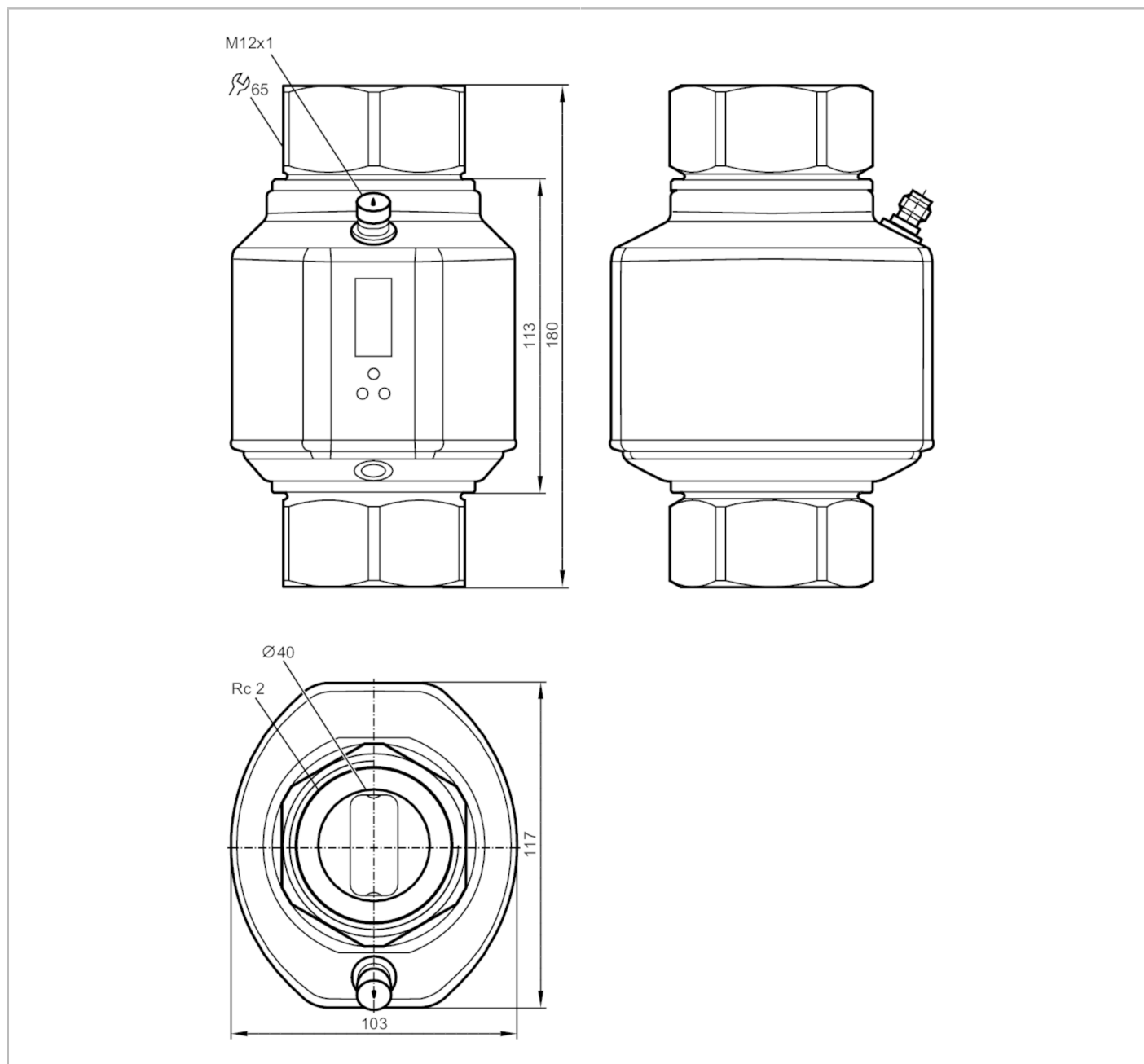


SM2404



Magnetic-inductive flow meter

SMK21XGX50KG/US-100



Product characteristics

Number of inputs and outputs	Number of analog outputs: 2			
Measuring range	5...600 l/min	0.3...36 m ³ /h	80...9510 gph	1.3...158.5 gpm
Process connection	threaded connection Rc 2 Internal thread DN50			

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Application				
System	gold-plated contacts			
Application	empty pipe detection; 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	-10...70 °C		14...158 °F	
Pressure rating [bar]	16			
Pressure rating [Mpa]	1.6			
Pressure rating [psi]	232			
Electrical data				
Operating voltage [V]	18...32 DC; (to SELV/PELV)			
Current consumption [mA]	< 150			
Protection class	III			
Reverse polarity protection	yes			
Power-on delay time [s]	5			
Inputs / outputs				
Number of inputs and outputs	Number of analog outputs: 2			
Outputs				
Total number of outputs	2			
Output signal	analog signal			
Number of analog outputs	2			
Analog current output [mA]	4...20; ($\leq 22 \text{ mA}$; scalable)			
Max. load [Ω]	500			
Measuring/setting range				
Measuring range	5...600 l/min	0.3...36 m ³ /h	80...9510 gph	1.3...158.5 gpm
Display range	-720...720 l/min	-43.2...43.2 m ³ /h	-11410...11410 gph	-190.2...190.2 gpm
Resolution	0.5 l/min	0.02 m ³ /h	5 gph	0.1 gpm
Analog start point ASP	0...480 l/min	0...28.8 m ³ /h	0...7610 gph	0...126.8 gpm
Analog end point AEP	120...600 l/min	7.2...36 m ³ /h	1900...9510 gph	31.7...158.5 gpm
Low flow cut-off LFC	$< 15 \text{ l/min}$	$< 0.9 \text{ m}^3/\text{h}$	$< 240 \text{ gph}$	$< 4 \text{ gpm}$
In steps of	0.5 l/min	0.02 m ³ /h	5 gph	0.1 gpm
Measuring dynamics	1:120			
Temperature monitoring				
Measuring range	-20...80 °C		-4...176 °F	
Display range	-40...100 °C		-40...212 °F	
Resolution	0.2 °C		0.5 °F	
Analog start point	-20...60 °C		-4...140 °F	
Analog end point	0...80 °C		32...176 °F	
In steps of	0.2 °C		0.5 °F	
Accuracy / deviations				
Flow monitoring				
Accuracy (in the measuring range)	$\pm (0,8 \% \text{ MW} + 0,5 \% \text{ MEW})$			
Repeatability	$\pm 0,2\% \text{ MEW}$			

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Temperature monitoring		
Temperature drift		$\pm 0,0333 \text{ }^\circ\text{C} / \text{K}; \pm 0,0599 \text{ }^\circ\text{F} / \text{K}$
Accuracy	[K]	$\pm 1 (25 \text{ }^\circ\text{C}; Q > 15 \text{ l/min}) / \pm 1 (77 \text{ }^\circ\text{F}; Q > 4 \text{ gpm})$
Reaction times		
Flow monitoring		
Response time	[s]	0.35; (dAP = 0)
Damping process value dAP	[s]	0...5
Temperature monitoring		
Dynamic response T05 / T09	[s]	T09 = 3 (Q > 15 l/min) / T09 = 3 (Q > 4 gpm)
Software / programming		
Parameter setting options		display can be deactivated; Display unit; empty pipe detection
Operating conditions		
Ambient temperature	-10...60 °C	14...140 °F
Storage temperature	-25...80 °C	-13...176 °F
Protection		IP 65; IP 67
Tests / approvals		
EMC	DIN EN 60947-5-9	
	model number	004MI
	accuracy class	-
	maximum allowable error	$\pm 1,5 \text{ } \%$ FS
	Q (min)	0,3 m ³ /h
CPA approval	Q (t)	-
	Q (max)	36 m ³ /h
	Shock resistance	DIN EN 60068-2-27
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)
MTTF	[years]	85
UL approval	UL approval number	I009
Pressure equipment directive		sound engineering practice; can be used for group 2 fluids; group 1 fluids on request
Mechanical data		
Weight	[g]	2725
Material		stainless steel (1.4404 / 316L); stainless steel (1.4571/316Ti); PEI; FKM; PBT-GF20; TPE-U
Materials (wetted parts)		stainless steel (1.4404 / 316L); stainless steel (1.4571/316Ti); PEEK; FKM
Process connection		threaded connection Rc 2 Internal thread DN50
Displays / operating elements		
Display	Display unit	6 x LED, green (l/min, m ³ /h, gpm, gph, °C, °F)
	Function display	1 x LED, yellow (10 ³)
	Measured values	alphanumeric display, 4-digit
	Programming	alphanumeric display, 4-digit
Display unit		l/min; m ³ /h; gpm; gph; °C; °F
Accessories		
Items supplied		Label

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Remarks

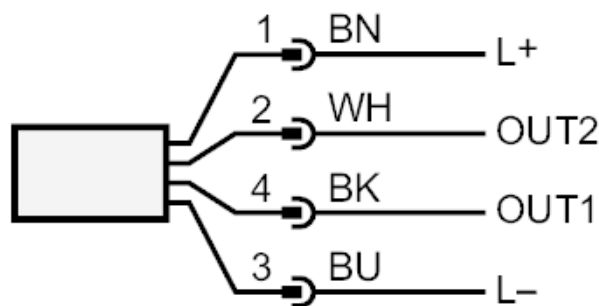
Remarks	MW = Measured value
	MEW = Final value of the measuring range
Pack quantity	1 pcs.

