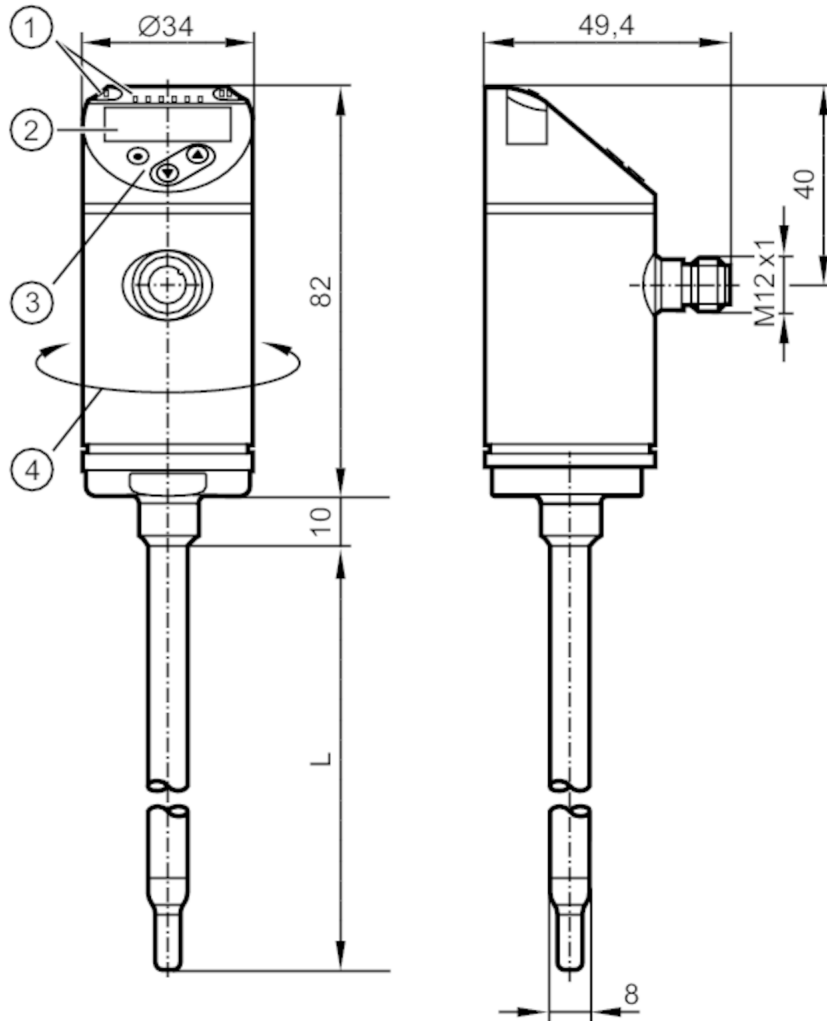


SA4120



Flow sensor

SAEXXXBFRKG/US-100



- L 100 mm
- 1 LEDs Display unit / switching status
- 2 alphanumeric display 4-digit red/green
- 3 programming buttons
- 4 upper part of the housing can be rotated 345°



Product characteristics

| | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |
| Process connection | clamp adapter $\varnothing 8$ mm |

Application

| | |
|--|--|
| Special feature | Gold-plated contacts |
| Installation | Recommended for pipe diameters; (15...400 mm) |
| Media | air |
| Medium temperature [°C] | -20...100 |
| Pressure rating | 50 bar 5 MPa |
| MAWP for applications according to CRN | 50 bar 5 MPa |

Electrical data

| | |
|-----------------------|----------------------------|
| Operating voltage [V] | 18...30 DC; (to SELV/PELV) |
|-----------------------|----------------------------|

SA4120



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| | |
|-----------------------------|--------------|
| Current consumption [mA] | < 100 |
| Protection class | III |
| Reverse polarity protection | yes |
| Power-on delay time [s] | 10 |
| Measuring principle | calorimetric |

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) |
| Electrical design | PNP/NPN |
| Number of digital outputs | 2 |
| Output function | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC [V] | 2.5 |
| Permanent current rating of switching output DC [mA] | 250 |
| Number of analogue outputs | 1 |
| Analogue current output [mA] | 4...20; (scalable) |
| Max. load [Ω] | 350 |
| Short-circuit protection | yes |
| Type of short-circuit protection | pulsed |
| Overload protection | yes |
| Frequency of the output [Hz] | 0...1000 |

