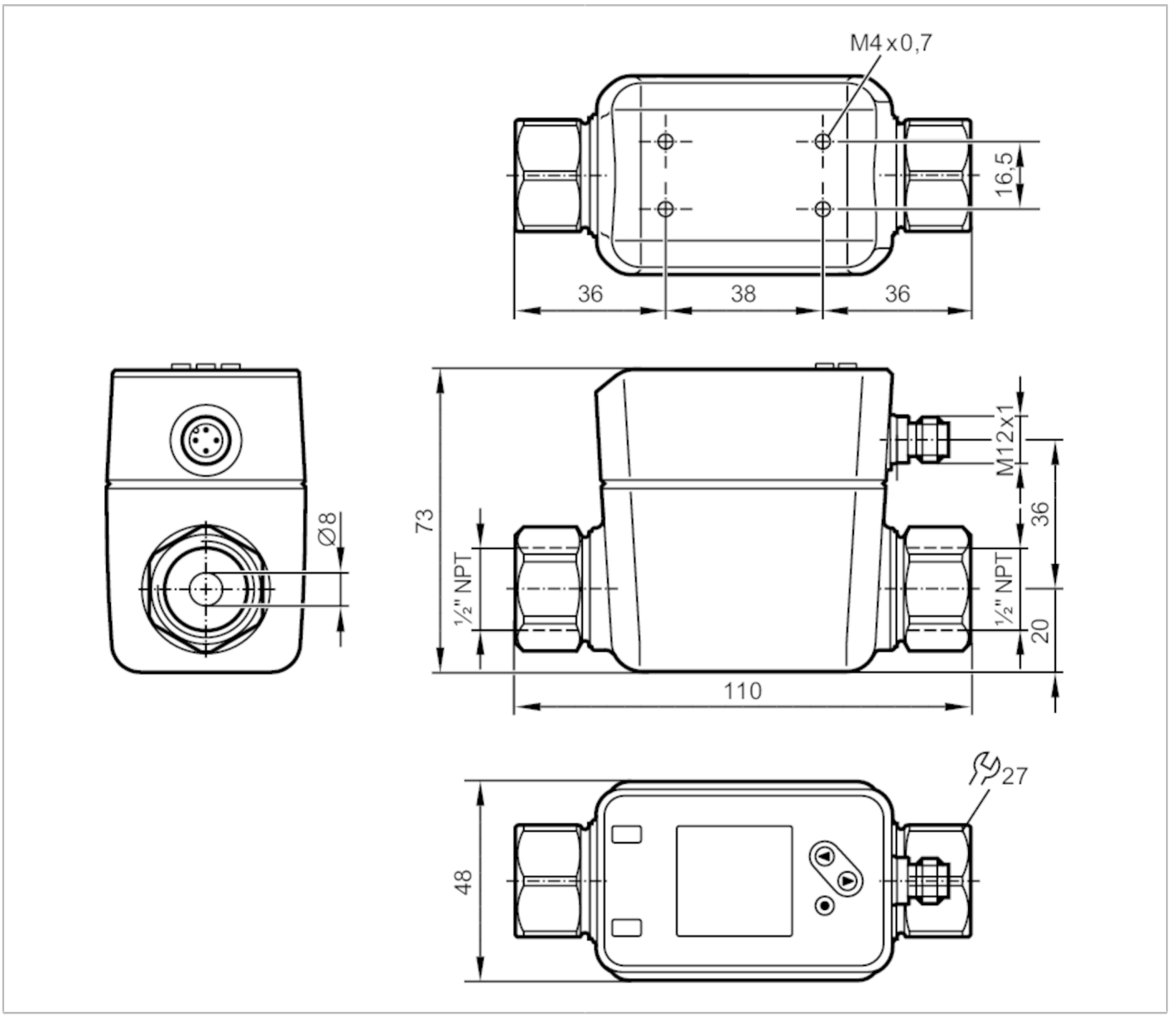
SM6621

Magnetic-inductive flow meter

SMN12XGXFRKG/US-100



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	0.05...35 l/min	0.003...2.1 m³/h	0.6...555 gph	0.01...9.25 gpm
Process connection	1/2" NPT DN15			
Application				
Special feature	Gold-plated contacts			
Media	conductive liquids; water; hydrous media			
Note on media	conductivity: ≥ 20 µS/cm			
	viscosity: < 70 mm²/s (40 °C)			
Medium temperature [°F]	-4...194			
Pressure rating [bar]	16			
Pressure rating [MPa]	1.6			

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Electrical data					
Operating voltage	[V]	18...30 DC; (to SELV/PELV)			
Current consumption	[mA]	< 80			
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			
Outputs					
Total number of outputs		2			
Output signal		switching signal; analogue signal; pulse signal; IO-Link; frequency signal; (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]	100			
Number of analogue outputs		1			
Analogue current output	[mA]	4...20; (scalable)			
Max. load	[Ω]	500			
Pulse output		flow rate meter			
Short-circuit protection		yes			
Type of short-circuit protection		pulsed			
Overload protection		yes			
Measuring/setting range					
Measuring range		0.05...35 l/min	0.003...2.1 m³/h	0.6...555 gph	0.01...9.25 gpm
Display range		-42...42 l/min	-2.5...2.5 m³/h	-666...666 gph	-11.1...11.1 gpm
Resolution		0.02 l/min	0.002 m³/h	0.6 gph	0.01 gpm
Set point SP		0.25...35 l/min	0.015...2.1 m³/h	4.2...555 gph	0.07...9.25 gpm
Reset point rP		0...34.8 l/min	0...2.08 m³/h	1.2...552 gph	0.02...9.2 gpm
Analogue start point ASP		0...28 l/min	0...1.7 m³/h	0...666 gph	0...7.4 gpm
Analogue end point AEP		7...35 l/min	0.42...2.1 m³/h	111...555 gph	1.85...9.25 gpm
Low flow cut-off LFC		0.05...1.75 l/min	0.003...0.1 m³/h	0.6...27.6 gph	0.01...0.46 gpm
Frequency end point, FEP		7...35 l/min	0.42...2.1 m³/h	111.6...555 gph	1.86...9.25 gpm
Frequency at the end point FRP	[Hz]	1...10000			
Volumetric flow quantity monitoring					
Pulse length	[s]	0.001...2			
Pulse value		0.001...99990000 l			
Temperature monitoring					
Measuring range	[°F]	-4...194			

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Display range	[°F]	-43.6...233.6
Resolution	[°F]	0.1
Set point SP	[°F]	-3.3...194
Reset point rP	[°F]	-4...193.3
Analogue start point	[°F]	-4...154.4
Analogue end point	[°F]	35.6...194
In steps of	[°F]	0.1

Accuracy / deviations

Flow monitoring		
Accuracy (in the measuring range)		± (0,8 % MW + 0,2 % MEW)
Repeatability		± 0,2 % MEW
Temperature monitoring		
Accuracy	[K]	± 2,5 (Q > 5 % MEW)

Response times

Flow monitoring		
Start-up delay	[s]	0...50
Response time	[s]	< 0.25; (dAP = 0, T09)
Damping process value dAP	[s]	0...5
Temperature monitoring		
Response time	[s]	15; (Q > 10 % MEW, T09)

Software / programming

Parameter setting options	hysteresis / window; normally open / normally closed; switching logic; frequency output; current/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]	6	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	952

Operating conditions

Ambient temperature	[°F]	-4...140
Storage temperature	[°F]	-13...176
Protection		IP 65; IP 67

Tests / approvals

EMC	DIN EN 60947-5-9	
Shock resistance	DIN IEC 68-2-27	20 g (11 ms)

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Vibration resistance		DIN IEC 68-2-6:	5 g (10...2000 Hz)
MTTF	[years]	114	
UL approval		UL Approval no.	I014
		File number UL	E174189
Pressure Equipment Directive		Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data

Weight	[g]	743	
Materials		stainless steel (316/1.4408); stainless steel (316L/1.4404); PC; PBT+PC-GF30	
Materials (wetted parts)		stainless steel (316L/1.4404); PEEK; carbon fibre PEEK; FKM	
Process connection		1/2" NPT DN15	

Displays / operating elements

Display			colour display 1,44", 128 x 128 pixels
			2 x LED, yellow

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

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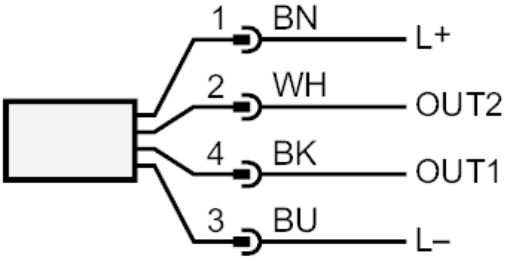
Connection



	colours to DIN EN 60947-5-2
OUT1:	switching output volumetric flow quantity monitoring
	switching output Temperature monitoring
	Pulse output quantity meter
	frequency output volumetric flow monitoring
	frequency output Temperature monitoring
	signal output Preset counter
	IO-Link
OUT2:	switching output volumetric flow quantity monitoring
	switching output Temperature monitoring
	analogue output flow
	analogue output temperature
	input counter reset
	Core colours :
BK =	black
BN =	brown
BU =	blue
WH =	white

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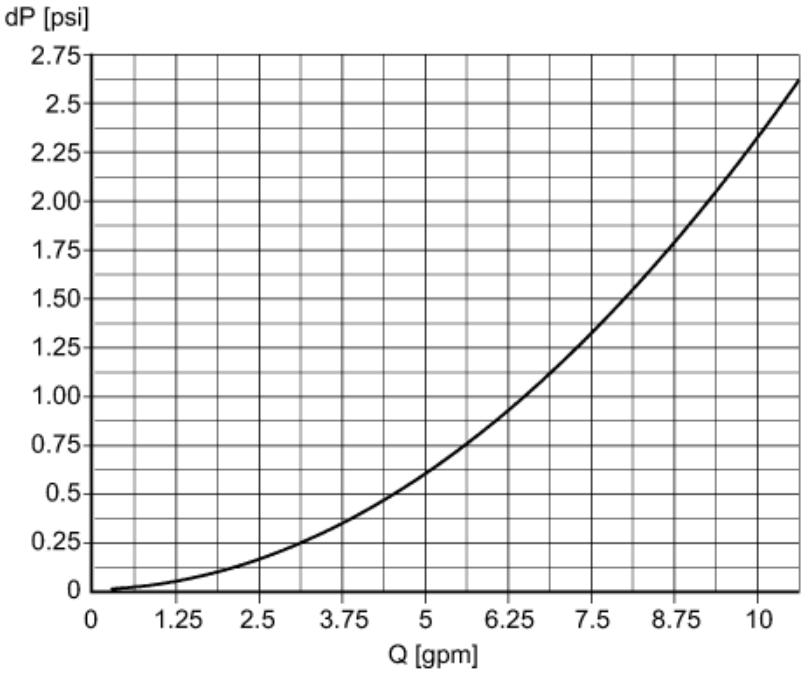
Diagrams and graphs



Pressure loss / volumetric flow quantity