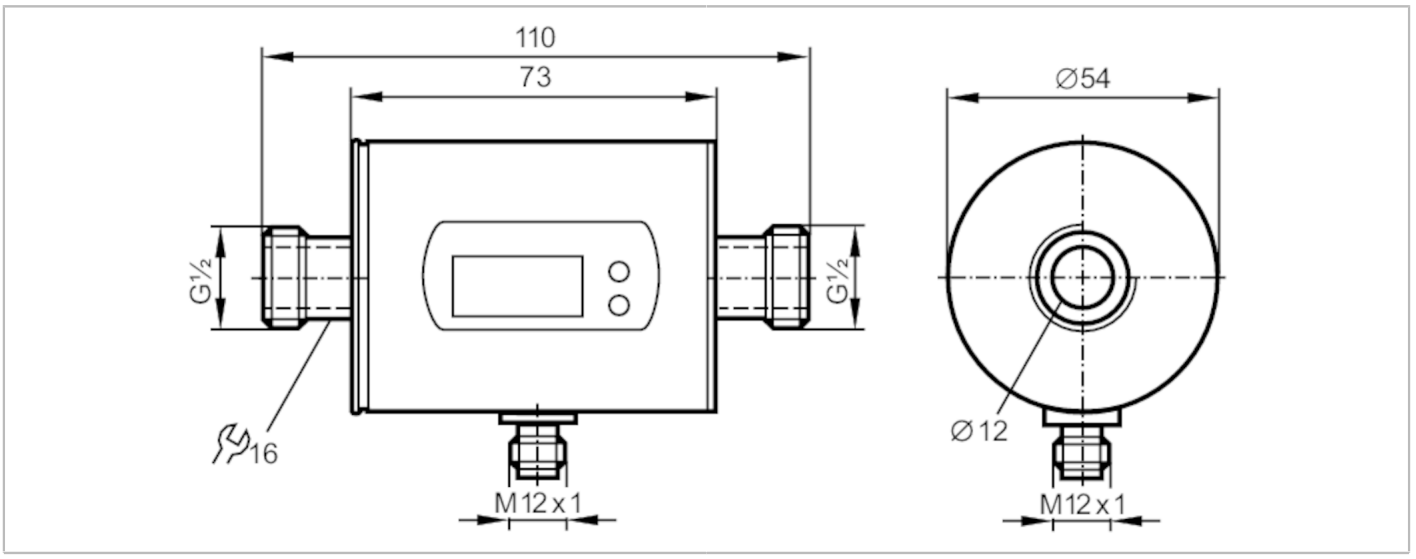
SM6001

Magnetic-inductive flow meter

SMR12GGXFRKG/US-100



Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range		1.5...396 gph	0.03...6.6 gpm
Process connection		threaded connection G 1/2 DN15 flat seal	
Application			
System		gold-plated contacts	
Application		Totalizer function; for industrial applications	
Installation		connection to pipe by means of an adapter	
Media		Conductive liquids; water; water-based media	
Note on media		conductivity: ≥ 20 µS/cm	
		viscosity: < 70 mm²/s (40 °C)	
Medium temperature	[°F]	14...158	
Pressure rating	[bar]	16	
Pressure rating	[psi]	232	
MAWP (for applications according to CRN)	[bar]	17.7	
Electrical data			
Operating voltage	[V]	18...30 DC; (to SELV/PELV)	
Current consumption	[mA]	95; (24 V)	
Min. insulation resistance	[MΩ]	100; (500 V DC)	
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 analog outputs: 1	
Inputs			
Inputs		counter reset	

