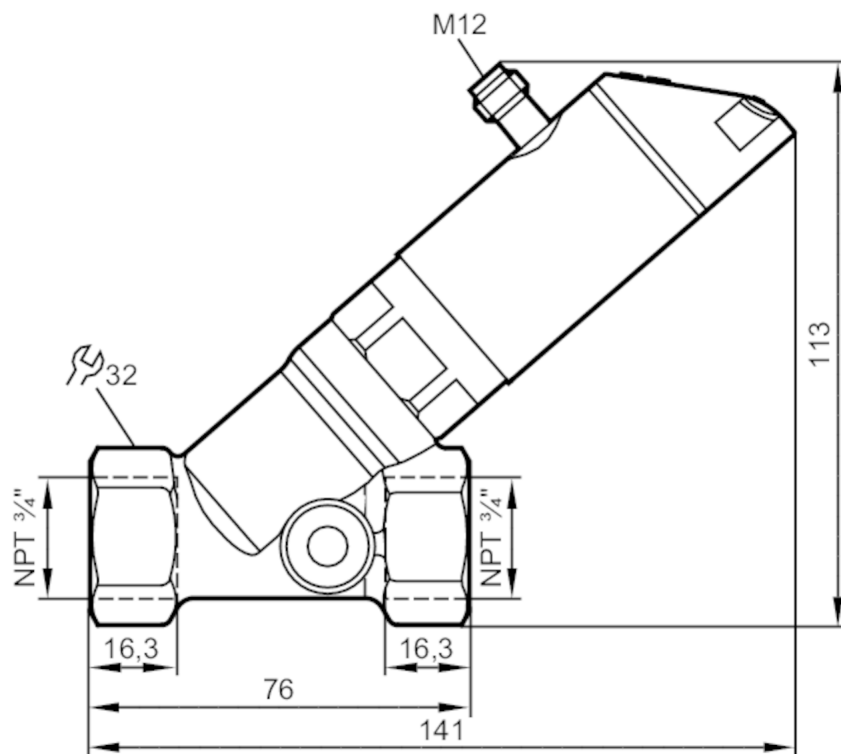


Flow meter with integrated backflow prevention and display

SBN34IQ0FRKG

Please note the changed housing design!



Product characteristics

| | | |
|------------------------------|---|--------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 | |
| Measuring range | 10...600 gph | 0.2...10 gpm |
| Process connection | threaded connection 3/4" NPT | |

Application

| | | |
|--|--|----------|
| Special feature | Gold-plated contacts | |
| Application | for industrial applications | |
| Media | Liquids; water; glycol solutions; coolants | |
| Note on media | oil 1 with viscosity: 10 mm ² /s (104 °F) | |
| | oil 2 with viscosity: 46 mm ² /s (104 °F) | |
| Medium temperature | [°F] | 14...212 |
| Pressure rating | [bar] | 40 |
| Pressure rating | [MPa] | 4 |
| MAWP (for applications according to CRN) | [bar] | 40 |

Electrical data

| | | |
|-----------------------------|------|----------------------------|
| Operating voltage | [V] | 18...30 DC; (to SELV/PELV) |
| Current consumption | [mA] | < 50 |
| Protection class | | III |
| Reverse polarity protection | | yes |



Flow meter with integrated backflow prevention and display

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| | | |
|---------------------|-----|-----|
| Power-on delay time | [s] | < 3 |
|---------------------|-----|-----|

Inputs / outputs

| | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
|------------------------------|---|

Outputs

| | |
|--|--|
| Total number of outputs | 2 |
| Output signal | switching signal; analogue signal; frequency signal; IO-Link; (configurable) |
| Number of digital outputs | 2 |
| Output function | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V] | 2 |
| Permanent current rating of switching output DC [mA] | 150; (per output 2 x 200 (...140 °F); 2 x 250 (...104 °F)) |
| Switching cycles (mechanical) | 10 million |
| Number of analogue outputs | 1 |
| 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 | 10...600 gph | 0.2...10 gpm |
| Display range | 0...720 gph | 0...12 gpm |
| Resolution | 5 gph | 0.1 gpm |
| Set point SP | 5...600 gph | 0.1...10 gpm |
| Reset point rP | 0...595 gph | 0...9.9 gpm |
| Frequency end point, FEP | 40...600 gph | 0.67...10 gpm |
| In steps of | 5 gph | 0.1 gpm |
| Frequency at the end point FRP [Hz] | 10...10000 | |
| Measuring dynamics | 1:50 | |

Temperature monitoring

| | |
|-------------------------------------|------------|
| Measuring range [°F] | 14...212 |
| Display range [°F] | -26...252 |
| Resolution [°F] | 2 |
| Set point SP [°F] | 16...212 |
| In steps of [°F] | 2 |
| Frequency start point, FSP [°F] | 14...172 |
| Frequency end point, FEP [°F] | 54...212 |
| Frequency at the end point FRP [Hz] | 10...10000 |

