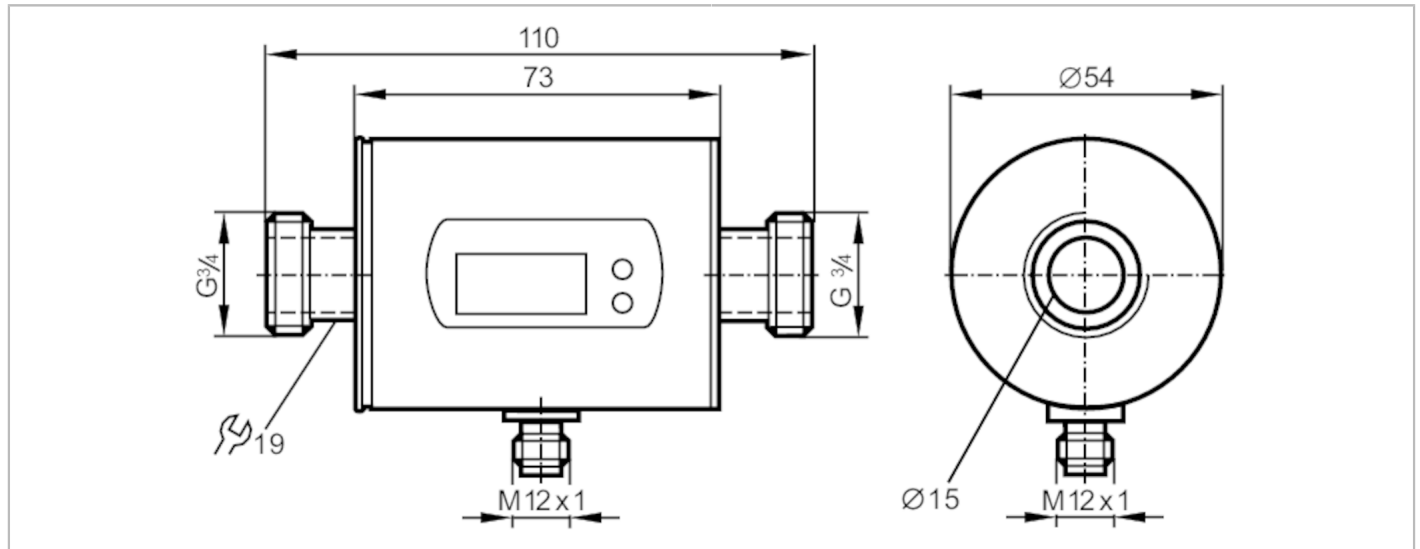


SM7100



Magnetic-inductive flow meter

SMR34GGXFRKG/US-100



ACS CE PA CRN cUL^{US} LISTED DNV DNV.COM/AF ENEC IO-Link KTW/W270 Reg31 UK CA

Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	0.2...50 l/min	0.01...3 m ³ /h
Process connection	threaded connection G 3/4 DN20 flat seal	

Application

Special feature	Gold-plated contacts	
Application	totaliser function; for industrial applications	
Installation	connection to pipe by means of an adapter	
Media	conductive liquids; water; hydrous media	
Note on media	conductivity: $\geq 20 \mu\text{S}/\text{cm}$ viscosity: $< 70 \text{ mm}^2/\text{s}$ (40 °C)	
Medium temperature [°C]	-10...70	
Pressure rating [bar]	16	
Pressure rating [Mpa]	1.6	
MAWP (for applications according to CRN) [bar]	11.2	

Electrical data

Operating voltage [V]	18...30 DC; (to SELV/PELV)	
Current consumption [mA]	95; (24 V)	
Protection class	III	
Reverse polarity protection	yes	
Power-on delay time [s]	5	

Inputs / outputs

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

Inputs

Inputs	counter reset	
--------	---------------	--

SM7100



Magnetic-inductive flow meter

SMR34GGXFRKG/US-100

Outputs		
Total number of outputs		2
Output signal		switching signal; analogue signal; pulse 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
Permanent current rating of switching output DC	[mA]	200
Number of analogue outputs		1
Analogue current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Analogue voltage output	[V]	0...10; (scalable)
Min. load resistance	[Ω]	2000
Pulse output		flow rate meter
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes
Measuring/setting range		
Measuring range	0.2...50 l/min	0.01...3 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 l/min	0.027...3 m³/h
Reset point rP	0.2...49.8 l/min	0.012...2.985 m³/h
Analogue start point ASP	0...40 l/min	0...2.4 m³/h
Analogue end point AEP	10...50 l/min	0.6...3 m³/h
In steps of	0.1 l/min	0.001 m³/h
Volumetric flow quantity monitoring		
Pulse value		0.00001...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
Reset point rP	[°C]	-19.6...79.6
Analogue start point	[°C]	-20...60
Analogue end point	[°C]	0...80
In steps of	[°C]	0.2
Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)		± (0,8 % MW + 0,5 % MEW)
Repeatability		± 0,2% MEW

SM7100



Magnetic-inductive flow meter

SMR34GGXFRKG/US-100

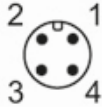
Temperature monitoring		
Accuracy	[K]	± 2,5 (Q > 5 l/min)
Response times		
Flow monitoring		
Response time	[s]	0.15; (dAP = 0, T19)
Delay time programmable dS, dr	[s]	0...50
Damping process value dAP	[s]	0...5
Temperature monitoring		
Dynamic response T05 / T09	[s]	T09 = 20 (Q > 5 l/min)
Software / programming		
Parameter setting options	Flow monitoring; quantity meter; Preset counter; Temperature monitoring; hysteresis / window; normally open / normally closed; switching logic; current/ voltage/pulse output; start-up delay; display can be deactivated; Display unit	
Interfaces		
Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode	yes	
Required master port type	A	
Process data analogue	3	
Process data binary	2	
Min. process cycle time	[ms]	5
Supported DeviceIDs	Type of operation	DeviceID
	Default	572
Operating conditions		
Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
Protection		IP 67
Tests / approvals		
EMC	DIN EN 60947-5-9	
	model number	001MI
CPA approval	accuracy class	-
	maximum allowable error	± 1,5 % FS
	Q (min)	0,01 m³/h
	Q (t)	-
	Q (max)	3 m³/h
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]	145
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

SM7100



Magnetic-inductive flow meter

SMR34GGXFRKG/US-100

Mechanical data		
Weight [g]	586.5	
Materials	stainless steel (1.4404 / 316L); PBT-GF20; PC; FKM; TPE	
Materials (wetted parts)	stainless steel (1.4404 / 316L); PEEK; EPDM	
Process connection	threaded connection G 3/4 DN20 flat seal	
Displays / operating elements		
Display	Display unit	6 x LED, green (l/min, m ³ /h, l, m ³ , 10 ³ , °C)
	switching status	2 x LED, yellow
	measured values	alphanumeric display, 4-digit
	programming	alphanumeric display, 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		
		

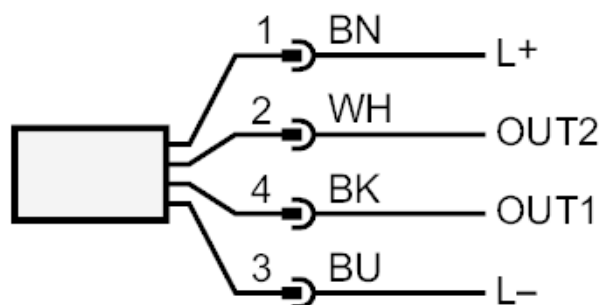
SM7100



Magnetic-inductive flow meter

SMR34GGXFRKG/US-100

Connection



colours to DIN EN 60947-5-2

OUT1: switching output volumetric flow quantity monitoring
Pulse output quantity meter
signal output Preset counter
IO-Link

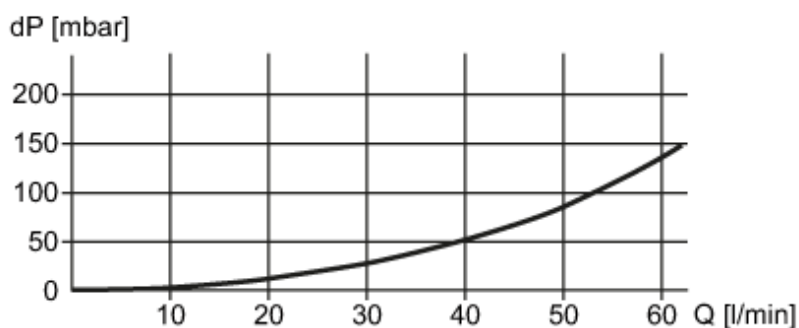
OUT2: switching output volumetric flow quantity monitoring
switching output Temperature monitoring
analogue output volumetric flow quantity monitoring
analogue output Temperature monitoring
input counter reset

Core colours :

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

Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity