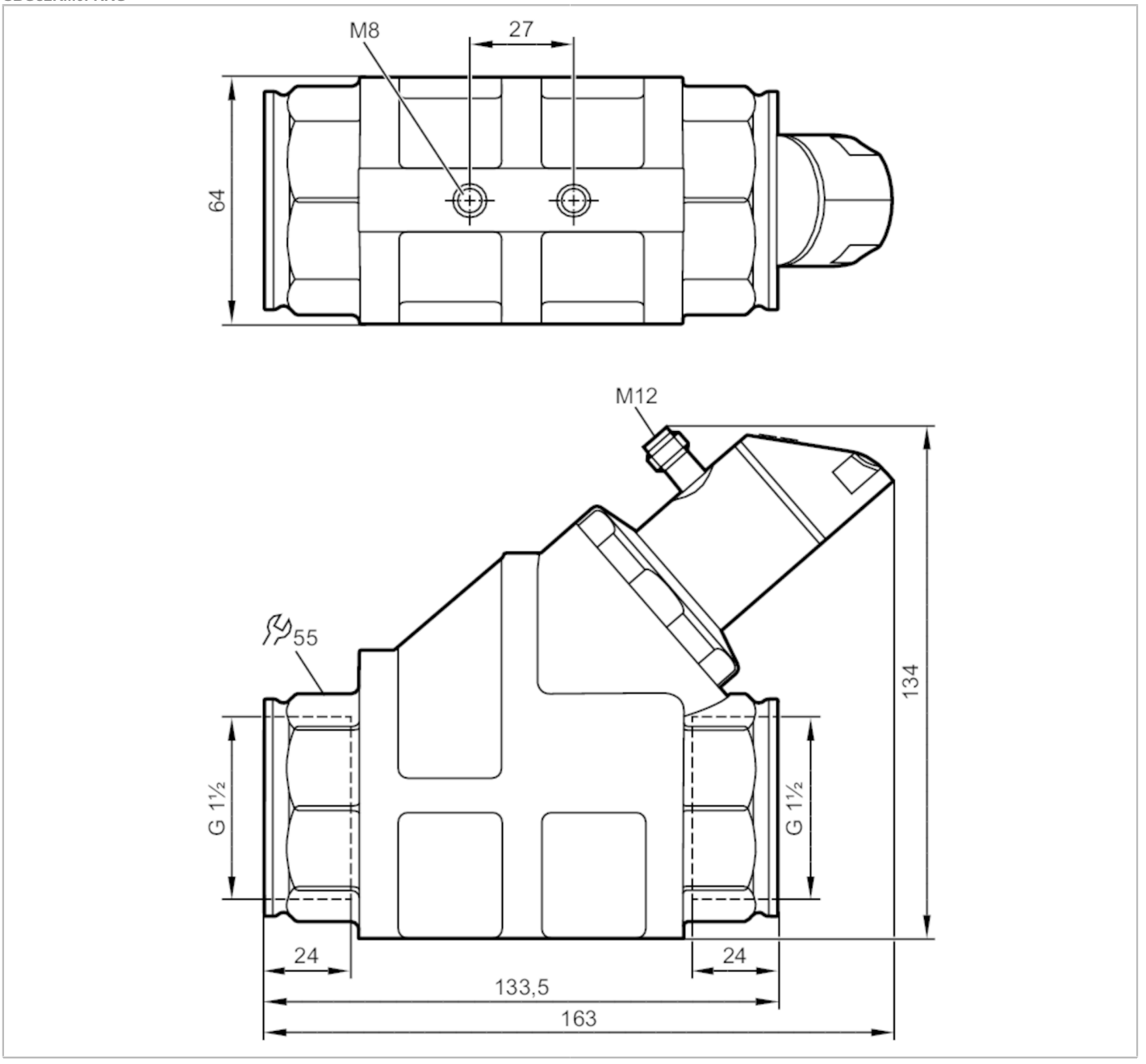
SB5256

Flow meter with integrated backflow prevention and display

SBG32KM0FRKG



Product characteristics					
Measuring range		2...100 l/min	0.12...6 m³/h	32...1586 gph	0.55...26.4 gpm
Process connection		threaded connection G 1 1/2 internal thread			
Application					
Special feature		Gold-plated contacts			
Media		Liquids; oil			
Note on media		oil with viscosity: 150 mm²/s (40 °C)			
Medium temperature	[°C]	-10...100			
Pressure rating	[bar]	63			
Note on pressure rating		at medium temperature >70°C: 50			

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Electrical data					
Operating voltage	[V]	18...30 DC; (according to EN 50178 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; analogue signal; frequency signal; IO-Link			
Output function		normally open / normally closed; (parameterisable)			
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)			
Analogue 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 m³/h	32...1586 gph	0.55...26.4 gpm
Display range		0...120 l/min	0...7.2 m³/h	0...1902 gph	0...31.7 gpm
Resolution		0.1 l/min	0.01 m³/h	1 gph	0.01 gpm
Set point SP		0.7...100 l/min	0.04...6 m³/h	10...1586 gph	0.15...26.4 gpm
Reset point rP		0...99.3 l/min	0...5.96 m³/h	0...1574 gph	0...26.25 gpm
Frequency end point, FEP		6.7...100 l/min	0.4...6 m³/h	106...1586 gph	1.75...26.4 gpm
In steps of		0.1 l/min	0.01 m³/h	2 gph	0.05 gpm
Frequency at the end point FRP	[Hz]	10...10000			
In steps of	[Hz]	10			
Measuring dynamics		1:50			
In steps of		10 Hz			
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			

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Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)		± 5 % MEW; (Q > 1 l/min; 20...70 °C Medium temperature)
Repeatability		± 1 % MEW
Temperature monitoring		
Temperature drift		0,029 °C / K
Accuracy	[K]	3 K (25°C; Q > 1 l/min)
Response times		
Flow monitoring		
Response time	[s]	0.01
Damping for the switching output dAP	[s]	0...5
In steps of	[s]	0.1
Damping for the analogue output dAA	[s]	0...5
In steps of	[s]	0.1
Temperature monitoring		
Dynamic response T05 / T09	[s]	T09 = 120 (Q > 1 l/min)
Software / programming		
Parameter setting options		hysteresis / window; normally open / normally closed; switching logic; current/frequency output; damping for the switching output / analogue output; display can be rotated and switched off; standard unit of measurement; process value colour; calibration factor
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9 CDV
IO-Link device ID		1046 d / 0416 h
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]	3.2
Operating conditions		
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

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Tests / approvals

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 no.	I007
Pressure Equipment Directive		Sound engineering practice	

Mechanical data

Weight	[g]	2.811
Materials		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 1/2 internal thread
Switching cycles mechanical		10 million

Displays / operating elements

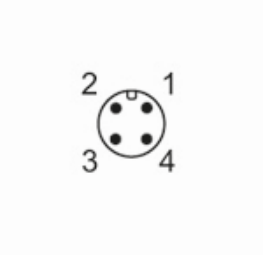
Display	Display unit	6 x LED, green
	switching status	2 x LED, yellow
	measured values	alphanumeric display, red/green alternating indication 4-digit
	programming	alphanumeric display, 4-digit

Remarks

Remarks	Recommendation: use a 200-micron filter.
	All data refer to oil with the following nominal viscosity:
	150 cSt, 40 °C ± 3 K
	MW = measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



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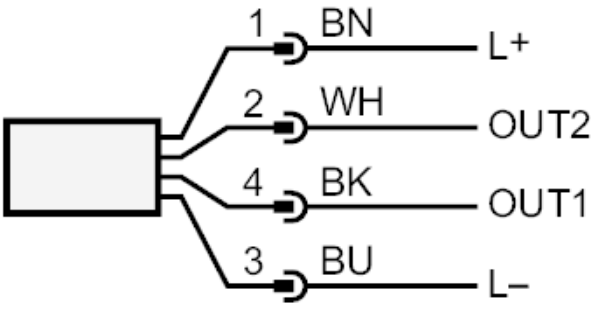
Connection



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
- analogue output volumetric flow quantity monitoring
- analogue output Temperature monitoring

colours to DIN EN 60947-5-2

Core colours :

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

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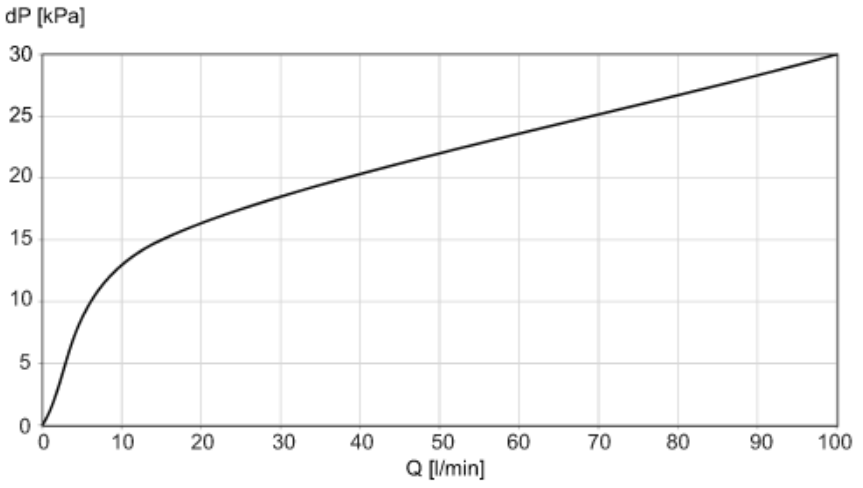
Diagrams and graphs