SM6001

Magnetic-inductive flow meter

SMR12GGXFRKG/US-100

Outputs			
Total number of outputs		2	
Output signal		switching signal; analog signal; pulse signal; IO-Link; (configurable)	
Electrical design		PNP/NPN	
Number of digital outputs		2	
Output function		normally open / closed; (configurable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	200	
Number of analog outputs		1	
Analog current output	[mA]	4...20; (scalable)	
Max. load	[Ω]	500	
Analog 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		yes (non-latching)	
Overload protection		yes	
Measuring/setting range			
Measuring range		1.5...396 gph	0.03...6.6 gpm
Display range		-475.5...475.5 gph	-7.925...7.925 gpm
Resolution		0.5 gph	0.01 gpm
Set point SP		3.5...396.5 gph	0.06...6.6 gpm
Reset point rP		1.5...394 gph	0.03...6.57 gpm
Analog start point ASP		0...318 gph	0...5.3 gpm
Analog end point AEP		78...396 gph	1.3...6.6 gpm
In steps of		0.5 gph	0.01 gpm
Volumetric flow quantity monitoring			
Pulse value		0.01...30 000 000 gal	
Pulse length	[s]	0,01...2	
Temperature monitoring			
Measuring range	[°F]	-4...176	
Resolution	[°F]	0.1	
Set point SP	[°F]	-2.5...176	
Reset point rP	[°F]	-3.5...175	
Analog start point	[°F]	-4...140.5	
Analog end point	[°F]	31.5...176	
In steps of	[°F]	0.5	
Accuracy / deviations			
Flow monitoring			
Accuracy (in the measuring range)		± (0,8 % MW + 0,5 % MEW)	
Repeatability		± 0,2% MEW	

SM6001

Magnetic-inductive flow meter

SMR12GGXFRKG/US-100

Temperature monitoring		
Accuracy	[K]	± 2,5 (Q > 0,26 gpm)
Reaction 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 > 0,26 gpm)
Software / programming		
Parameter setting options		Flow monitoring; quantity meter; Preset counter; Temperature monitoring; hysteresis / window; normally open / 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 class		A
Process data analog		3
Process data binary		2
Min. process cycle time	[ms]	5
Supported DeviceIDs		**Type of operation** / **DeviceID**: default / 570
Operating conditions		
Ambient temperature	[°F]	14...140
Storage temperature	[°F]	-13...176
Protection		IP 67
Tests / approvals		
EMC		DIN EN 60947-5-9
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]	160
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request
Mechanical data		
Weight	[g]	546
Material		stainless steel (1.4404 / 316L); PBT-GF20; PC; FKM; TPE
Materials (wetted parts)		stainless steel (1.4404 / 316L); PEEK; FKM
Process connection		threaded connection G 1/2 DN15 flat seal

SM6001

Magnetic-inductive flow meter

SMR12GGXFRKG/US-100

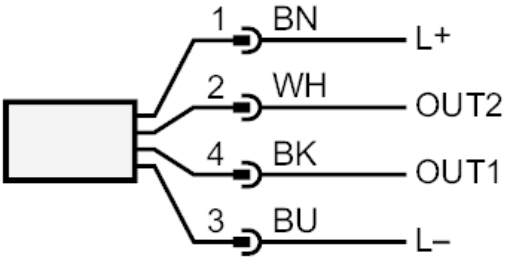
Displays / operating elements		
Display	Display unit	6 x LED, green (gpm, gph, gal, °F, 10^3, 1000 x 10^3)
	Switching status	2 x LED, yellow
	Measured values	alphanumeric display, 4-digit
	Programming	alphanumeric display, 4-digit

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

Connection



	Colors 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
	analog output Volumetric flow quantity monitoring
	analog output Temperature monitoring
	Input counter reset
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

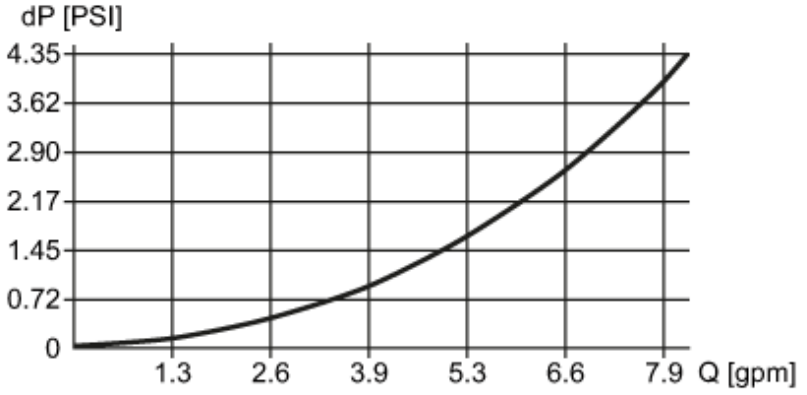
SM6001

Magnetic-inductive flow meter

SMR12GGXFRKG/US-100

Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity