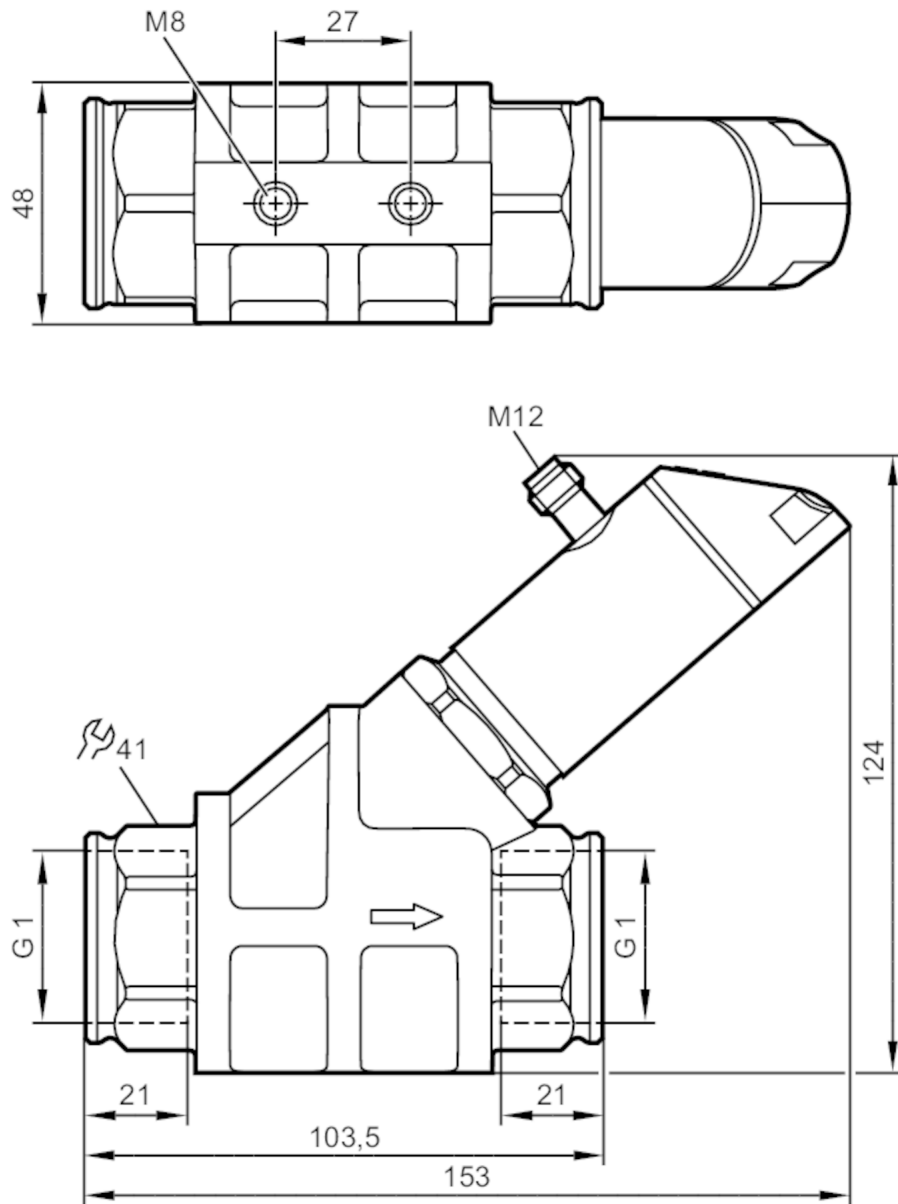


# SB5244



Flow meter with integrated backflow prevention and display

SBG11KL0FRKG



## Product characteristics

|                    |   |                            |              |                 |
|--------------------|---|----------------------------|--------------|-----------------|
| Measuring range    | 1...50 l/min                            | 0.06...3 m <sup>3</sup> /h | 16...793 gph | 0.26...13.2 gpm |
| Process connection | threaded connection G 1 internal thread |                            |              |                 |

## Application

|                         |   |  |  |  |
|-------------------------|---|--|--|--|
| Special feature         | Gold-plated contacts                                      |  |  |  |
| Media                   | Liquids; oils (viscosity 150 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               |  |  |  |



## Flow meter with integrated backflow prevention and display

SBG11KL0FRKG

| 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; 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                     | 1...50 l/min    | 0.06...3 m³/h | 16...793 gph | 0.26...13.2 gpm |
| Display range                       | 0...60 l/min    | 0...3.6 m³/h  | 0...951 gph  | 0...15.86 gpm   |
| Resolution                          | 0.01 l/min      | 0.001 m³/h    | 1 gph        | 0.01 gpm        |
| Set point SP                        | 0.35...50 l/min | 0.02...3 m³/h | 5...793 gph  | 0.08...13.2 gpm |
| Reset point rP                      | 0...49.65 l/min | 0...2.98 m³/h | 0...787 gph  | 0...13.12 gpm   |
| Frequency end point, FEP            | 3.35...50 l/min | 0.2...3 m³/h  | 53...793 gph | 0.88...13.2 gpm |
| In steps of                         | 0.05 l/min      | 0.005 m³/h    | 1 gph        | 0.02 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) |



## Flow meter with integrated backflow prevention and display

SBG11KL0FRKG

|   |  |                    |
|---|--|--------------------|
| Repeatability                           | ± 1 % MEW  |                    |
| <b>Temperature monitoring</b>           |  |                    |
| Temperature drift                       | 0,029 °C / K   |                    |
| Accuracy [K]                            | 3 K (25°C; Q > 1 l/min)  |                    |
| <b>Response 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 analogue 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 / 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 |                    |
| <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 type               | A  |                    |
| Process data analogue                   | 2  |                    |
| Process data binary                     | 2  |                    |
| Min. process cycle time [ms]            | 3.2  |                    |
| Supported DeviceIDs                     | Type of operation  | DeviceID           |
|   | Default  | 1045               |
| <b>Operating conditions</b>             |  |                    |
| Ambient temperature [°C]                | 0...60   |                    |
| Note on ambient temperature             | medium temperature < 80 °C<br>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) |
| UL approval                             | UL Approval no.  | I006               |
| Pressure Equipment Directive            | Sound engineering practice   |                    |

# SB5244



## Flow meter with integrated backflow prevention and display

SBG11KL0FRKG

| Mechanical data             |   |
|-----------------------------|---|
| Weight [g]                  | 1571.5  |
| Materials                   | stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC; brass chemically nickel-plated  |
| Materials (wetted parts)    | stainless steel (316 / 1.4401); 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       | 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; coding: A; Contacts: gold-plated





## Flow meter with integrated backflow prevention and display

SBG11KL0FRKG

### 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

### Diagrams and graphs

