

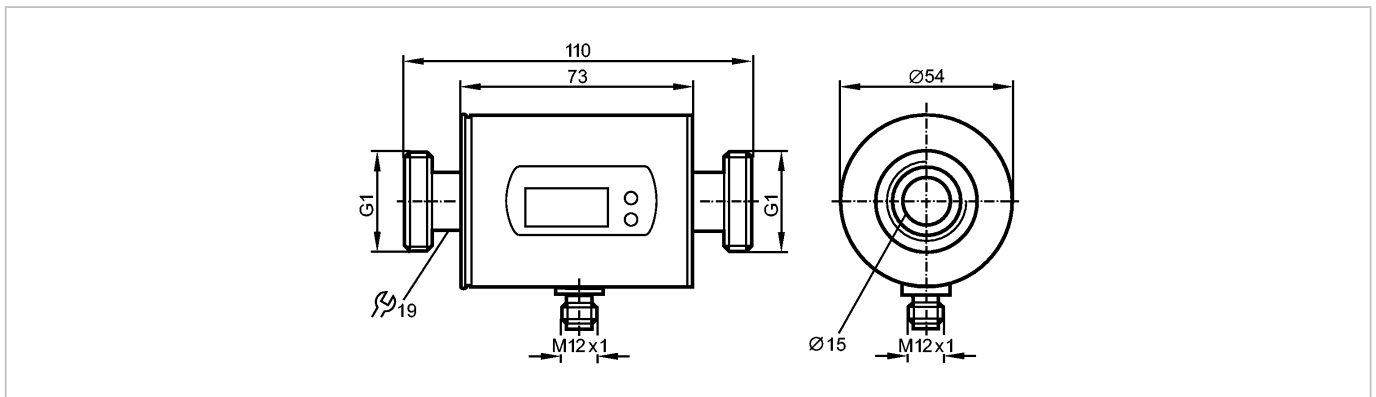


SM8000

SMR11GGXFRKG/US-100



Flow sensors



Product characteristics

Magnetic-inductive flow meter

Quick disconnect

Process connection: G1 flat seal

connection to pipe by means of an adapter

Function programmable

Totalizer function

2 outputs

OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)

OUT2 = flow monitoring or temperature monitoring (analog or binary)

Input for counter reset

Measuring range

0.2...100 l/min

Application

Application

Conductive liquids
(conductivity: $\geq 20 \mu\text{S/cm}$ / viscosity: $< 70 \text{ cSt}$ at $104 \text{ }^\circ\text{F}$)

Pressure rating [bar]

16

Medium temperature [°C]

-10...70

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

19...30 DC ¹⁾

Current consumption [mA]

120

Insulation resistance [MΩ]

> 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

Outputs

Output function

OUT1: normally open / closed programmable or pulse
OUT2: normally open / closed programmable or analog (4...20 mA / 0...10 V, scaleable)

Current rating [mA]

2 x 200

Voltage drop [V]

< 2

Short-circuit protection

yes (non-latching)

Overload protection

yes

Analog output

4...20 mA; 0...10 V

Max. load [Ω]

500 (4...20 mA)

Min. load [Ω]

2000 (0...10 V)



SM8000

SMR11GGXFRKG/US-100



Flow sensors

Pulse output flow rate meter

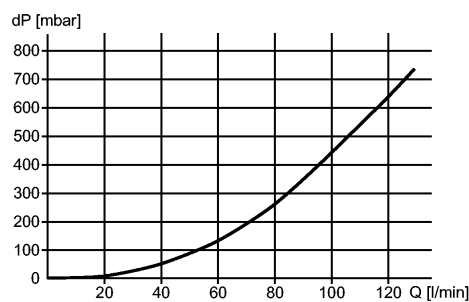
Measuring / setting range

| | | |
|-------------------------------------|----------------------|--------------------|
| Flow monitoring | | |
| Measuring range | 0.2...100.0 l/min | 0.010...6.000 m³/h |
| Display range | -120...120 l/min | -7.2...7.2 m³/h |
| Resolution | 0.1 l/min | 0.005 m³/h |
| Set point, SP | 0.7...100.0 l/min | 0.040...6.000 m³/h |
| Reset point, rP | 0.2...99.5 l/min | 0.010...5.970 m³/h |
| Analog start point, ASP | 0.0...80.0 l/min | 0.000...4.800 m³/h |
| Analog end point, AEP | 20.0...100.0 l/min | 1.200...6.000 m³/h |
| in steps of | 0.1 l/min | 0.005 m³/h |
| Volumetric flow quantity monitoring | | |
| Pulse value | 0.00001...100 000 m³ | |
| Pulse length [s] | 0.0025...2 | |
| Temperature monitoring | | |
| Measuring range [°C] | -20...80 | |
| Resolution [°C] | 0.2 | |
| Set point, SP [°C] | -19.2...80.0 | |
| Reset point, rP [°C] | -19.6...79.6 | |
| Analog start point, ASP [°C] | -20.0...60.0 | |
| Analog end point, AEP [°C] | 0.0...80.0 | |
| in steps of [°C] | 0.2 | |

Accuracy / deviations

| | |
|-----------------|----------------------|
| Flow monitoring | |
| Accuracy | ± (2% MW + 0.5% MEW) |
| Repeatability | ± 0.2% MEW |

Pressure loss (dP) / flow rate (Q)



| | |
|------------------------|---------------------|
| Temperature monitoring | |
| Accuracy [K] | ± 2.5 (Q > 5 l/min) |

Reaction times

| | |
|-------------------------|------------------------|
| Power-on delay time [s] | 5 |
| Flow monitoring | |
| Start-up delay [s] | 0...50 |
| Response time [s] | < 0.150 (dAP = 0) |
| Damping, dAP [s] | 0.0...5.0 |
| Temperature monitoring | |
| Response time [s] | T09 = 20 (Q > 5 l/min) |

Software / programming



SM8000

SMR11GGXFRKG/US-100



Flow sensors

| | |
|---------------------|---|
| Programming options | hysteresis / window function; N.O. / N.C; output polarity; current / voltage / pulse output; start-up delay; display can be deactivated; display unit |
|---------------------|---|

Environment

| | | |
|---------------------|------|----------|
| Ambient temperature | [°C] | -10...60 |
| Storage temperature | [°C] | -25...80 |
| Protection | | IP 67 |

Tests / approvals

| | | |
|------------------------------|---|--------------------|
| Pressure equipment directive | article 3, section 3 - sound engineering practice | |
| EMC | EN 61000-4-2 ESD: | 4 kV CD / 8 kV AD |
| | EN 61000-4-3 HF radiated: | 10 V/m |
| | EN 61000-4-4 Burst: | 2 kV |
| | EN 61000-4-5 Surge: | 0.5 kV |
| | EN 61000-4-6 HF conducted: | 10 V |
| Shock resistance | DIN IEC 68-2-27: | 20 g (11 ms) |
| Vibration resistance | DIN IEC 68-2-6: | 5 g (10...2000 Hz) |
| MTTF | [Years] | 151 |

Mechanical data

| | |
|--------------------------|---|
| Process connection | G1 flat seal |
| Materials (wetted parts) | stainless steel 316L / 1.4404; PEEK (polyether ether ketone); FKM |
| Housing materials | stainless steel 316L / 1.4404; PBT-GF 20; PC; FKM; TPE |
| Weight | [kg] 0.631 |

Displays / operating elements

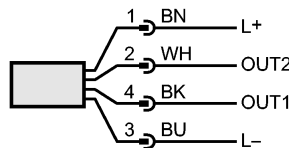
| | |
|---------|---|
| Display | Display unit 6 x LED green (l/min, m³/h, l, m³, 10³, °C) Switching status 2 x LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display |
|---------|---|

Electrical connection

| | |
|------------|-------------------------------------|
| Connection | M12 connector; gold-plated contacts |
|------------|-------------------------------------|

Wiring

Core colors
 BK black
 BN brown
 BU blue
 WH white



Colours to DIN EN 60947-5-2

 OUT1: 3 selection options
 switching output flow rate monitoring
 pulse output quantity meter
 signal output preset counter

OUT2: 5 selection options
 switching output flow rate monitoring
 switching output temperature monitoring
 analogue output flow rate
 analogue output temperature
 Input for counter reset

Remarks



SM8000

SMR11GGXFRKG/US-100



Flow sensors

Remarks

1) to EN50178, SELV, PELV
MW = measured value
MEW = final value of the measuring range

Pack quantity

[piece]

1