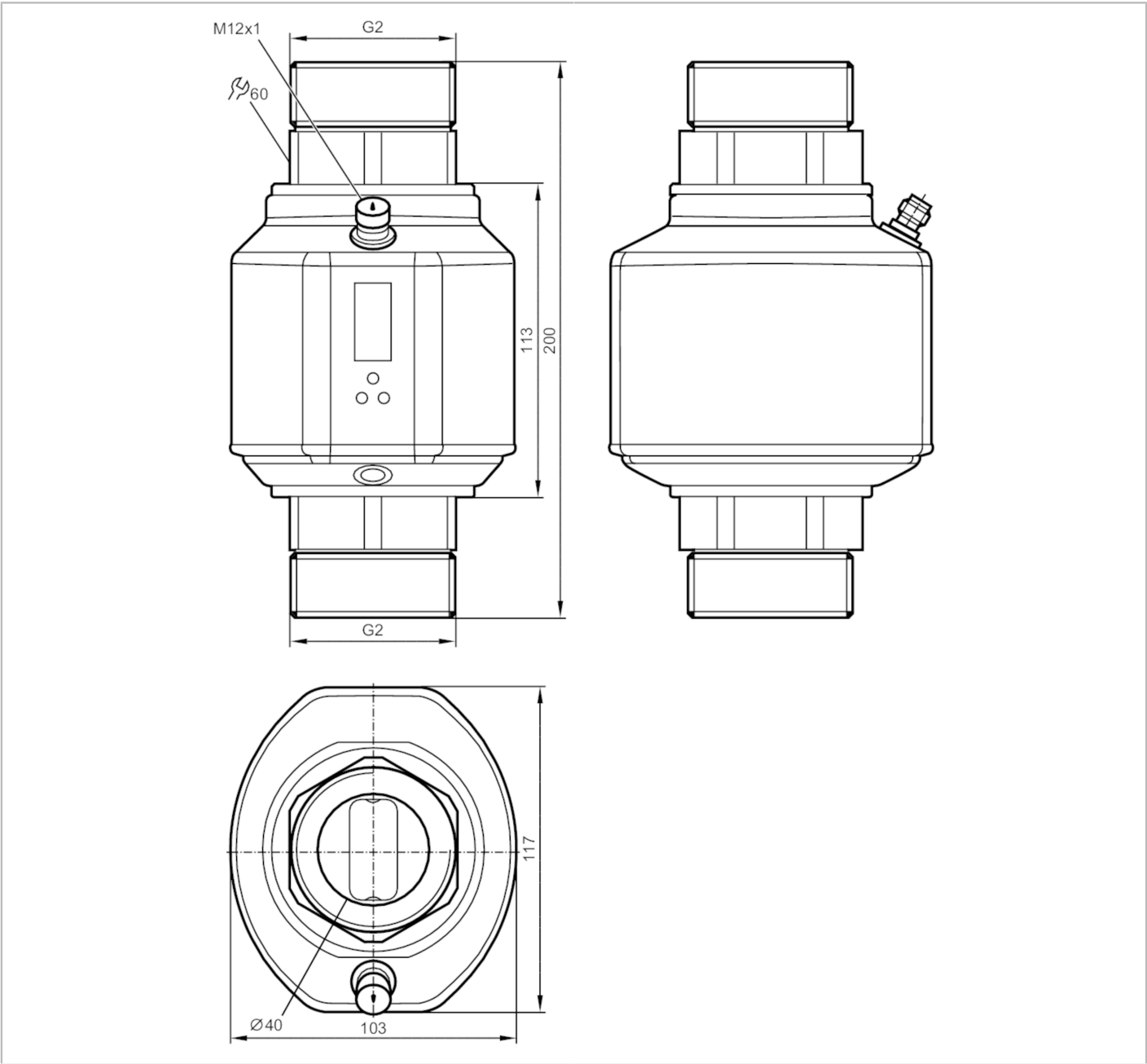


SM2004



Magnetic-inductive flow meter

SMR21XGX50KG/US



Product characteristics				
Number of inputs and outputs	Number of analogue outputs: 2			
Measuring range	5...600 l/min	0.3...36 m³/h	80...9510 gph	1.3...158.5 gpm
Process connection	threaded connection G 2 DN50 flat seal			
Application				
Special feature	Gold-plated contacts			
Application	empty pipe detection; for industrial applications			
Installation	connection to pipe by means of an adapter			
Media	conductive liquids; water; hydrous media			



