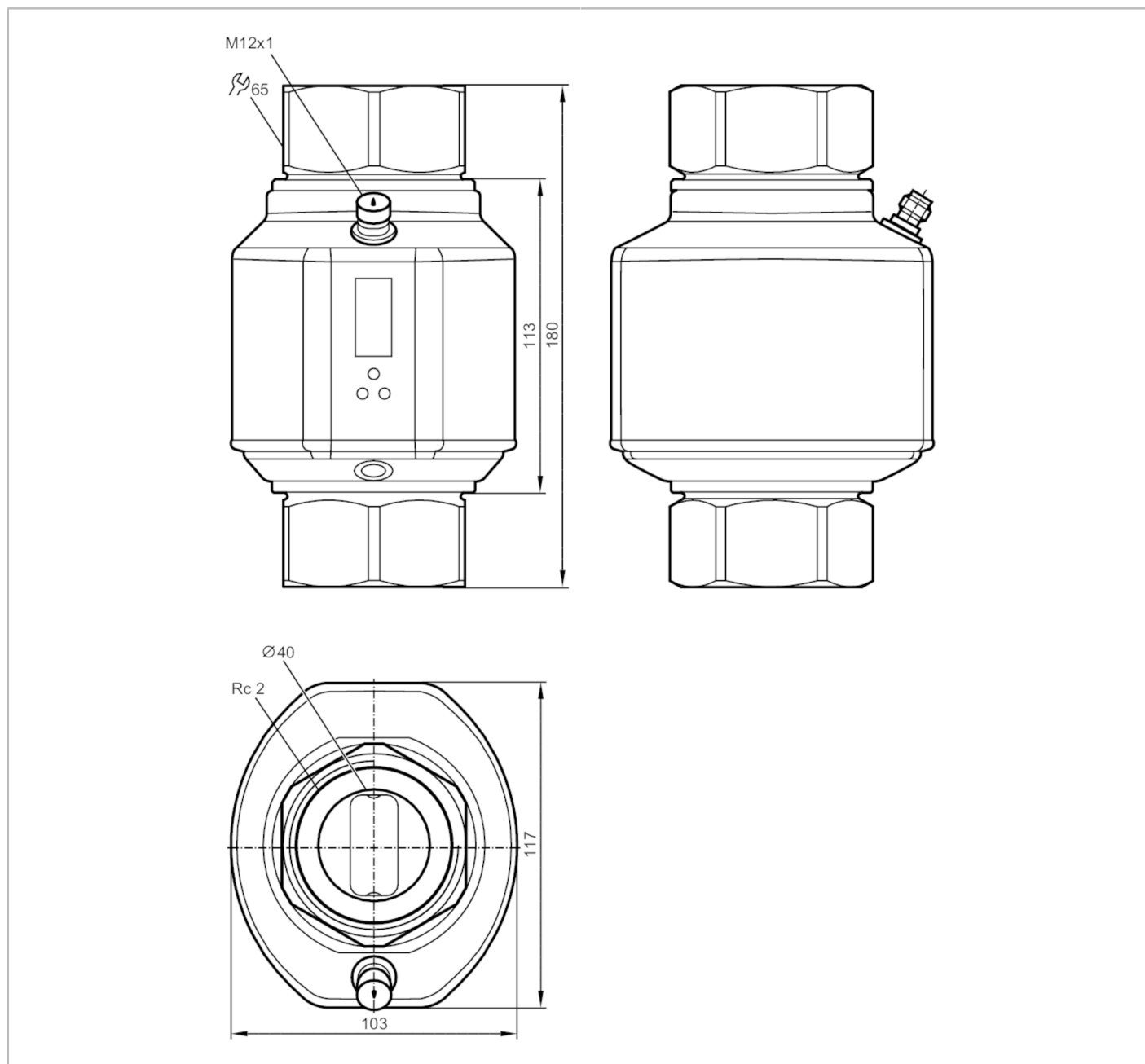


SM2404



Magnetic-inductive flow meter

SMK21XGX50KG/US-100



Application	
Application	empty pipe detection; for industrial applications
Media	conductive liquids; water; hydrous media
Medien	conductivity: $\geq 20 \mu\text{S/cm}$ viscosity: $< 70 \text{ mm}^2/\text{s}$ (40 °C)
Medium temperature	[°C] -10...70
Medium temperature	[°F] 14...158
Pressure rating	[bar] 16
Pressure rating	[psi] 232

