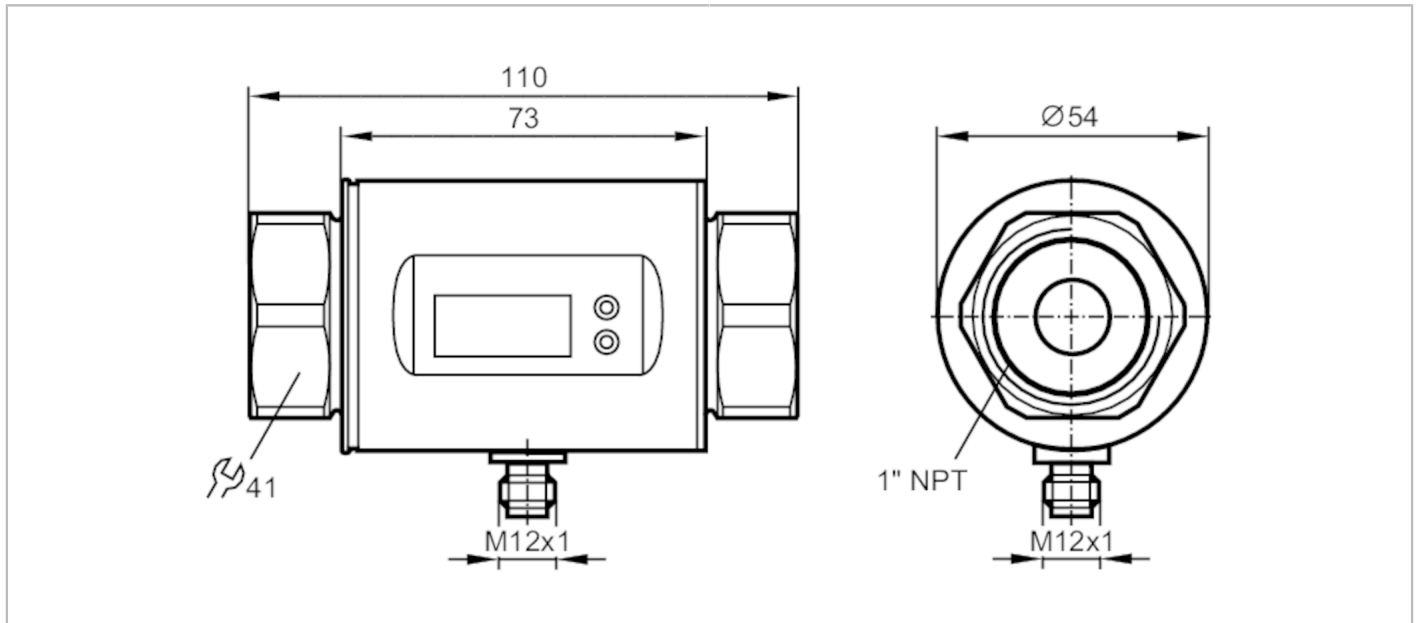


# SM8601



## Magnetic-inductive flow meter

SMN11GGXFRKG/US-100



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	6...1584 gph	0.1...26.4 gpm
Process connection	threaded connection 1" NPT DN25	

### Application

System	gold-plated contacts	
Application	Totalizer function; for industrial applications	
Media	Conductive liquids; water; water-based media	
Note on media	conductivity: $\geq 20 \mu\text{S/cm}$ viscosity: $< 70 \text{ mm}^2/\text{s}$ (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; (to 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	
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### Inputs

Inputs	counter reset	
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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	

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## Magnetic-inductive flow meter

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Temperature monitoring		
Accuracy	[K]	± 2,5 (Q > 0,26 gpm)
<b>Reaction times</b>		
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)
<b>Software / programming</b>		
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	
<b>Interfaces</b>		
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	<b>Type of operation</b>	<b>DeviceID</b>
	default	576
<b>Operating conditions</b>		
Ambient temperature	[°F]	14...140
Storage temperature	[°F]	-13...176
Protection	IP 67	
<b>Tests / approvals</b>		
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	
<b>Mechanical data</b>		
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	

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

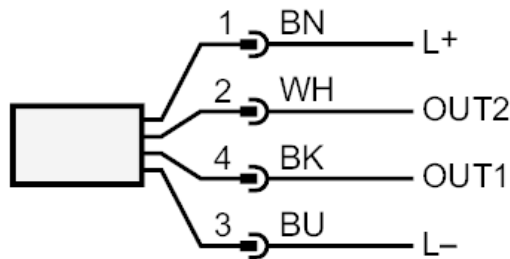
Remarks	
Remarks	MW = Measured value MEW = Final value of the measuring range
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



- OUT1: Colors to DIN EN 60947-5-2  
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

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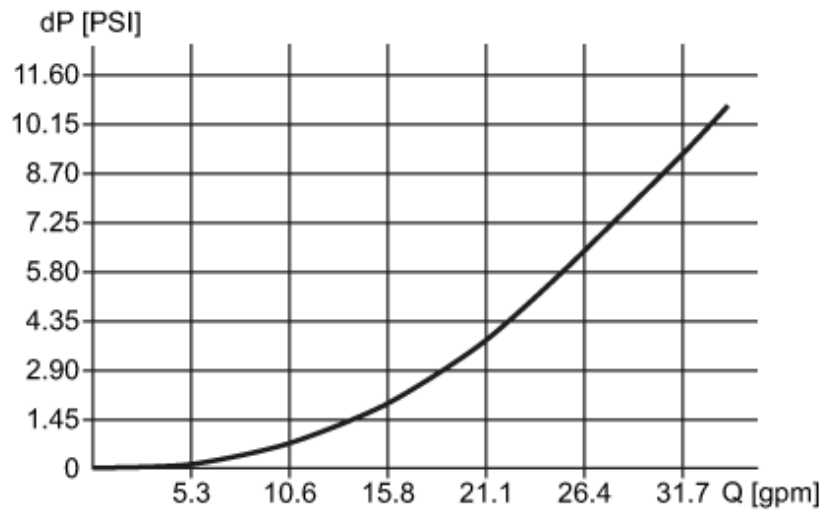


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### Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity