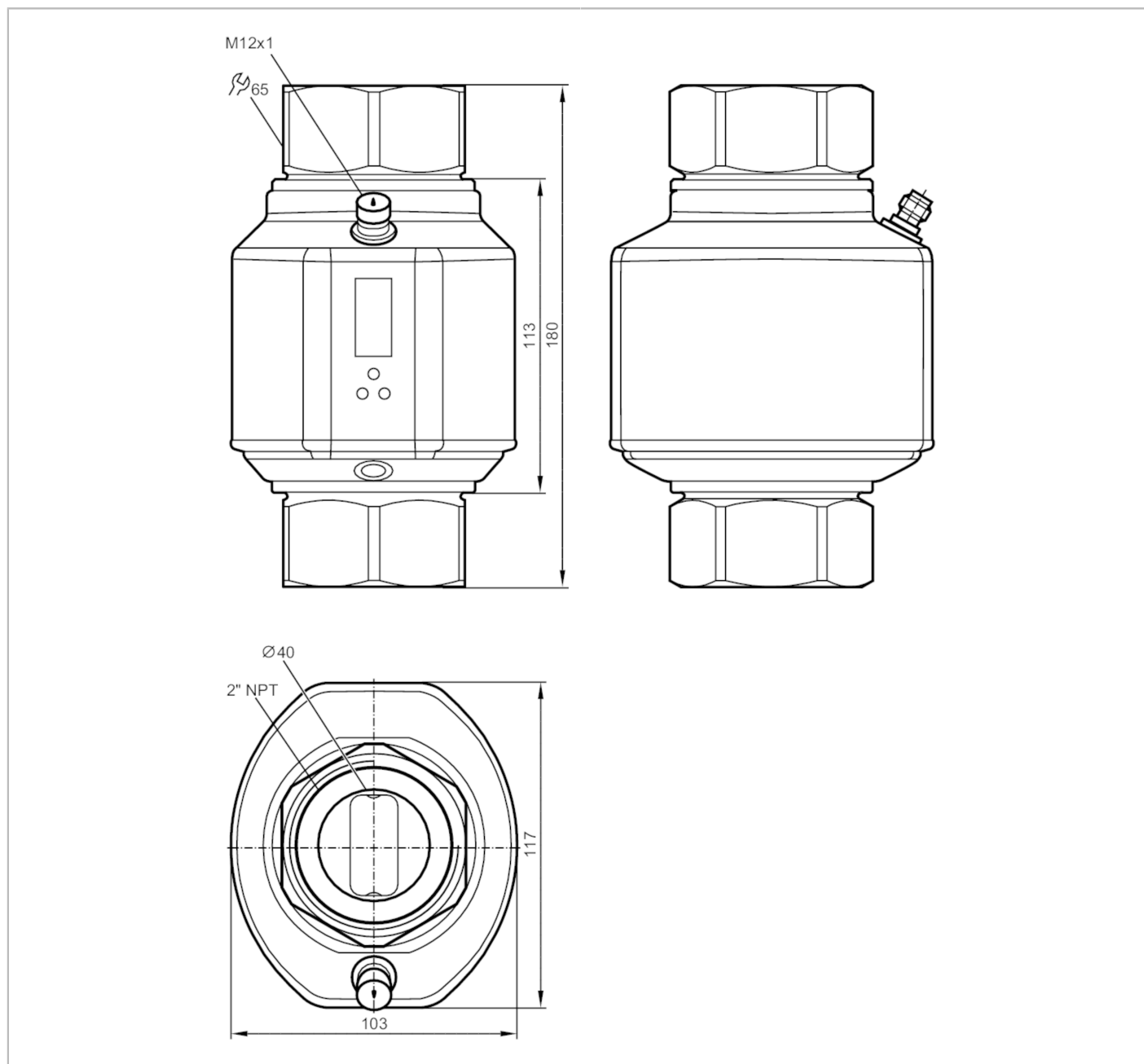


# SM2601



## Magnetic-inductive flow meter

SMN21XGXFRKG/US-100



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1	
Measuring range	80...9600 gph	1.3...160 gpm
Process connection	threaded connection 2 NPT DN50	

# SM2601



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Application	
Special feature	Gold-plated contacts
Application	totaliser function; empty pipe detection; 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 [°F]	14...158
Pressure rating [bar]	16
Pressure rating [psi]	232
MAWP (for applications according to CRN) [bar]	16.5
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
Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1
Inputs	
Inputs	counter reset
Outputs	
Total number of outputs	2
Output signal	switching signal; analogue signal; pulse signal; frequency 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]	250; (per output)
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
Frequency of the output [Hz]	0.1...10000

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Measuring/setting range		
Measuring range	80...9600 gph	1.3...160 gpm
Display range	-11520...11520 gph	-190...190 gpm
Resolution	5 gph	0.1 gpm
Set point SP	130...9600 gph	2.1...160 gpm
Reset point rP	80...9550 gph	1.3...159.2 gpm
Analogue start point ASP	0...7680 gph	0...128 gpm
Analogue end point AEP	1920...9600 gph	32...160 gpm
Low flow cut-off LFC	< 240 gph	< 4 gpm
In steps of	5 gph	0.1 gpm
Measuring dynamics	1:120	
Volumetric flow quantity monitoring		
Pulse value	0.02...160 E06 gal	
In steps of	0.02 gal	
Pulse length [s]	0,008...2	
Temperature monitoring		
Measuring range [°F]	-4...176	
Display range [°F]	-40...212	
Resolution [°F]	0.5	
Set point SP [°F]	-2...176	
Reset point rP [°F]	-3...175	
Analogue start point [°F]	-4...140	
Analogue end point [°F]	32...176	
In steps of [°F]	0.5	
Accuracy / deviations		
Flow monitoring		
Accuracy (in the measuring range)	± (0,8 % MW + 0,5 % MEW)	
Repeatability	± 0,2% MEW	
Temperature monitoring		
Temperature drift	± 0,0185 °F / K	
Accuracy [K]	± 1 (77 °F; Q > 4 gpm)	
Response times		
Flow monitoring		
Response time [s]	0.35; (dAP = 0)	
Delay time programmable dS, dr [s]	0...50	
Damping for the switching output dAP [s]	0...5	
Temperature monitoring		
Dynamic response T05 / T09 [s]	T09 = 3 (Q > 4 gpm)	
Software / programming		
Parameter setting options	Flow monitoring; quantity meter; Preset counter; Temperature monitoring; hysteresis / window; normally open / normally closed; switching logic; current/voltage/frequency/pulse output; start-up delay; display can be deactivated; Display unit; empty pipe detection	

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Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9 CDV
IO-Link device ID	390 d / 00 01 86 h
Profiles	Smart Sensor: Process Data Variable; Device Identification
SIO mode	yes
Required master port type	A
Process data analogue	3
Process data binary	2
Min. process cycle time [ms]	5

Operating conditions	
Ambient temperature [°F]	14...140
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]	78
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request

Mechanical data	
Weight [g]	2775
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 2 NPT DN50

Displays / operating elements		
Display	Display unit	6 x LED, green (gpm, gph, gal, °F, 10 <sup>3</sup> , 1000 x 10 <sup>3</sup> )
	switching status	2 x LED, yellow
	measured values	alphanumeric display, 4-digit
	programming	alphanumeric display, 4-digit

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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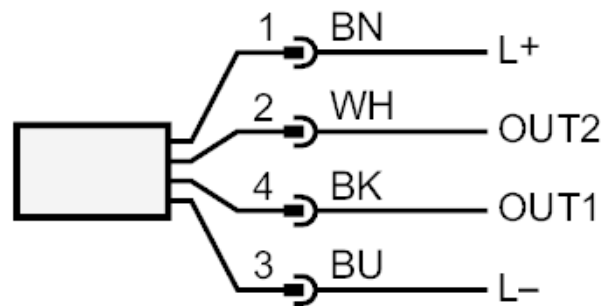


## Magnetic-inductive flow meter

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### Connection



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

OUT2: switching output empty pipe detection  
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

# SM2601

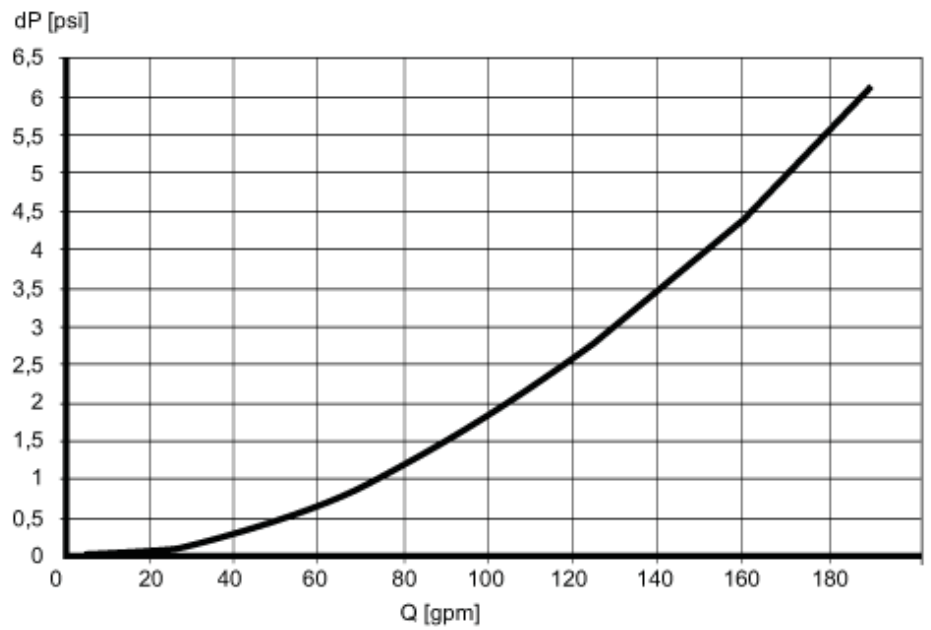


## Magnetic-inductive flow meter

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### Diagrams and graphs

Pressure loss



dP Pressure loss

Q volumetric flow quantity