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Electrical data					
Operating voltage	[V]	18...32 DC; (according to EN 50178 SELV/PELV)			
Current consumption	[mA]	< 150			
Protection class		III			
Reverse polarity protection		yes			
Power-on delay time	[s]	5			
Outputs					
Total number of outputs		2			
Output signal		analogue signal			
Number of analogue outputs		2			
Analogue current output	[mA]	4...20; (≤ 22 mA; scalable)			
Max. load	[Ω]	500			
Measuring/setting range					
Measuring range		80...9510 gph	1.3...158.5 gpm	5...600 l/min	0.3...36 m ³ /h
Display range		-11410...11410 gph	-190.2...190.2 gpm	-720...720 l/min	-43.2...43.2 m ³ /h
Resolution		5 gph	0.1 gpm	0.5 l/min	0.02 m ³ /h
Analogue start point ASP		0...7610 gph	0...126.8 gpm	0...480 l/min	0...28.8 m ³ /h
Analogue end point AEP		1900...9510 gph	31.7...158.5 gpm	120...600 l/min	7.2...36 m ³ /h
Low flow cut-off LFC		< 240 gph	< 4 gpm	< 15 l/min	< 0.9 m ³ /h
Measuring dynamics		1:120			
In steps of		5 gph	0.1 gpm	0.5 l/min	0.02 m ³ /h
Temperature monitoring					
Measuring range	[°C]	-20...80			
Measuring range	[°F]	-4...176			
Display range	[°C]	-40...100			
Display range	[°F]	-40...212			
Resolution	[°C]	0.2			
Resolution	[°F]	0.5			
Analogue start point	[°C]	-20...60			
Analogue start point	[°F]	-4...140			
Analogue end point	[°C]	0...80			
Analogue end point	[°F]	32...176			
In steps of	[°C]	0.2			
In steps of	[°F]	0.5			
Accuracy / deviations					
Flow monitoring					
Accuracy (in the measuring range)		$\pm (0,8 \% MW + 0,5 \% MEW)$; ($Q > 15$ l/min; medium and operating temperature: $22\text{ °C} \pm 4\text{ K} / +72\text{ °F} \pm 7\text{ °F}$)			
Repeatability		$\pm 0,2\% MEW$			
Temperature monitoring					
Temperature drift		$\pm 0,0333\text{ °C} / \text{K}$; $\pm 0,0599\text{ °F} / \text{K}$			
Accuracy	[K]	$\pm 1 (25\text{ °C}; Q > 15\text{ l/min}) / \pm 1 (77\text{ °F}; Q > 4\text{ gpm})$			

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Response times		
Flow monitoring		
Response time	[s]	0.35; (dAP = 0)
Damping for the switching output 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	[°C]	-10...60
Ambient temperature	[°F]	14...140
Storage temperature	[°C]	-25...80
Storage temperature	[°F]	-13...176
Protection		IP 65; IP 67
Tests / approvals		
EMC		DIN EN 60947-5-9
Shock resistance		DIN EN 60068-2-27
Vibration resistance		DIN EN 60068-2-6
MTTF	[years]	86
UL approval		UL Approval no. I009
Pressure Equipment Directive		Sound Engineering Practice; can be used for group 2 fluids; group 1 fluids on request
Mechanical data		
Weight	[g]	2712
Materials		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
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		
Accessories (supplied)		Label
Remarks		
Remarks		MW = measured value MEW = Final value of the measuring range
Pack quantity		1 pcs.
Electrical connection		
Connector: 1 x M12; Contacts: gold-plated		

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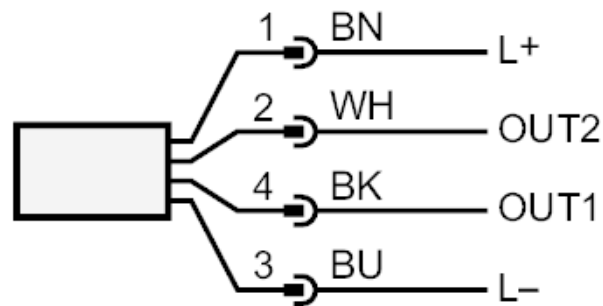


Magnetic-inductive flow meter

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Connection



colours to DIN EN 60947-5-2

OUT1: analogue output Temperature monitoring

OUT2: analogue output volumetric flow quantity monitoring

Core colours :

BK = black

BN = brown

BU = blue

WH = white

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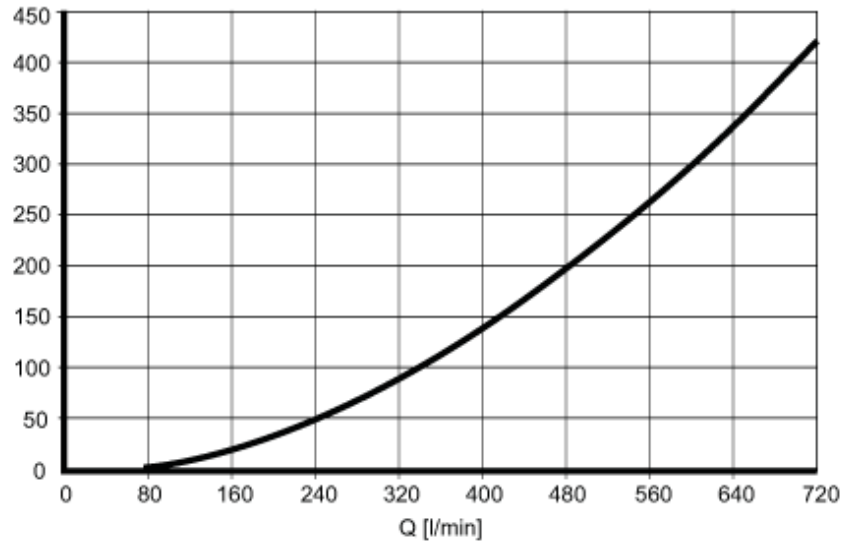
Magnetic-inductive flow meter

SMK21XGX50KG/US-100

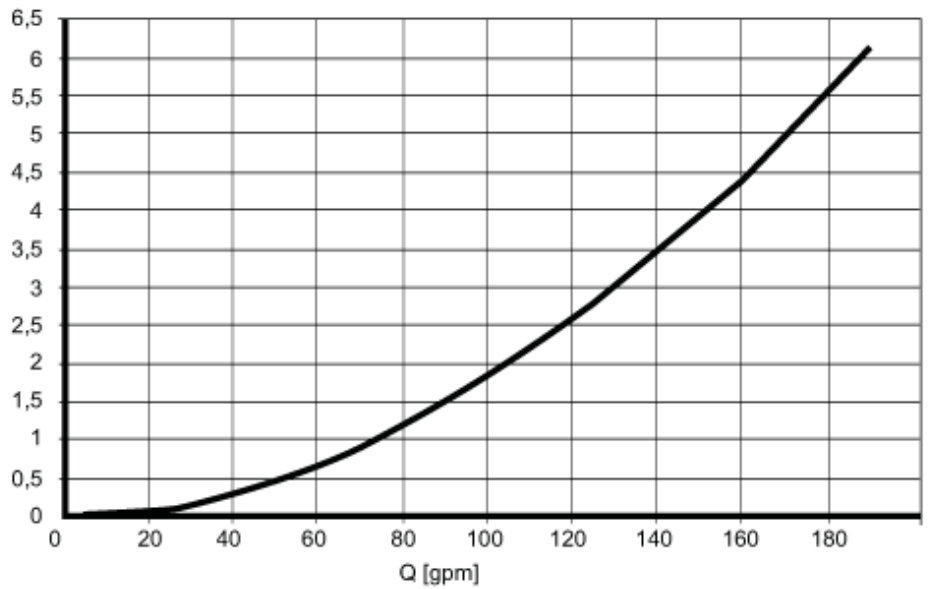
Diagrams and graphs

Pressure loss

dP [mbar] DN50



dP [psi]



dP Pressure loss

Q volumetric flow quantity