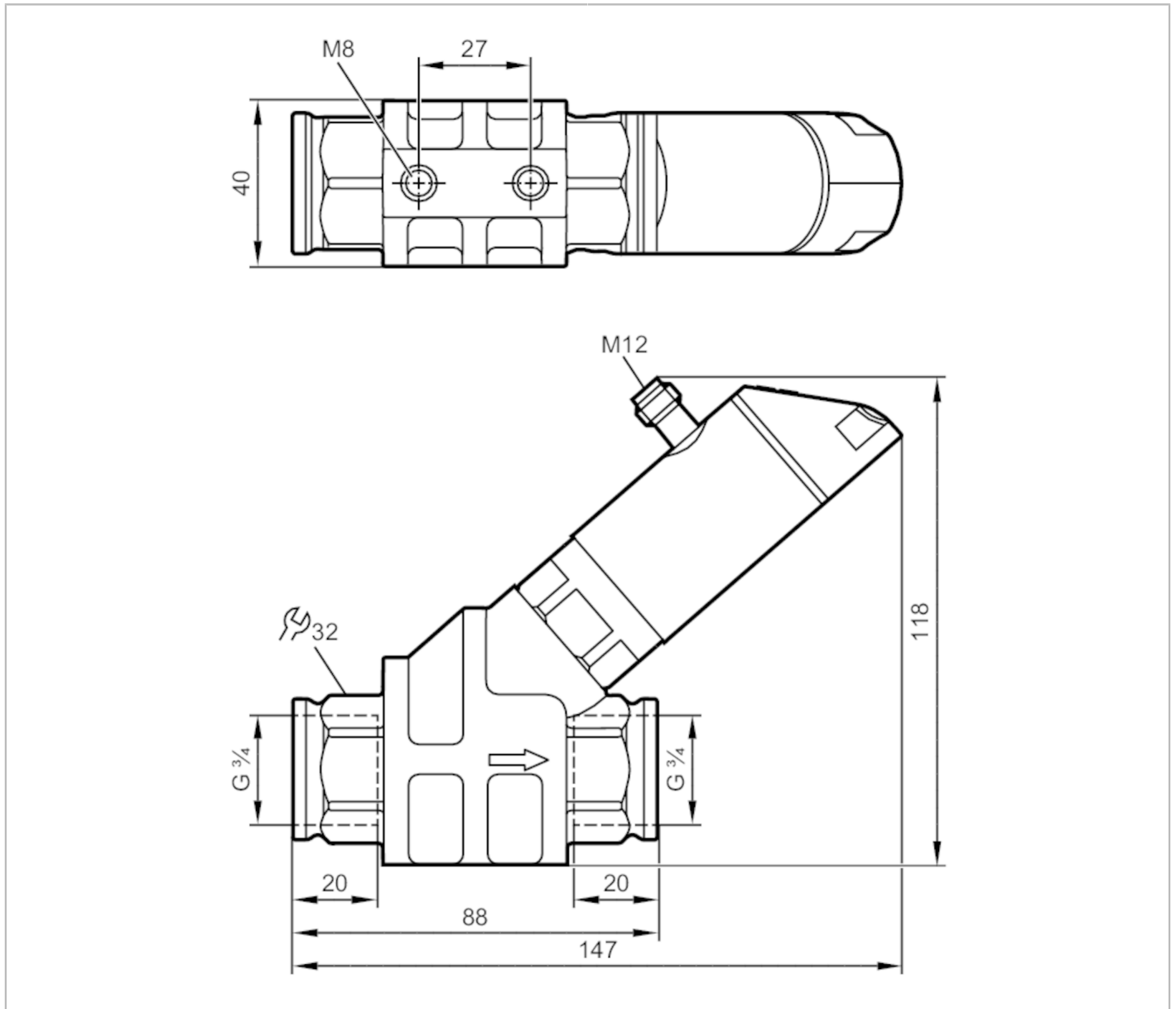


SB1232



Flow meter with fast response and display

SBG34KL0FRKG



| Product characteristics | | | | |
|-------------------------|--|-------------------------------|-----------------|------------------|
| Measuring range | 0.3...15 l/min | 0.018...0.9 m ³ /h | 4.8...237.8 gph | 0.08...3.965 gpm |
| Process connection | threaded connection G 3/4 Internal thread | | | |
| Application | | | | |
| System | gold-plated contacts | | | |
| Media | Liquids; oils (viscosity 10 mm ² /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 | | | |
| 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 | | 0.3...15 l/min | 0.018...0.9 m³/h | 4.8...237.8 gph | 0.08...3.965 gpm |
| Display range | | 0...18 l/min | 0...1.08 m³/h | 0...285.4 gph | 0...4.755 gpm |
| Resolution | | 0.01 l/min | 0.001 m³/h | 0.1 gph | 0.001 gpm |
| Set point SP | | 0.1...15 l/min | 0.006...0.9 m³/h | 1.6...237.8 gph | 0.025...3.965 gpm |
| Reset point rP | | 0...14.9 l/min | 0...0.894 m³/h | 0...236.2 gph | 0...3.935 gpm |
| Frequency end point, FEP | | 1...15 l/min | 0.06...0.9 m³/h | 15.8...237.8 gph | 0.265...3.965 gpm |
| In steps of | | 0.01 l/min | 0.001 m³/h | 0.2 gph | 0.005 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 | | | |
| Accuracy / deviations | | | | | |
| Flow monitoring | | | | | |
| Accuracy (in the measuring range) | | ± 5 % MEW; (Q > 1 l/min; 20...70 °C Medium temperature) | | | |
| Repeatability | | ± 1 % MEW | | | |

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| | | |
|-----------------------------------|--|-------------------------|
| 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 | 1043 |
| 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 | |
| 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 | I005 |
| Pressure equipment directive | sound engineering practice | |

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| Mechanical data | |
|-----------------------------|---|
| Weight [g] | 993.5 |
| 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 3/4 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 ² /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

