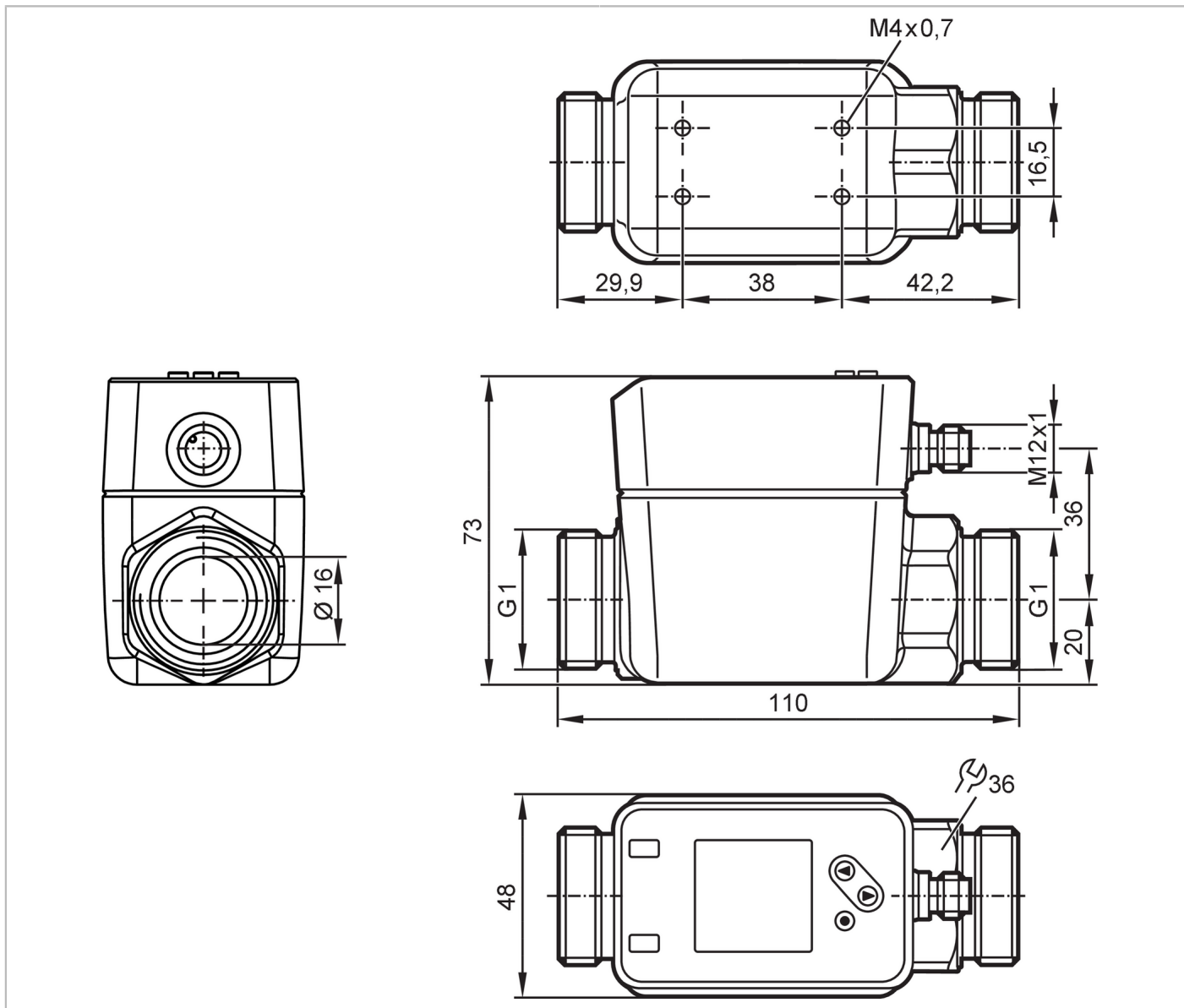


SM8030



Magnetic-inductive flow meter

SMR11XGXFRKG/US-100



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range [l/min]	0.2...250	
Process connection	threaded connection G 1 external thread DN25 flat seal	

Application

Special feature	Gold-plated contacts	
Media	conductive liquids; water; hydrous media	
Note on media	conductivity: $\geq 20 \mu\text{S/cm}$ viscosity: $< 70 \text{ mm}^2/\text{s}$ (40 °C)	
Medium temperature [°C]	-20...90	
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	[l/min]	0.2...250
Display range	[l/min]	-300...300
Resolution	[l/min]	0.1
Set point SP	[l/min]	1.6...250
Reset point rP	[l/min]	0.3...248.7
Analogue start point ASP	[l/min]	0...199.9
Analogue end point AEP	[l/min]	50.1...250
Low flow cut-off LFC	[l/min]	0.2...12.5
Frequency end point, FEP	[l/min]	50.1...250
Frequency at the end point FRP	[Hz]	1...10000

Volumetric flow quantity monitoring

Pulse length	[s]	0.002...2
Pulse value		0.01...99990000.00 l

Temperature monitoring

Measuring range	[°C]	-20...90
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Display range	[°C]	-42...112
Resolution	[°C]	0.1
Set point SP	[°C]	-19.6...90
Reset point rP	[°C]	-20...89.6
Analogue start point	[°C]	-20...68
Analogue end point	[°C]	2...90
In steps of	[°C]	0.1

Accuracy / deviations

Flow monitoring		
Accuracy (in the measuring range)		$\pm (0,8 \% MW + 0,2 \% MEW)$
Repeatability		$\pm 0,2 \% MEW$

Temperature monitoring		
Accuracy	[K]	$\pm 2,5 (Q > 5 \% MEW)$

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	
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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	1303

Operating conditions

Ambient temperature	[°C]	-20...60
Storage temperature	[°C]	-25...80
Protection		IP 65; IP 67

Tests / approvals

EMC	DIN EN 60947-5-9	
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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]		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]	784.25
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)	Pipe section: stainless steel (316L/1.4404); Process connection sealing: NBR reinforced fibre Flat seal; FKM; PEEK; carbon fibre PEEK
Process connection	threaded connection G 1 external thread DN25 flat seal

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



OUT1:	colours to DIN EN 60947-5-2 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