Measuring/setting range

| | |
|--|--|
| Probe length L [mm] | 100 |
| Operating mode | relative; absolutely gaseous; (absolute: reference measurement recommended; Factory setting: relative) |
| Display range [m/s] | 0...36 |
| Resolution [m/s] | 0.2 |
| Set point SP [m/s] | 2...30 |
| Reset point rP [m/s] | 0.6...28.6 |
| Analogue start point ASP [m/s] | 0...24 |
| Analogue end point AEP [m/s] | 6...30 |
| Frequency end point, FEP [m/s] | 6.6...30 |
| Frequency at the end point FRP [Hz] | 100...1000 |
| Gases - operating mode "absolute" | |
| Setting range [m/s] | 0.6...30 |
| Greatest sensitivity [m/s] | 0.6...30 |
| Gases - operating mode "relative" | |
| Setting range [m/s] | 0.6...60 |
| Greatest sensitivity [m/s] | 0.6...30 |

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Flow sensor

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| | | |
|-----------------------------------|--------------------------------|---|
| Temperature monitoring | | |
| Measuring range | [°C] | -20...100 |
| Resolution | [°C] | 0.2 |
| Accuracy / deviations | | |
| Gases - operating mode "absolute" | | |
| Repeatability | | ± (3 % MW + 0,6 % MEW) |
| Gases - operating mode "relative" | | |
| Accuracy | | ± (10 % MW + 2 % MEW); (reference conditions: DN50; Inside diameter 51 mm; within the range of maximum sensitivity: 20 °C / < 6 bar; Insertion depth: 15 mm; inlet pipe length: 2.5 m; standard velocity to DIN ISO 2533 at the sensor tip) |
| Repeatability | | ± (3 % MW + 0,6 % MEW) |
| Temperature monitoring | | |
| Temperature drift | | ± 0,005 K/°C |
| Accuracy | [K] | ± 2 / + 8; (flow velocity > 20 % VMR and 20 °C: ± 2) |
| Response times | | |
| Response time | [s] | 7 |
| Temperature monitoring | | |
| Dynamic response T05 / T09 | [s] | 30 (T09); (flow velocity: ≥ 10 m/s) |
| Software / programming | | |
| Parameter setting options | | hysteresis / window; normally open / normally closed; switching logic; current/frequency output; medium selection; Damping; Teach function; 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 |
| Profiles | Smart Sensor - SSP 0 | Generic Profiled Sensor |
| | Function | Device identification |
| | Function | Process data variable |
| | Function | Device diagnosis |
| SIO mode | | yes |
| Required master port type | | A |
| Process data analogue | | 2 |
| Process data binary | | 2 |
| Min. process cycle time | [ms] | 3 |
| Supported DeviceIDs | Type of operation | DeviceID |
| | Factory setting / ModE = (REL) | 1237 |
| | ModE = (ABS) | 1238 |
| Operating conditions | | |
| Ambient temperature | [°C] | -40...80 |
| Storage temperature | [°C] | -40...100 |
| Protection | | IP 65; IP 67 |

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| Tests / approvals | | |
|----------------------|-------------------|--------------------|
| EMC | DIN EN 60947-5-9 | |
| Shock resistance | DIN EN 60068-2-27 | 50 g (11 ms) |
| Vibration resistance | DIN EN 60068-2-6 | 5 g (10...2000 Hz) |
| MTTF [years] | | 131 |
| UL approval | UL approval no. | I017 |
| | File number UL | E174189 |

| Mechanical data | | |
|--------------------------|--|---|
| Weight [g] | | 243.9 |
| Housing | | cylindrical |
| Dimensions [mm] | | Ø 8 / L = 192 |
| Materials | | stainless steel (316L/1.4404); PBT-GF20; PBT-GF30 |
| Materials (wetted parts) | | stainless steel (316L/1.4404) |
| Process connection | | clamp adapter Ø 8 mm |

| Displays / operating elements | | |
|-------------------------------|------------------|--|
| Display | Display unit | 6 x LED, green (% , m/s, l/min, m ³ /h, °C, 10 ³) |
| | switching status | 2 x LED, yellow |
| | measured values | alphanumeric display, red/green 4-digit |

| Remarks | | |
|---------------|--|---|
| Remarks | | 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



SA4120



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Connection



colours to DIN EN 60947-5-2

OUT1:

- switching output volumetric flow quantity monitoring
- frequency output volumetric flow quantity monitoring
- IO-Link

OUT2:

- switching output volumetric flow quantity monitoring
- switching output Temperature monitoring
- analogue output volumetric flow quantity monitoring
- analogue output Temperature monitoring
- frequency output volumetric flow quantity monitoring
- frequency output Temperature monitoring
- input External Teach

Core colours :

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