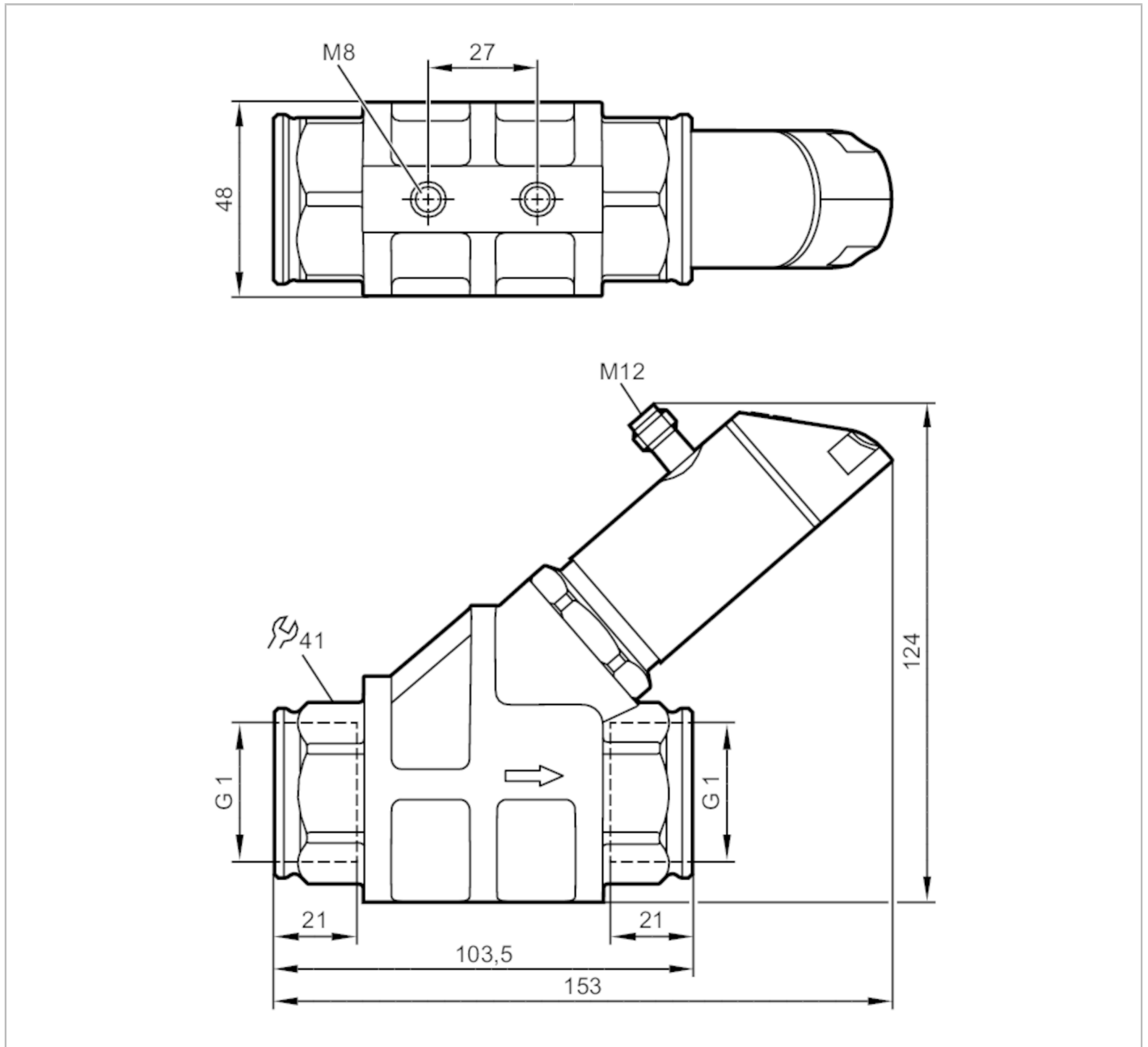


# SB1246



## Flow meter with fast response and display

SBG11KL0FRKG



Product characteristics				
Measuring range	2...100 l/min	0.12...6 m <sup>3</sup> /h	32...1586 gph	0.55...26.4 gpm
Process connection	threaded connection G 1 Internal thread			
Application				
System	gold-plated contacts			
Media	Liquids; oils (viscosity 10 mm <sup>2</sup> /s at 40 °C)			
Medium temperature	[°C]	-10...100		
Pressure rating	[bar]	100		
Pressure rating	[MPa]	10		
Note on pressure rating	at medium temperature >70°C: 80 bar / 8 MPa			

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Electrical data					
Operating voltage	[V]	18...30 DC; (to SELV/PELV)			
Current consumption	[mA]	< 50			
Protection class		III			
Reverse polarity protection		yes			
Power-on delay time	[s]	< 3			
Outputs					
Total number of outputs		2			
Output signal		switching signal; analog signal; frequency signal; IO-Link			
Output function		normally open / closed; (configurable)			
Max. voltage drop switching output DC	[V]	2			
Max. current load per output	[mA]	150; (200: ...60 °C; Ambient temperature; 250: ...40 °C; Ambient temperature)			
Analog current output	[mA]	4...20			
Max. load	[Ω]	500			
Short-circuit protection		yes			
Overload protection		yes			
Frequency of the output	[Hz]	0...10000			
Measuring/setting range					
Measuring range		2...100 l/min	0.12...6 m <sup>3</sup> /h	32...1586 gph	0.55...26.4 gpm
Display range		0...120 l/min	0...7.2 m <sup>3</sup> /h	0...1902 gph	0...31.7 gpm
Resolution		0.1 l/min	0.01 m <sup>3</sup> /h	1 gph	0.01 gpm
Set point SP		0.7...100 l/min	0.04...6 m <sup>3</sup> /h	10...1586 gph	0.15...26.4 gpm
Reset point rP		0...99.3 l/min	0...5.96 m <sup>3</sup> /h	0...1574 gph	0...26.25 gpm
Frequency end point, FEP		6.7...100 l/min	0.4...6 m <sup>3</sup> /h	106...1586 gph	1.75...26.4 gpm
In steps of		0.1 l/min	0.01 m <sup>3</sup> /h	2 gph	0.05 gpm
Frequency at the end point FRP	[Hz]	10...10000			
In steps of	[Hz]	10			
Measuring dynamics		1:50			
Temperature monitoring					
Measuring range		-10...100 °C		14...212 °F	
Display range		-32...122 °C		-25.6...251.6 °F	
Resolution		0.1 °C		0.1 °F	
Set point SP		-9.3...100 °C		15.2...212 °F	
Reset point rP		-10...99.3 °C		14...210.8 °F	
In steps of		0.1 °C		0.2 °F	
Frequency start point, FSP		-10...78 °C		14...172.4 °F	
Frequency end point, FEP		12...100 °C		53.6...212 °F	
Frequency at the end point FRP	[Hz]	10...10000			
In steps of	[Hz]	10			
Accuracy / deviations					
Flow monitoring					
Accuracy (in the measuring range)		± 5 % MEW; (Q > 1 l/min; 20...70 °C Medium temperature)			



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Repeatability	± 1 % MEW	
<b>Temperature monitoring</b>		
Temperature drift	0,029 °C / K	
Accuracy [K]	3 K (25°C; Q > 1 l/min)	
<b>Reaction times</b>		
<b>Flow monitoring</b>		
Response time [s]	0.01	
Damping process value dAP [s]	0...5	
In steps of [s]	0.1	
Damping for the analog output dAA [s]	0...5	
In steps of [s]	0.1	
<b>Temperature monitoring</b>		
Dynamic response T05 / T09 [s]	T09 = 120 (Q > 1 l/min)	
<b>Software / programming</b>		
Parameter setting options	hysteresis / window; normally open / closed; switching logic; current/frequency output; damping for the switching output / analog output; display can be rotated and switched off; standard unit of measurement; process value color; calibration factor	
<b>Interfaces</b>		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9 CDV	
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port class	A	
Process data analog	2	
Process data binary	2	
Min. process cycle time [ms]	3.2	
Supported DeviceIDs	<b>Type of operation</b> default	<b>DeviceID</b> 1046
<b>Operating conditions</b>		
Ambient temperature [°C]	0...60	
Note on ambient temperature	medium temperature < 80 °C medium temperature < 100 °C: 0...40 °C	
Storage temperature [°C]	-15...80	
Protection	IP 65; IP 67	
<b>Tests / approvals</b>		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	20 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)
MTTF [years]	145	
UL approval	UL approval number	I006
Pressure equipment directive	sound engineering practice	

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Mechanical data	
Weight [g]	1586.5
Material	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC; brass chemically nickel-plated
Materials (wetted parts)	stainless steel (1.4401 / 316); stainless steel (1.4404 / 316L); brass (2.0371); brass chemically nickel-plated; PPS; O-ring: FKM
Process connection	threaded connection G 1 Internal thread
Switching cycles mechanical	10 million

Displays / operating elements		
Display	Display unit	6 x LED, green
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, red/green alternating indication 4-digit
	Programming	alphanumeric display, 4-digit

Remarks	
Remarks	Use of 200 micron filtration is recommended.
	All data refer to oil with the following nominal viscosity: 10 mm <sup>2</sup> /s, 40 °C
	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

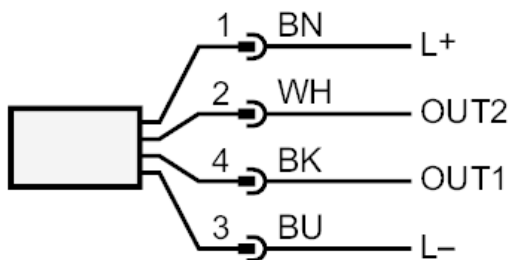




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### Connection



#### OUT1:

- Switching output Volumetric flow quantity monitoring
- Switching output Temperature monitoring
- Frequency output Volumetric flow quantity monitoring
- Frequency output Temperature monitoring
- IO-Link

#### OUT2:

- Switching output Volumetric flow quantity monitoring
  - Switching output Temperature monitoring
  - analog output Volumetric flow quantity monitoring
  - analog output Temperature monitoring
- Colors to DIN EN 60947-5-2

Core colors :

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

### Diagrams and graphs

