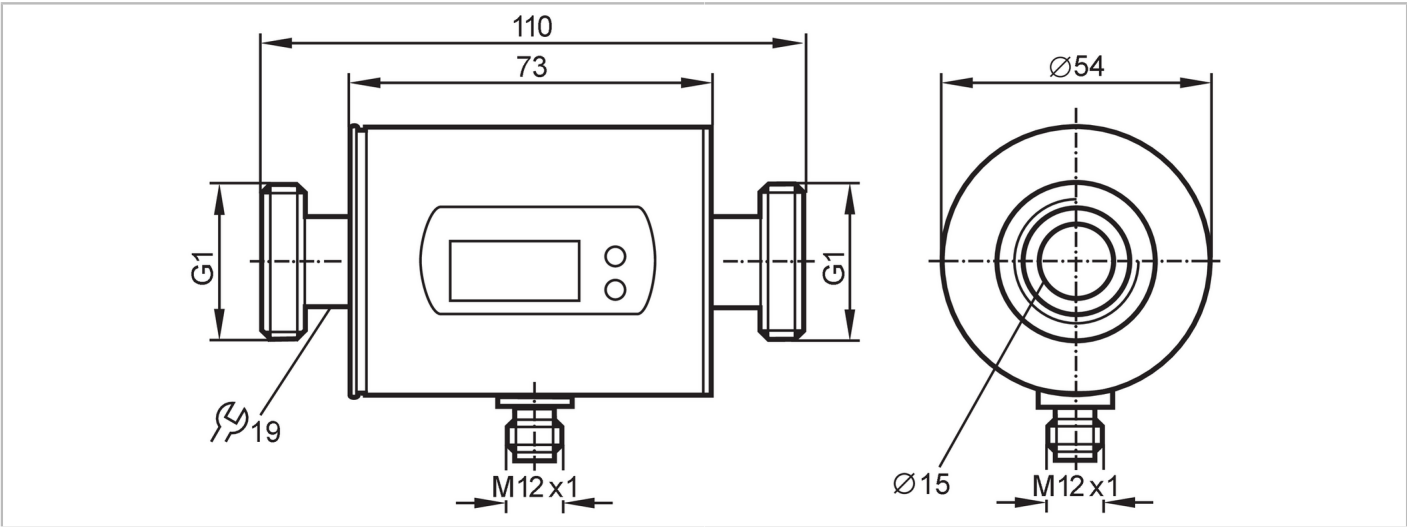


SM8001



Magnetic-inductive flow meter

SMR11GGXFRKG/US-100



CRN



DNV
DNV.COM/AF

EC 1935/2004

FCM



UK
CA

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 G 1 external thread DN25 flat seal	

Application

Special feature	gold-plated contacts		
Application	Totalizer function; for industrial applications		
Installation	connection to pipe by means of an adapter		
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	16 bar	232 psi	1.6 MPa
MAWP (for applications according to CRN)	10.4 bar		1.04 MPa

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		
Measuring principle	magnetic-inductive		

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)

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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
Temperature monitoring		
Accuracy	[K]	± 2,5 (Q > 0,26 gpm)



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Reaction times		
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)
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	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Device identification
	Function	Process data variable
	Function	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	Type of operation	DeviceID
	default	576
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 IEC 68-2-27	20 g (11 ms)
Vibration resistance	DIN IEC 68-2-6	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]	26
Housing	tubular	
Inlet pipe length	3 x DN	
Outlet pipe length	1 x DN	
Dimensions	[mm]	Ø 54 / L = 110
Material	stainless steel (1.4404 / 316L); PBT-GF20; PC; FKM; TPE	

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Materials (wetted parts)	stainless steel (1.4404 / 316L); PEEK; FKM
Process connection	threaded connection G 1 external thread DN25 flat seal

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

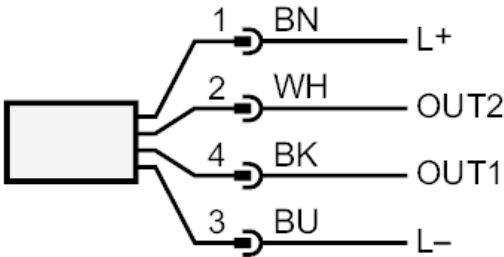
Remarks	MW = Measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, 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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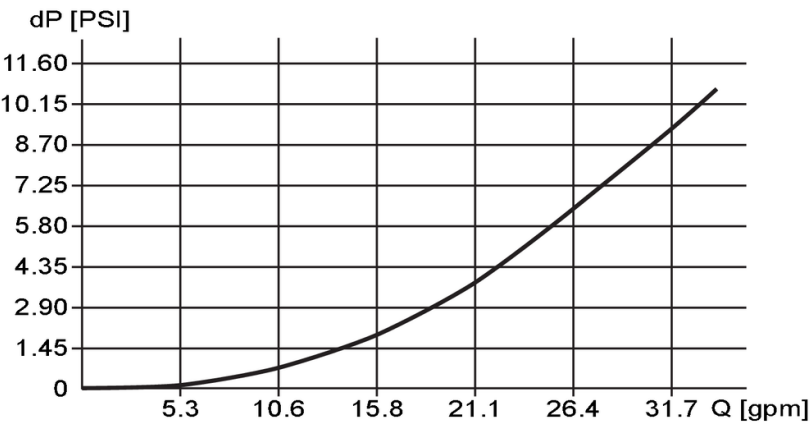


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Diagrams and graphs

Pressure loss



dP Pressure loss
Q volumetric flow quantity