Accuracy / deviations

Flow monitoring

| | |
|-----------------------------------|--|
| Accuracy (in the measuring range) | ± (4 % MW + 1 % MEW); (Q > 1 l/min; medium and operating temperature: +71,6 °F ± 4K) |
| Repeatability | ± 1 % MEW |



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| | | |
|-------------------------------------|--|--------------------------|
| Temperature monitoring | | |
| Temperature drift | | 0,9802 °F / K |
| Accuracy | [K] | 3 K (77 °F; Q > 1 l/min) |
| Response times | | |
| Flow monitoring | | |
| Response time | [s] | 0.01 |
| Damping process value dAP | [s] | 0...5 |
| Damping for the analogue output dAA | [s] | 0...5 |
| 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 output; medium selection; damping for the switching output / analogue output; display can be rotated and switched off; standard unit of measurement; process value colour | |
| 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 | |
| SIO mode | yes | |
| Required master port type | A | |
| Process data analogue | 2 | |
| Process data binary | 2 | |
| Min. process cycle time | [ms] | 5 |
| Supported DeviceIDs | Type of operation | DeviceID |
| | default | 567 |
| Operating conditions | | |
| Ambient temperature | [°F] | 32...140 |
| Note on ambient temperature | medium temperature < 176 °F | |
| | medium temperature < 212 °F: 32...104 °F | |
| Storage temperature | [°F] | 5...176 |
| 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 no. | I005 |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request | |
| Mechanical data | | |
| Weight | [g] | 693 |



Flow meter with integrated backflow prevention and display

SBN34IQ0FRKG

| | |
|--------------------------|--|
| Materials | stainless steel (316L/1.4404); PBT+PC-GF30; PBT-GF20; PC; brass chemically nickel-plated |
| Materials (wetted parts) | stainless steel (316 / 1.4401); stainless steel (316L/1.4404); brass (2.0371); brass chemically nickel-plated; PPS; O-ring: FKM |
| Process connection | threaded connection 3/4" NPT |

Displays / operating elements

| | | |
|---------|------------------|---|
| Display | Display unit | 3 x LED, green |
| | switching status | 2 x LED, yellow |
| | measured values | alphanumeric display, red/green 4-digit |
| | programming | alphanumeric display, 4-digit |

Remarks

| | |
|---------------|--|
| Remarks | Recommendation: use a 200-micron filter. |
| | All data refer to water (68 °F). |
| | MW = measured value |
| | MEW = Final value of the measuring range |
| Notes | Please note the changed housing design! |
| Pack quantity | 1 pcs. |

Electrical connection

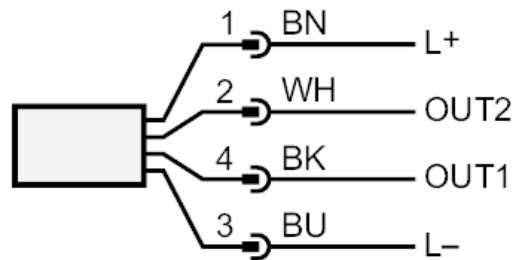
Connector: 1 x M12; coding: A; Contacts: gold-plated



Flow meter with integrated backflow prevention and display

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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:

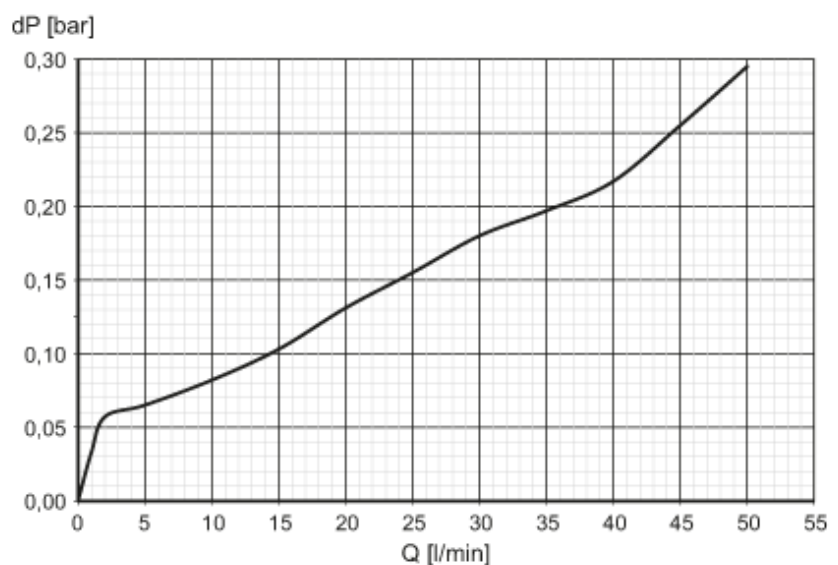
- switching output volumetric flow quantity monitoring
- switching output Temperature monitoring
- analogue output volumetric flow quantity monitoring
- analogue output Temperature monitoring
- colours to DIN EN 60947-5-2

Core colours :

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

Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity