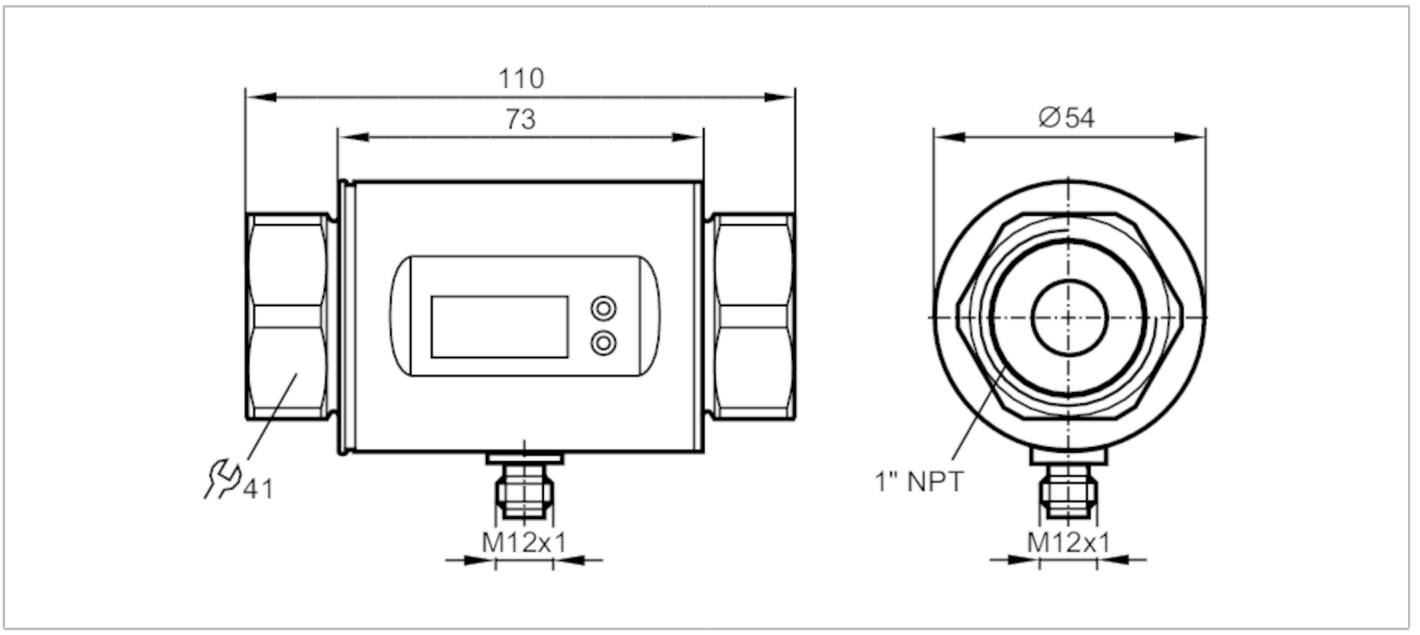
SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/US-100



Product characteristics		
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1
Process connection		threaded connection 1" NPT DN25
Temperature monitoring		
Measuring range	[°F]	-4...176
Application		
System		gold-plated contacts
Application		Totalizer function; for industrial applications
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]	11.2
Electrical data		
Operating voltage	[V]	18...30 DC; (according to EN 50178 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 analog outputs: 1
Inputs		
Inputs		counter reset

SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/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		6...1584 gph	0.1...26.4 gpm
Display range		-1902...1902 gph	-31.7...31.7 gpm
Resolution		2 gph	0.05 gpm
Set point SP		14...1586 gph	0.25...26.4 gpm
Reset point rP		6...1578 gph	0.1...26.25 gpm
Analog start point ASP		0...1272 gph	0...21.2 gpm
Analog end point AEP		312...1586 gph	5.2...26.4 gpm
In steps of		2 gph	0.05 gpm
Volumetric flow quantity monitoring			
Pulse value		0.01...100 000 000 gal	
Pulse length	[s]	0,0025...2	
Temperature monitoring			
Measuring range	[°F]	-4...176	
Resolution	[°F]	0.5	
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	

SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/US-100

Temperature monitoring			
Accuracy	[K]	± 4,5 (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 for the switching output 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	
IO-Link device ID		576 / 00 02 40	
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode		yes	
Required master port class		A	
Process data analogue		3	
Process data binary		2	
Min. process cycle time	[ms]	5	
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 EN 60068-2-27	20 g (11 ms)
Vibration resistance		DIN EN 60068-2-6	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	
Mechanical data			
Weight	[g]	698.5	
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 1" NPT DN25	

SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/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

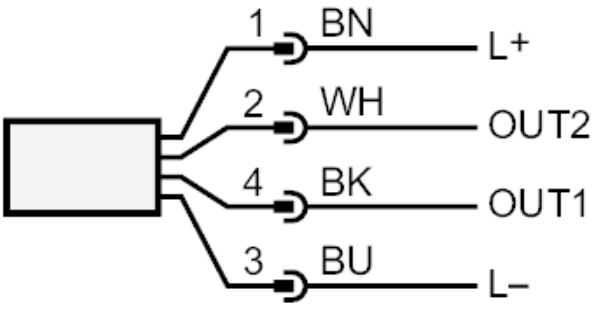
Connector: 1 x M12; Contacts: gold-plated

SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/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
	analog output Volumetric flow quantity monitoring
	analog output Temperature monitoring
	Input counter reset
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white

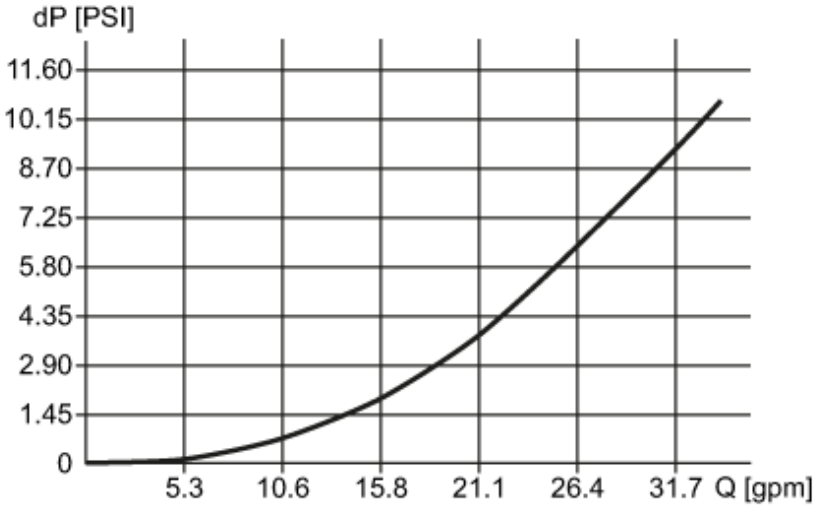
SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/US-100

Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity