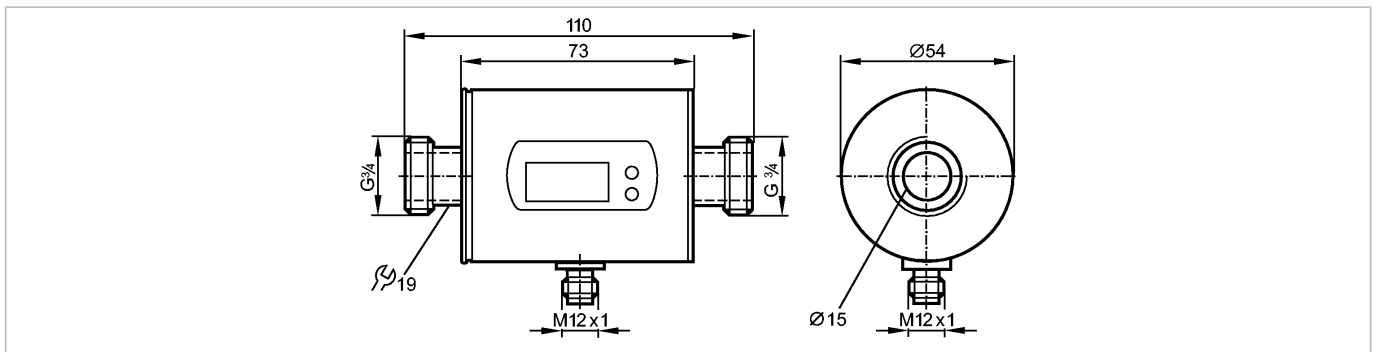


SM7000

SMR34GGXFRKG/US-100

Flow sensors



Made in Germany

Product characteristics

Magnetic-inductive flow meter
Connector
Process connection: G $\frac{3}{4}$ flat seal
connection to pipe by means of an adapter
Function programmable
Totaliser function
2 outputs
OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)
OUT2 = flow monitoring or temperature monitoring (analogue or binary)
Input for counter reset
Measuring range
0.2...50 l/min

Application

Application	Conductive liquids (conductivity: \geq 20 μ S/cm / viscosity: < 70 mm ² /s at 40 °C)
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 [M Ω]	> 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 analogue (4...20 mA / 0...10 V, scaleable)
Current rating [mA]	2 x 200
Voltage drop [V]	< 2
Short-circuit protection	pulsed
Overload protection	yes
Analogue output	4...20 mA; 0...10 V
Max. load [Ω]	500
Min. load [Ω]	2000
Pulse output	flow rate meter

Measuring / setting range

SM7000

SMR34GGXFRKG/US-100

Flow sensors

Flow monitoring

Measuring range	0.2...50.0 l/min	0.01...3.00 m³/h
Display range	-60...60 l/min	-3.6...3.6 m³/h
Resolution	0.1 l/min	0.001 m³/h
Set point, SP	0.5...50.0 l/min	0.027...3.000 m³/h
Reset point, rP	0.2...49.8 l/min	0.012...2.985 m³/h
Analogue start point, ASP	0.0...40.0 l/min	0.000...2.400 m³/h
Analogue end point, AEP	10.0...50.0 l/min	0.600...3.000 m³/h
in steps of	0.1 l/min	0.001 m³/h

Volumetric flow quantity monitoring

Pulse value	0.01 l...50 000 m³
Pulse length [s]	0.005...2

Temperature monitoring

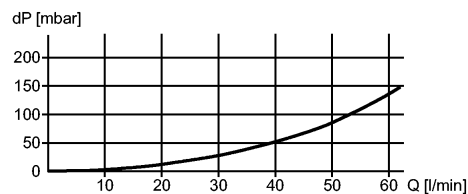
Measuring range [°C]	-20...80
Resolution [°C]	0.2
Set point, SP [°C]	-19.2...80.0
Reset point, rP [°C]	-19.6...79.6
Analogue start point, ASP [°C]	-20.0...60.0
Analogue end point, AEP [°C]	0.0...80.0
in steps of [°C]	0.2

Accuracy / deviations

Flow monitoring

Accuracy	$\pm (2\% \text{ MW} + 0.5\% \text{ MEW})$
Repeatability	$\pm 0.2\% \text{ MEW}$

Pressure loss (dP) / flow rate (Q)



Temperature monitoring

Accuracy [K]	$\pm 2.5 (Q > 5 \text{ l/min})$
--------------	---------------------------------

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 = 30 (Q > 5 l/min)

Software / programming

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

Pressure rating [bar]	16
-----------------------	----

SM7000

SMR34GGXFRKG/US-100

Flow sensors

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

Tests / approvals

EC pressure equipment directive 97/23/EC	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	G¾ flat seal	
Materials (wetted parts)	stainless steel 316L / 1.4404; Hastelloy; PEEK (polyether ether ketone); FKM	
Housing materials	stainless steel 316L / 1.4404; PBT-GF 20; PC; EPDM/X	
Weight	[kg]	0.576

Displays / operating elements

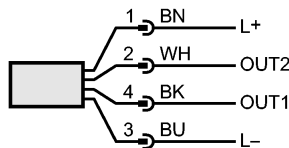
Display	Display unit 6 x LED green (l/min, m³/h, l, m³, 10³, °C) Switching status 2 x LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display
---------	---

Electrical connection

Connection	M12 connector; Gold-plated contacts
------------	-------------------------------------

Wiring

Core colours
 BK black
 BN brown
 BU blue
 WH white



Colours to DIN EN 60947-5-6

 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

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



SM7000

SMR34GGXFRKG/US-100

Flow sensors

Pack quantity [piece] 1