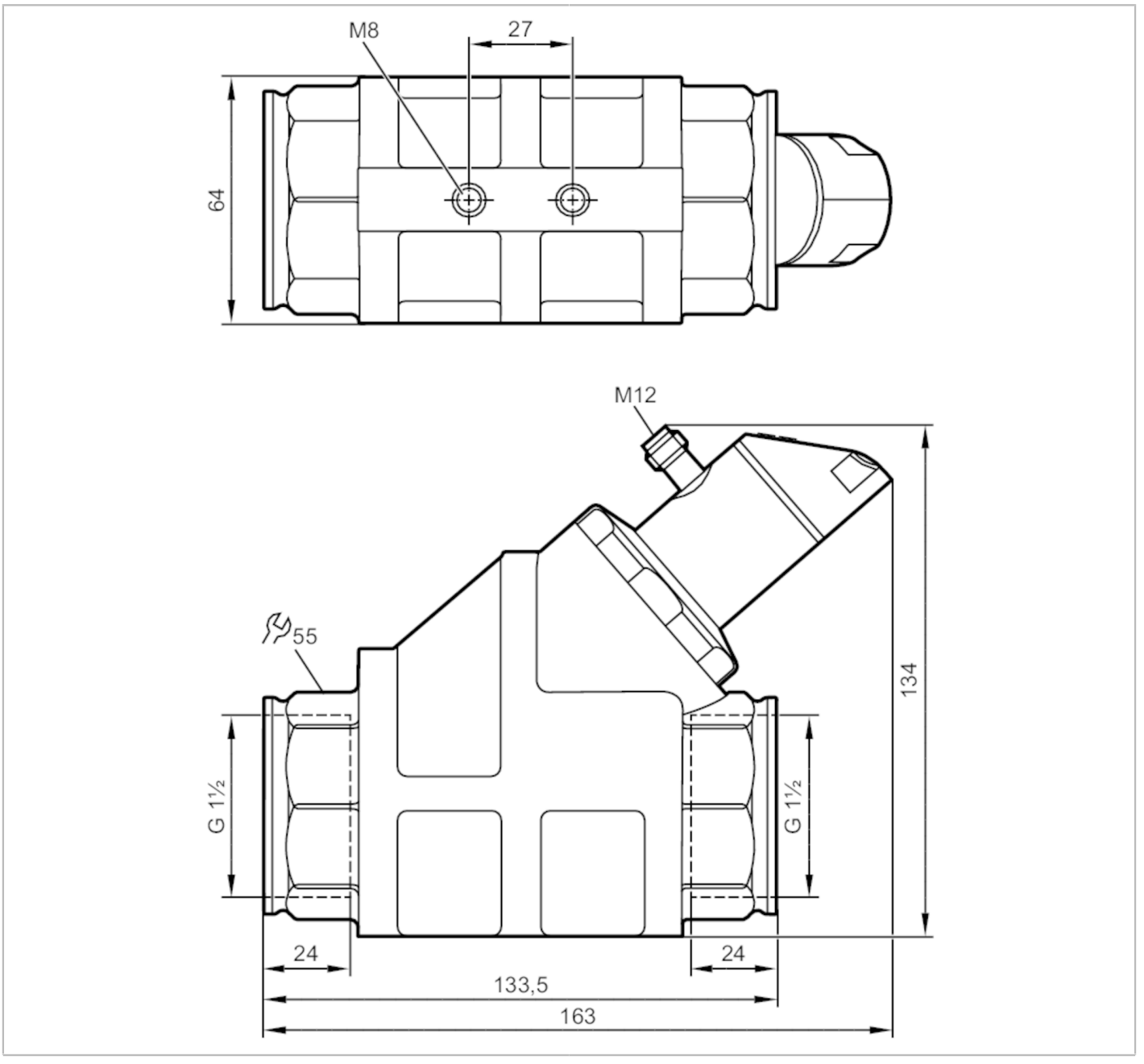
SB1257

Flow meter with fast response and display

SBG32KM0FRKG



Product characteristics					
Measuring range		4...200 l/min	0.24...12 m³/h	65...3170 gph	1.1...52.8 gpm
Process connection		threaded connection G 1 1/2 Internal thread			
Application					
System		gold-plated contacts			
Media		Liquids; oils (viscosity 10 mm²/s at 40 °C)			
Medium temperature	[°C]	-10...100			
Pressure rating	[bar]	63			
Pressure rating	[Mpa]	6.3			
Note on pressure rating		at medium temperature >70°C: 50 bar / 5 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		4...200 l/min	0.24...12 m³/h	65...3170 gph	1.1...52.8 gpm
Display range		0...240 l/min	0...14.4 m³/h	0...3805 gph	0...63.4 gpm
Resolution		0.1 l/min	0.01 m³/h	1 gph	0.1 gpm
Set point SP		1.4...200 l/min	0.08...12 m³/h	20...3170 gph	0.3...52.8 gpm
Reset point rP		0...198.6 l/min	0...11.92 m³/h	0...3150 gph	0...52.5 gpm
Frequency end point, FEP		13.4...200 l/min	0.8...12 m³/h	210...3170 gph	3.5...52.8 gpm
In steps of		0.02 l/min	0.02 m³/h	5 gph	0.1 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)	
Reaction times			
Flow monitoring			
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	
Temperature monitoring			
Dynamic response T05 / T09	[s]	T09 = 120 (Q > 1 l/min)	
Software / programming			
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	
Interfaces			
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		Type of operation	DeviceID
		default	1047
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 number	I007
Pressure equipment directive		sound engineering practice	

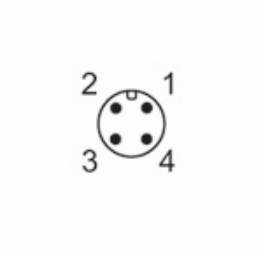
Mechanical data		
Weight	[g]	2796.5
Material		stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC; brass chemically nickel-plated
Materials (wetted parts)		stainless steel (1.4401 / 316); stainless steel (1.4404 / 316L); brass (2.0371); brass chemically nickel-plated; PPS; O-ring: FKM
Process connection		threaded connection G 1 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	Use of 200 micron filtration is recommended.
	All data refer to oil with the following nominal viscosity:
	10 mm²/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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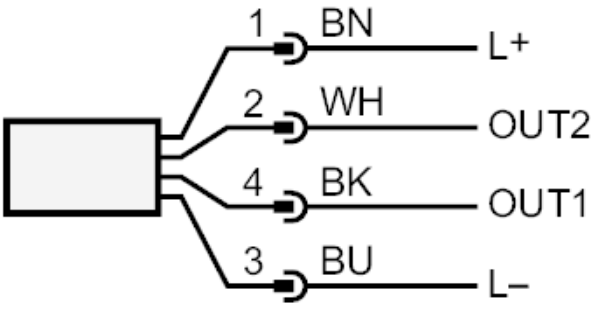
Connection



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

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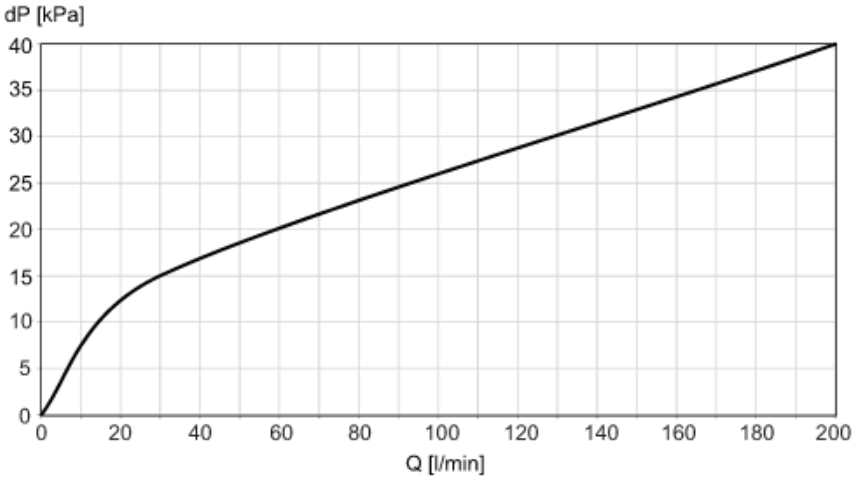
Diagrams and graphs