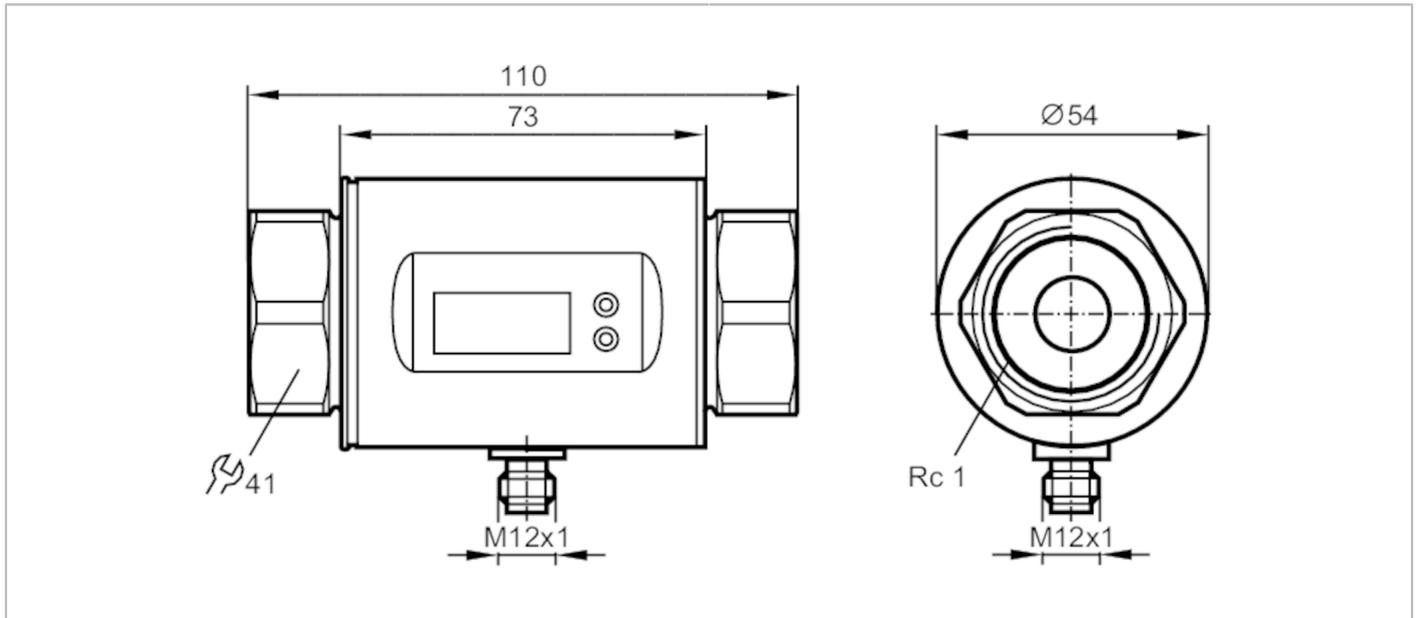


# SM8500



## Magnetic-inductive flow meter

SMK11GGXFRKG/US-100



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	0.2...100 l/min	0.01...6 m³/h
Process connection	threaded connection Rc 1 internal thread DN25	

### Application

Special feature	Gold-plated contacts	
Application	totaliser function; for industrial applications	
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]	-10...70	
Pressure rating [bar]	16	
Pressure rating [MPa]	1.6	

### 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 analogue outputs: 1	
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### Inputs

Inputs	counter reset	
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### Outputs

Total number of outputs	2	
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Output signal	switching signal; analogue signal; pulse signal; IO-Link; (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]	200	
Number of analogue outputs	1	
Analogue current output [mA]	4...20; (scalable)	
Max. load [Ω]	500	
Analogue 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	pulsed	
Overload protection	yes	

### Measuring/setting range

Measuring range	0.2...100 l/min	0.01...6 m <sup>3</sup> /h
Display range	-120...120 l/min	-7.2...7.2 m <sup>3</sup> /h
Resolution	0.1 l/min	0.005 m <sup>3</sup> /h
Set point SP	0.7...100 l/min	0.04...6 m <sup>3</sup> /h
Reset point rP	0.2...99.5 l/min	0.01...5.97 m <sup>3</sup> /h
Analogue start point ASP	0...80 l/min	0...4.8 m <sup>3</sup> /h
Analogue end point AEP	20...100 l/min	1.2...6 m <sup>3</sup> /h
In steps of	0.1 l/min	0.005 m <sup>3</sup> /h

### Volumetric flow quantity monitoring

Pulse value	0.00001...100 000 m <sup>3</sup>	
Pulse length [s]	0,0025...2	

### Temperature monitoring

Measuring range [°C]	-20...80	
Resolution [°C]	0.2	
Set point SP [°C]	-19.2...80	
Reset point rP [°C]	-19.6...79.6	
Analogue start point [°C]	-20...60	
Analogue end point [°C]	0...80	
In steps of [°C]	0.2	

### 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 > 5 l/min)	
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Response 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 > 5 l/min)
Software / programming		
Parameter setting options	Flow monitoring; quantity meter; Preset counter; Temperature monitoring; hysteresis / window; normally open / normally 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: 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]	5
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	575
Operating conditions		
Ambient temperature	[°C]	-10...60
Storage temperature	[°C]	-25...80
Protection		IP 67
Tests / approvals		
EMC	DIN EN 60947-5-9	
CPA approval	model number	002MI
	accuracy class	-
	maximum allowable error	± 1,5 % FS
	Q (min)	0,01 m³/h
	Q (t)	-
	Q (max)	6 m³/h
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
UL approval	UL Approval no.	I010
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight	[g]	674.5
Housing		cylindrical

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Dimensions	[mm]	Ø 54 / L = 110
Materials		stainless steel (316L/1.4404); PBT-GF20; PC; FKM; TPE
Materials (wetted parts)		stainless steel (316L/1.4404); PEEK; EPDM
Process connection		threaded connection Rc 1 internal thread DN25

### Displays / operating elements

Display	Display unit	6 x LED, green (l/min, m <sup>3</sup> /h, l, m <sup>3</sup> , 10 <sup>3</sup> , °C)
	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



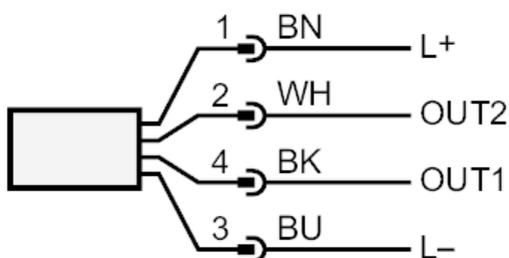
# SM8500



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### Connection



OUT1: colours to DIN EN 60947-5-2  
switching output volumetric flow quantity monitoring  
Pulse output quantity meter  
signal output Preset counter  
IO-Link

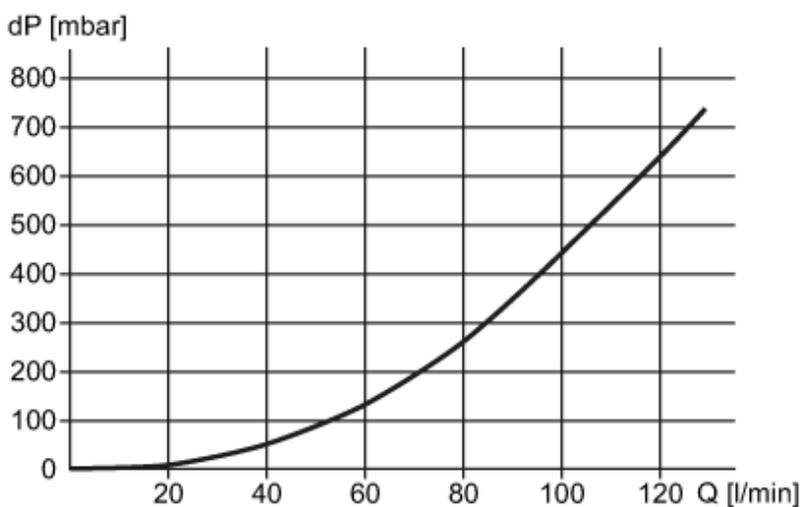
OUT2: switching output volumetric flow quantity monitoring  
switching output Temperature monitoring  
analogue output volumetric flow quantity monitoring  
analogue output Temperature monitoring  
input counter reset

Core colours :

BK = black  
BN = brown  
BU = blue  
WH = white

### Diagrams and graphs

#### Pressure loss



dP Pressure loss

Q volumetric flow quantity