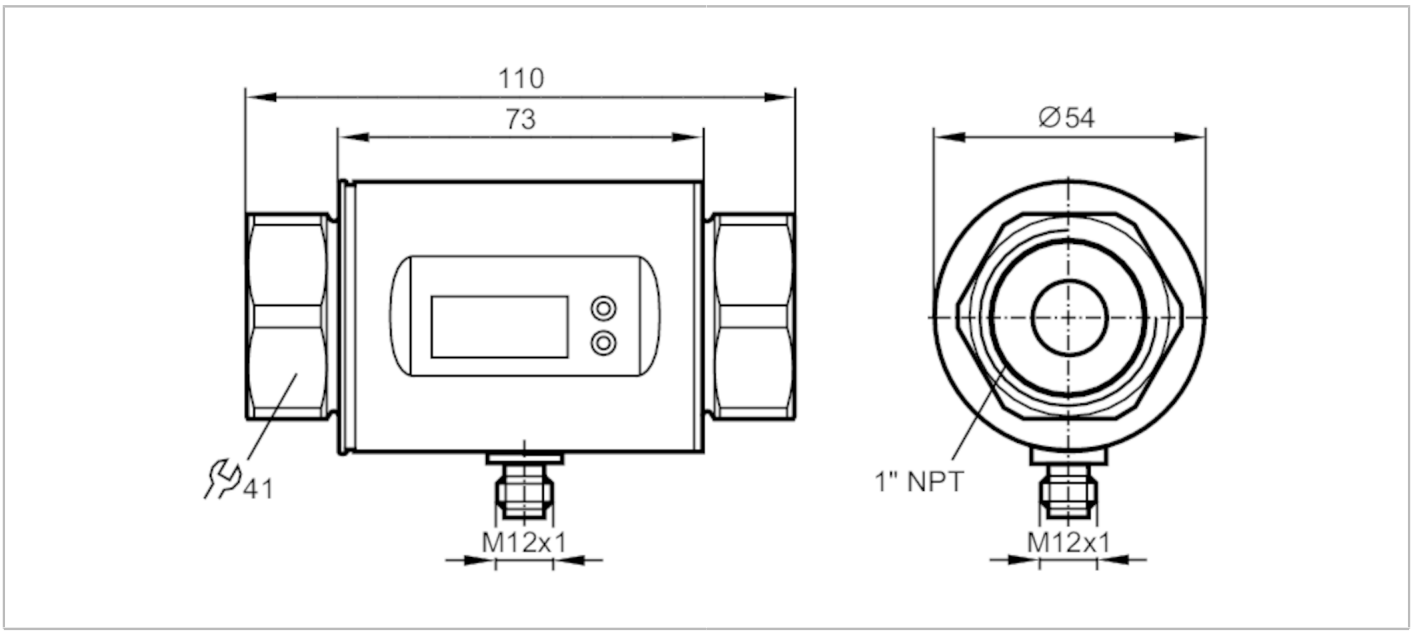
SM8601

Magnetic-inductive flow meter

SMN11GGXFRKG/US-100



Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range		6...1584 gph	0.1...26.4 gpm
Process connection		threaded connection 1 NPT DN25	
Application			
Special feature		Gold-plated contacts	
Application		totaliser function; for industrial applications	
Media		conductive liquids; water; hydrous 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 analogue outputs: 1	
Inputs			
Inputs		counter reset	

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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		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
Analogue start point ASP		0...1272 gph	0...21.2 gpm
Analogue 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	
Analogue start point	[°F]	-4...140.5	
Analogue 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	

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Temperature monitoring		
Accuracy	[K]	± 4,5 (Q > 0,26 gpm)
Response 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 / 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
IO-Link device ID		576 / 00 02 40
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
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
Materials		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

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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

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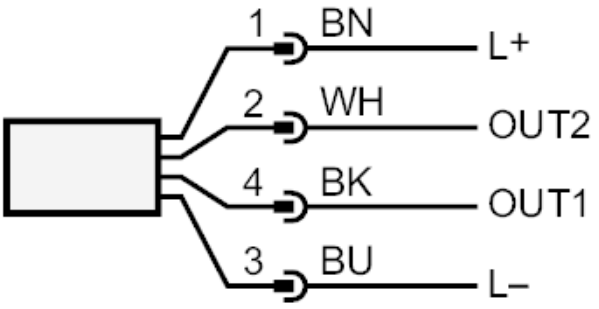
Connection



	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

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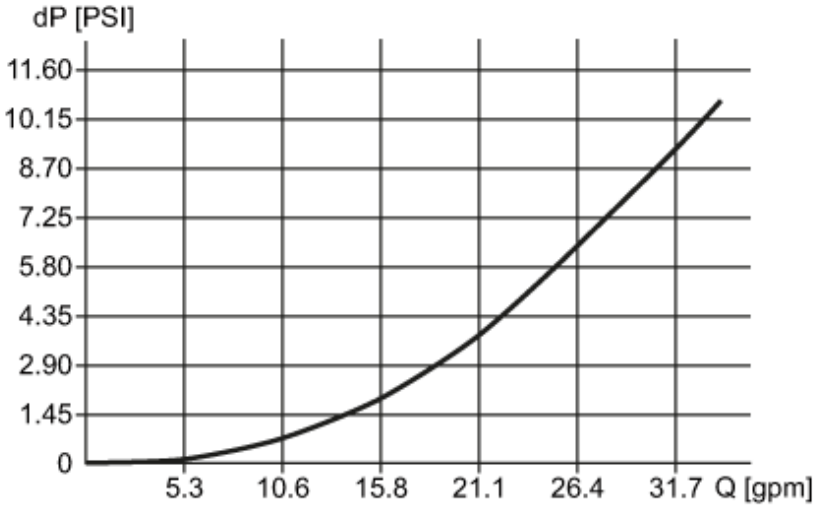
Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity