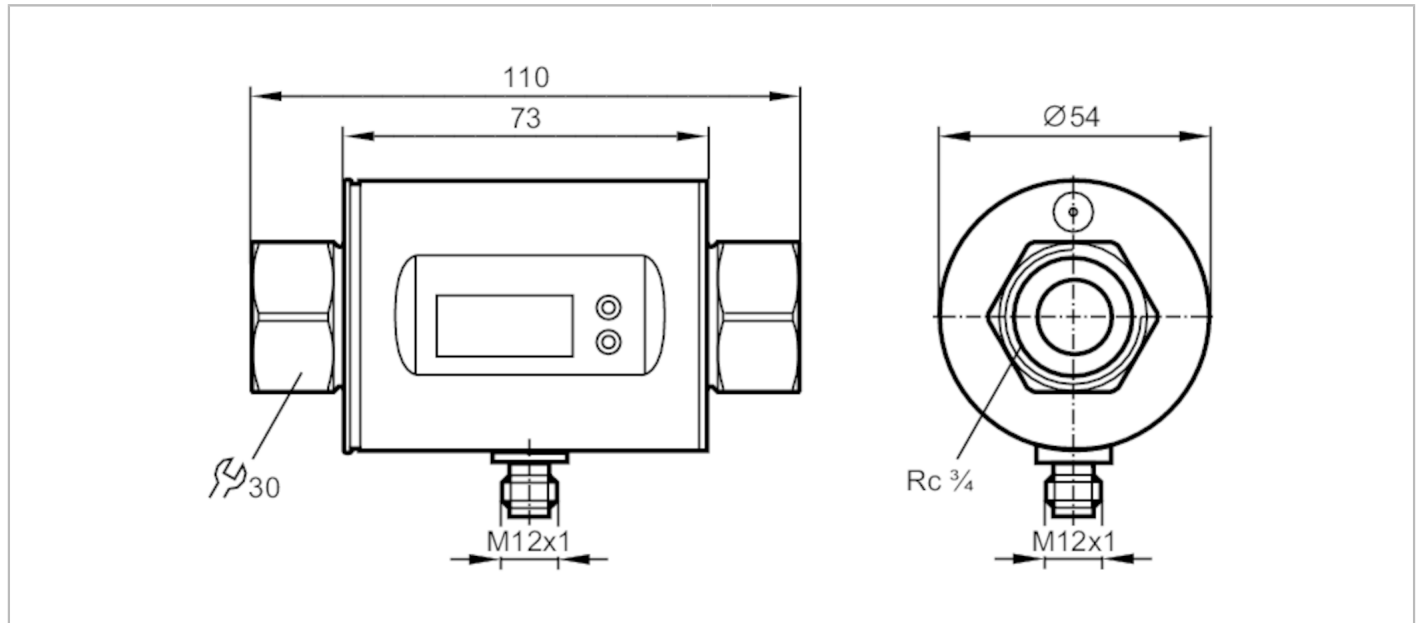


# SM7500



## Magnetic-inductive flow meter

SMK34GGXFRKG/US-100



Product characteristics	
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1
Measuring range	0.2...50 l/min      0.01...3 m³/h
Process connection	threaded connection Rc 3/4 Internal thread DN20
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 [°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
Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1
Inputs	
Inputs	counter reset
Outputs	
Total number of outputs	2
Output signal	switching signal; analog signal; pulse signal; IO-Link; (configurable)

# SM7500



## Magnetic-inductive flow meter

SMK34GGXFRKG/US-100

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 [ $\Omega$ ]	500
Analog voltage output [V]	0...10; (scalable)
Min. load resistance [ $\Omega$ ]	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	0.2...50 l/min	0.01...3 m <sup>3</sup> /h
Display range	-60...60 l/min	-3.6...3.6 m <sup>3</sup> /h
Resolution	0.1 l/min	0.001 m <sup>3</sup> /h
Set point SP	0.5...50 l/min	0.027...3 m <sup>3</sup> /h
Reset point rP	0.2...49.8 l/min	0.012...2.985 m <sup>3</sup> /h
Analog start point ASP	0...40 l/min	0...2.4 m <sup>3</sup> /h
Analog end point AEP	10...50 l/min	0.6...3 m <sup>3</sup> /h
In steps of	0.1 l/min	0.001 m <sup>3</sup> /h

### Volumetric flow quantity monitoring

Pulse value	0.00001...50 000 m <sup>3</sup>
Pulse length [s]	0,005...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
Analog start point [°C]	-20...60
Analog end point [°C]	0...80
In steps of [°C]	0.2

### Accuracy / deviations

#### Flow monitoring

Accuracy (in the measuring range)	$\pm (0,8 \% MW + 0,5 \% MEW)$
Repeatability	$\pm 0,2\% MEW$

#### Temperature monitoring

Accuracy [K]	$\pm 2,5 (Q > 5 \text{ l/min})$
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# SM7500



## Magnetic-inductive flow meter

SMK34GGXFRKG/US-100

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 > 5 l/min)
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: 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	572
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	001MI
	accuracy class	-
	maximum allowable error	± 1,5 % FS
	Q (min)	0,01 m³/h
	Q (t)	-
	Q (max)	3 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 number	I010
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	
Mechanical data		
Weight	[g]	576.5
Material	stainless steel (1.4404 / 316L); PBT-GF20; PC; FKM; TPE	

# SM7500



## Magnetic-inductive flow meter

SMK34GGXFRKG/US-100

Materials (wetted parts)	stainless steel (1.4404 / 316L); PEEK; EPDM
Process connection	threaded connection Rc 3/4 Internal thread DN20

### 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

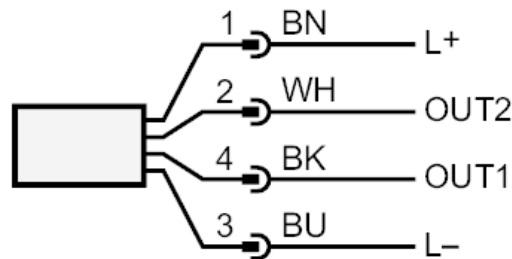
Remarks	MW = Measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

### Electrical connection

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



### 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

# SM7500

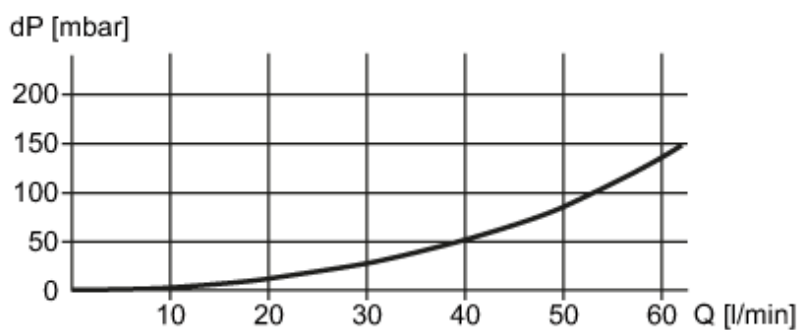


## Magnetic-inductive flow meter

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### Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity