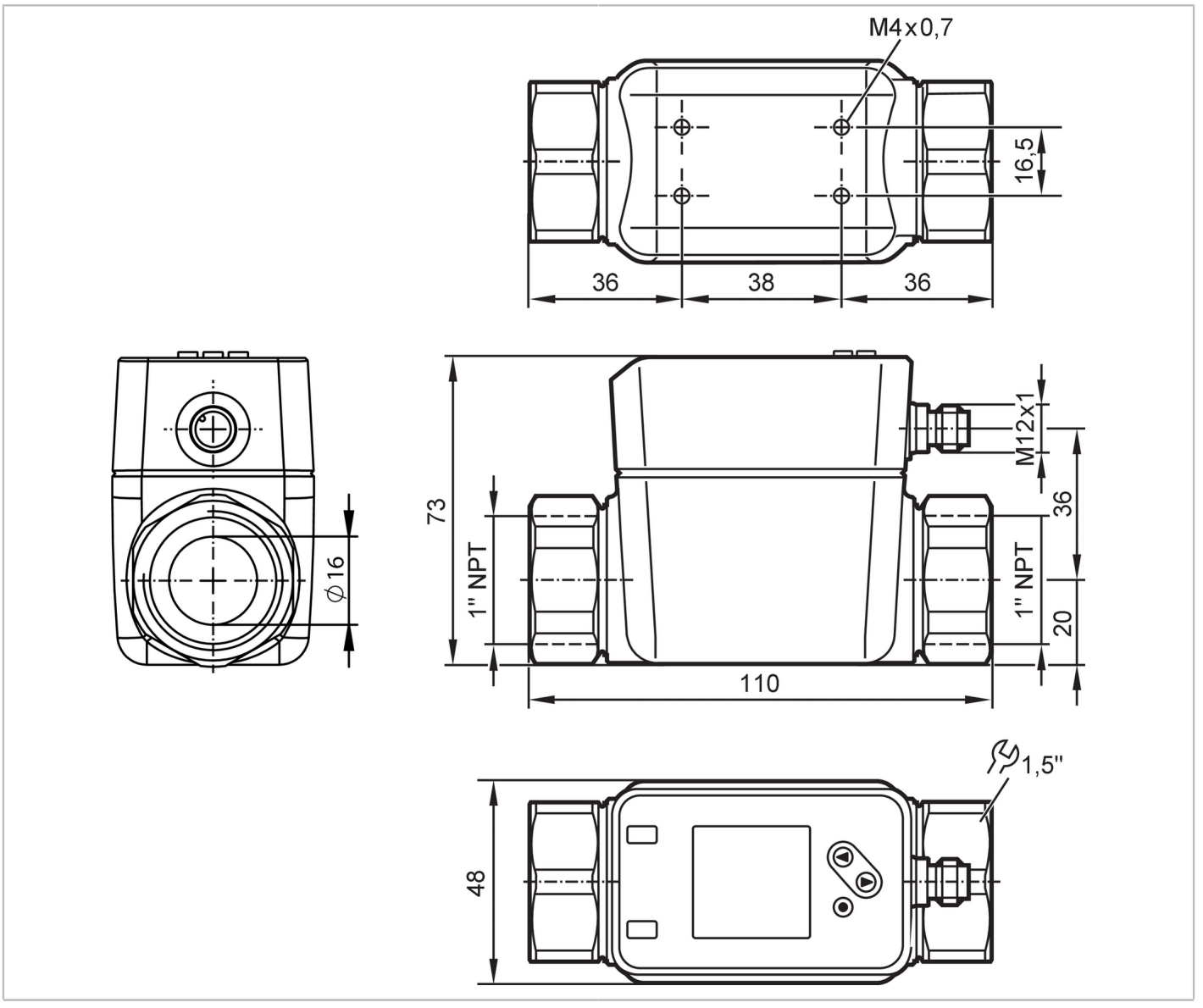
SM8621

Magnetic-inductive flow meter

SMN11XGXFRKG/US-100



Product characteristics				
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1			
Measuring range	0.2...150 l/min	0.012...9 m³/h	3.6...2376 gph	0.06...39.6 gpm
Process connection	threaded connection 1" NPT internal thread DN25			
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	16 bar	1.6 MPa		
Electrical data				
Operating voltage [V]	18...30 DC; (to SELV/PELV)			