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Note on media	conductivity: $\geq 20 \mu\text{S/cm}$			
	viscosity: $< 70 \text{ mm}^2/\text{s}$ (40 °C)			
Medium temperature	-10...80 °C		14...194 °F	
Pressure rating	[bar]	16		
Pressure rating	[MPa]	1.6		
Pressure rating	[psi]	232		
MAWP (for applications according to CRN)	[bar]	16		
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 analogue outputs: 2			
Outputs				
Total number of outputs	2			
Output signal	analogue signal			
Number of analogue outputs	2			
Analogue 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 m³/h	80...9510 gph	1.3...158.5 gpm
Display range	-720...720 l/min	-43.2...43.2 m³/h	-11410...11410 gph	-190.2...190.2 gpm
Resolution	0.5 l/min	0.02 m³/h	5 gph	0.1 gpm
Analogue start point ASP	0...480 l/min	0...28.8 m³/h	0...7610 gph	0...126.8 gpm
Analogue end point AEP	120...600 l/min	7.2...36 m³/h	1900...9510 gph	31.7...158.5 gpm
Low flow cut-off LFC	< 15 l/min	< 0.9 m³/h	< 240 gph	< 4 gpm
In steps of	0.5 l/min	0.02 m³/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	
Analogue start point	-20...60 °C		-4...140 °F	
Analogue 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	$\pm 0,2\% \text{ MEW}$			
Temperature monitoring				
Temperature drift	$\pm 0,0333 \text{ °C / K}$; $\pm 0,0599 \text{ °F / K}$			



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SMR21XGX50KG/US

Accuracy	[K]	± 1 (25 °C; Q > 15 l/min) / ± 1 (77 °F; Q > 4 gpm)	
Response 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		
CPA approval	model number	004MI	
	accuracy class	-	
	maximum allowable error	± 1,5 % FS	
	Q (min)	0,3 m³/h	
	Q (t)	-	
	Q (max)	36 m³/h	
	Medium temperature	-10...70 °C	
	Medium temperature	14...158 °F	
Shock resistance	DIN EN 60068-2-27	20 g (11 ms)	
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)	
MTTF	[years]	85	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request		
Mechanical data			
Weight	[g]	3147	
Materials	stainless steel (316L/1.4404); stainless steel (316Ti/1.4571); PEI; FKM; PBT-GF20; TPE-U		
Materials (wetted parts)	stainless steel (316L/1.4404); stainless steel (316Ti/1.4571); PEEK; NBR reinforced fibre; FKM		
Process connection	threaded connection G 2 DN50 flat seal		
Displays / operating elements			
Display	Display unit	6 x LED, green (l/min, m³/h, gpm, gph, °C, °F)	
	function display	1 x LED, yellow (10³)	
	measured values	alphanumeric display, 4-digit	
	programming	alphanumeric display, 4-digit	
Display unit	l/min; m³/h; gpm; gph; °C; °F		
Accessories			
Items supplied	sealings: 2, Centellen		
	Label		
Remarks			
Remarks	MW = measured value		
	MEW = Final value of the measuring range		

SM2004



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SMR21XGX50KG/US

Pack quantity

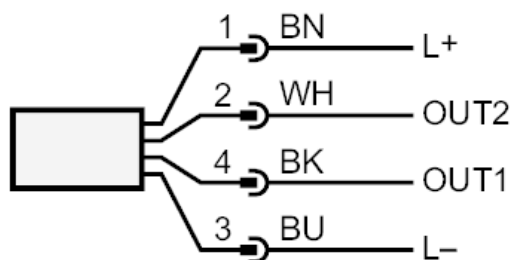
1 pcs.

Electrical connection

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



Connection



OUT1: colours to DIN EN 60947-5-2
analogue output Temperature monitoring
OUT2: analogue output volumetric flow quantity monitoring
Core colours :
BK = black
BN = brown
BU = blue
WH = white

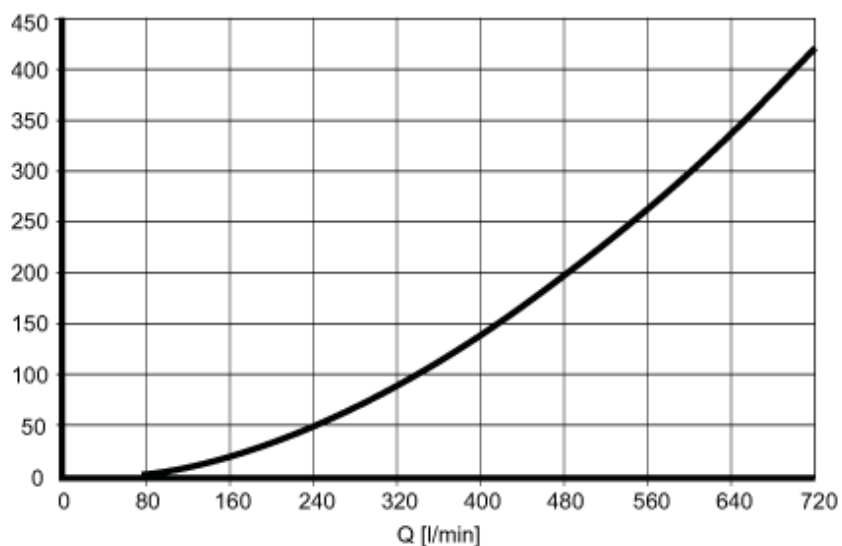
Magnetic-inductive flow meter

SMR21XGX50KG/US

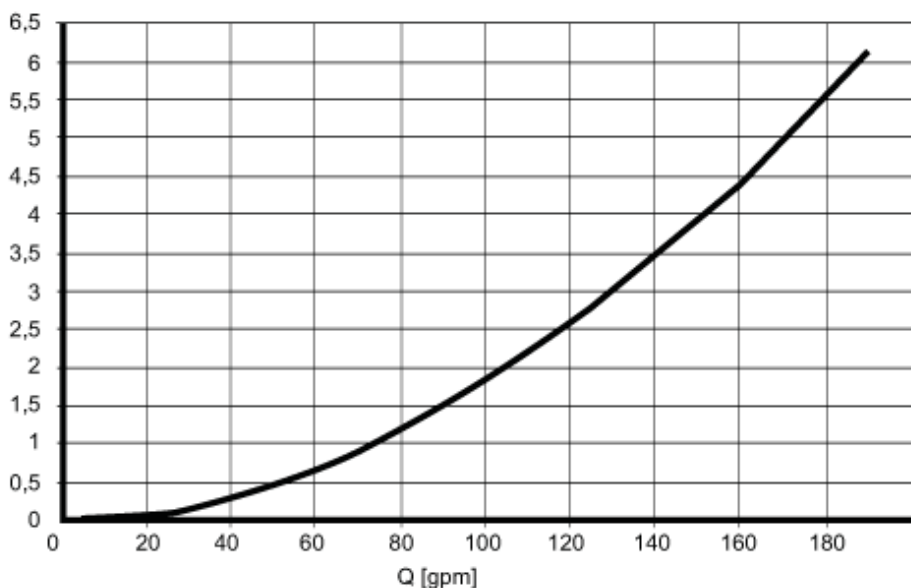
Diagrams and graphs

Pressure loss

dP [mbar] DN50



dP [psi]



dP Pressure loss

Q volumetric flow quantity