Electrical connection

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



Connection



Colors to DIN EN 60947-5-2

- OUT1: analog output Temperature monitoring
- OUT2: analog output Volumetric flow quantity monitoring

Core colors :

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

SM2404



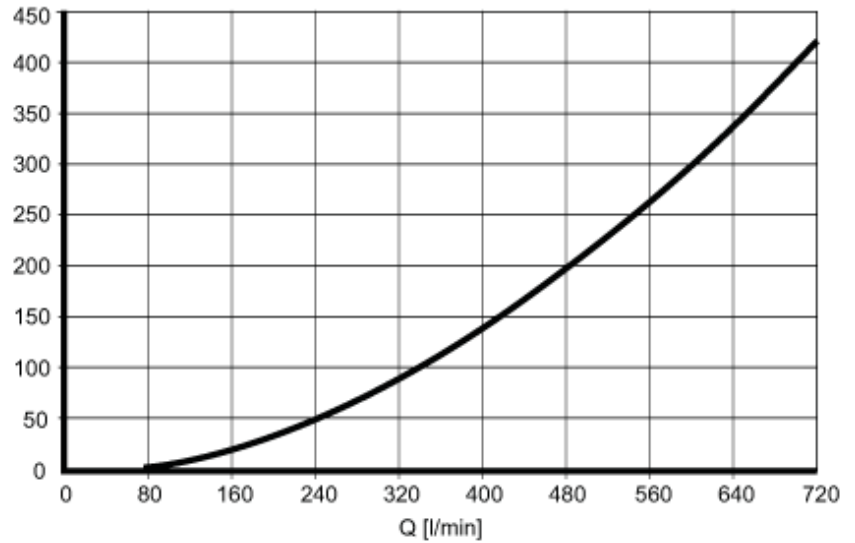
Magnetic-inductive flow meter

SMK21XGX50KG/US-100

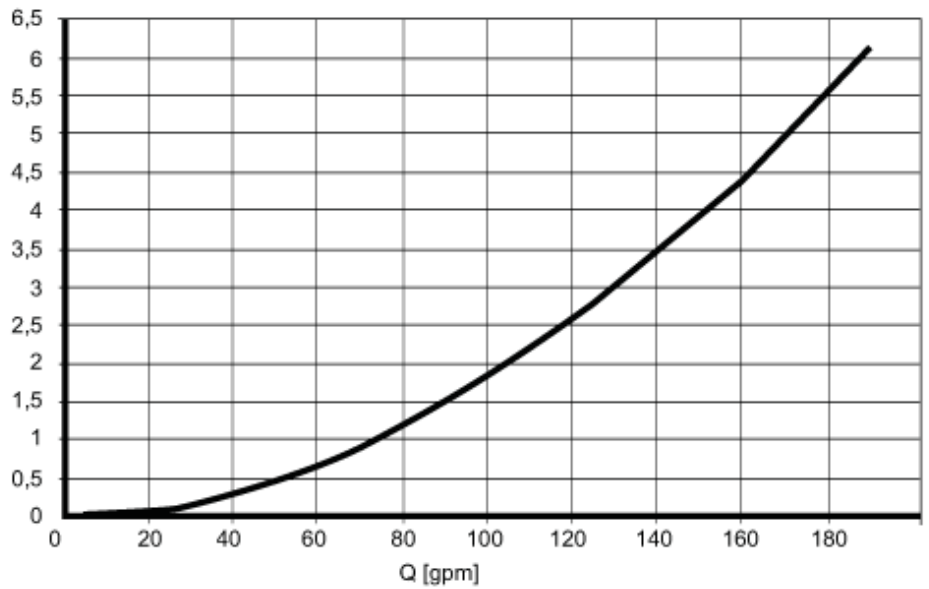
Diagrams and graphs

Pressure loss

dP [mbar] DN50



dP [psi]



dP Pressure loss

Q volumetric flow quantity