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Current consumption	[mA]	< 80
Protection class		III
Reverse polarity protection		yes
Power-on delay time	[s]	5
Measuring principle		magnetic-inductive
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		0.2...150 l/min	0.012...9 m³/h	3.6...2376 gph	0.06...39.6 gpm
Display range		-180...180 l/min	-10.8...10.8 m³/h	-2853.6...2853.6 gph	-47.56...47.56 gpm
Resolution		0.1 l/min	0.006 m³/h	0.6 gph	0.01 gpm
Set point SP		1...150 l/min	0.06...9 m³/h	16.2...2376 gph	0.27...39.6 gpm
Reset point rP		0.2...149.2 l/min	0.012...8.95 m³/h	3.6...1903 gph	0.06...39.42 gpm
Analogue start point ASP		0...120 l/min	0...7.2 m³/h	0...1903 gph	0...31.71 gpm
Analogue end point AEP		30...150 l/min	1.8...9 m³/h	475...2376 gph	7.92...39.6 gpm
Low flow cut-off LFC		0.2...7.5 l/min	0.012...0.45 m³/h	3...118.4 gph	0.05...1.98 gpm
Frequency end point, FEP		30.2...150 l/min	1.8...9 m³/h	480...2376 gph	8...39.6 gpm
Frequency at the end point FRP	[Hz]	1...10000			
Volumetric flow quantity monitoring					
Pulse length	[s]	0.002...2			
Pulse value		0.01...99990000 l			
Temperature monitoring					
Measuring range	[°F]	-4...194			
Display range	[°F]	-43.6...233.6			
Resolution	[°F]	0.1			

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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; current/pulse output; start-up delay; display can be deactivated; Display unit; frequency output	
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
Profiles		Common - I&D	Identification and Diagnosis
		Function	Measurement data, standard resolution
SIO mode		yes	
Required master port type		A	
Process data analogue		3	
Process data binary		2	
Min. process cycle time	[ms]	8	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	964
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)
Vibration resistance		DIN IEC 68-2-6:	5 g (10...2000 Hz)

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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]	777	
Housing		rectangular	
Dimensions	[mm]	110 x 48 x 73	
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		threaded connection 1" NPT internal thread DN25	

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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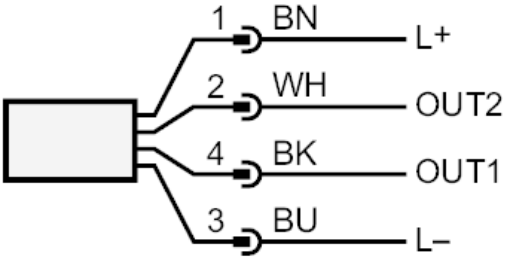
Connection



	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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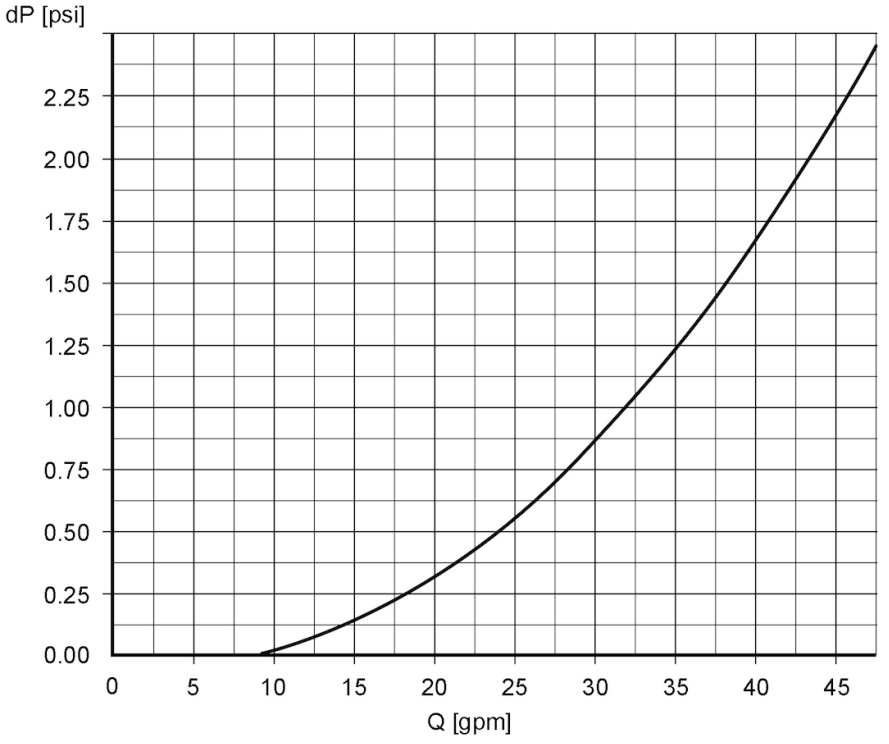
Diagrams and graphs



Pressure loss / volumetric flow quantity