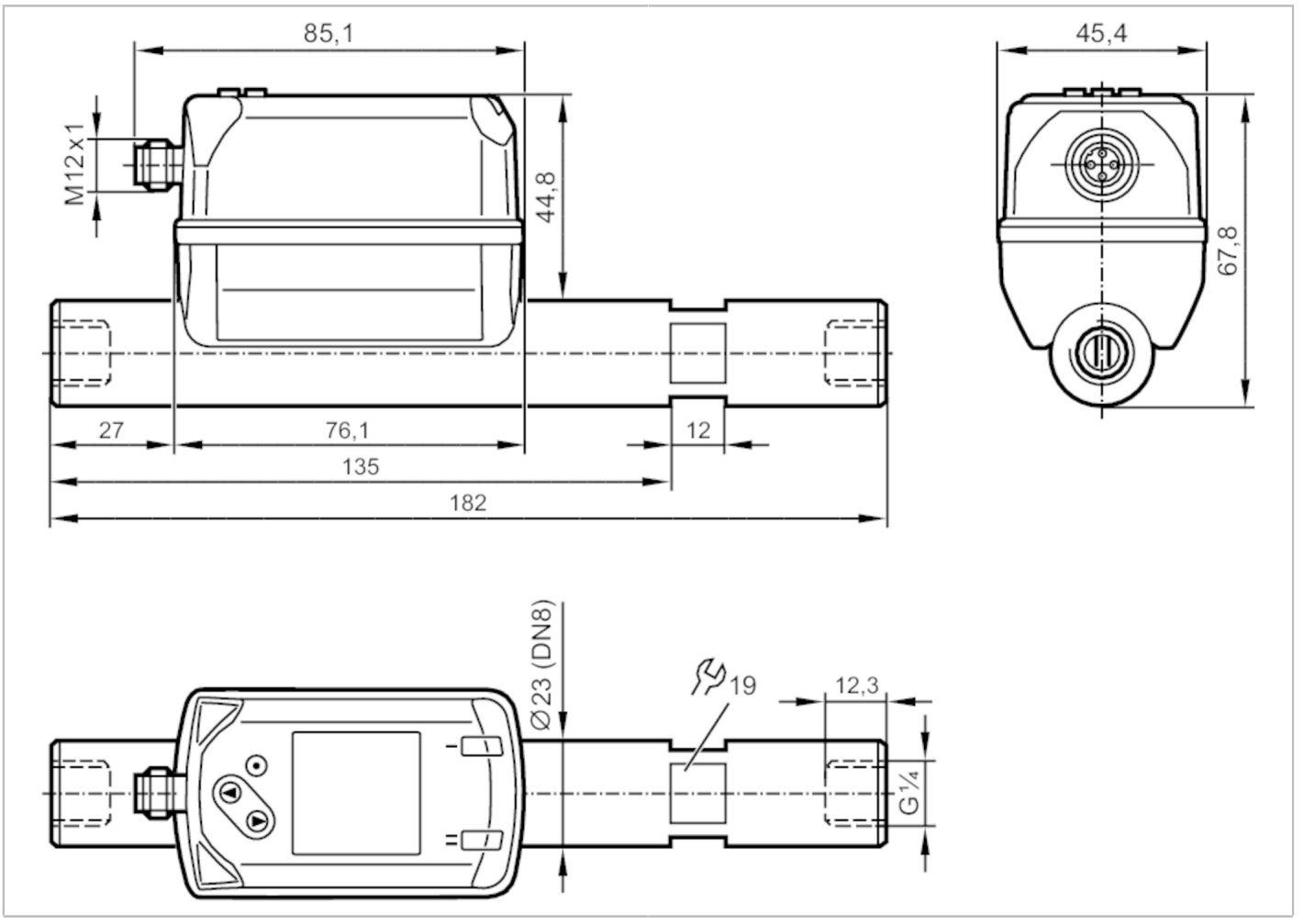
SD5800

Industrial gas counter

SDR14DGXFRKG/US-100



Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1	
Measuring range	0.8...83.4 l/min	0.3...27.6 m/s	0.05...5 m³/h
Process connection		threaded connection G 1/4 Internal thread DN8	
Application			
Application		for industrial applications	
Media		helium	
Medium temperature	[°C]	-10...60	
Min. burst pressure	[bar]	64	
Pressure rating		16 bar	1.6 MPa
MAWP (for applications according to CRN)	[bar]	9.5	
Electrical data			
Operating voltage	[V]	18...30 DC; (to SELV/PELV)	
Current consumption	[mA]	< 80	
Protection class		III	
Reverse polarity protection		yes	
Power-on delay time	[s]	1	

SD5800

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SDR14DGXFRKG/US-100

Inputs / outputs		
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1
Inputs		
Inputs		counter reset
Outputs		
Output signal		switching signal; analog signal; pulse signal; IO-Link; (configurable)
Electrical design		PNP/NPN
Number of digital outputs		2
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2.5
Permanent current rating of switching output DC	[mA]	150; (per output)
Number of analog outputs		1
Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Pulse output		consumed quantity meter
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes

Measuring/setting range				
Measuring range		0.8...83.4 l/min	0.3...27.6 m/s	0.05...5 m³/h
Display range		0...100 l/min	0...33.1 m/s	0...6 m³/h
Resolution		0.2 l/min	0.1 m/s	0.01 m³/h
Set point SP		1.3...83.3 l/min	0.4...27.6 m/s	0.08...5 m³/h
Reset point rP		0.9...82.9 l/min	0.3...27.5 m/s	0.05...4.97 m³/h
Analog start point ASP		0...66.6 l/min	0...22.1 m/s	0...4 m³/h
Analog end point AEP		16.7...83.3 l/min	5.5...27.6 m/s	1...5 m³/h
Low flow cut-off LFC		0.6...0.8 l/min	0.2...0.3 m/s	0.04...0.05 m³/h
In steps of		0.1 l/min	0.1 m/s	0.01 m³/h
Pressure monitoring				
Measuring range	[bar]	-1...16		
Display range	[bar]	-1...20		
Resolution	[bar]	0.05		
Set point SP	[bar]	-0.92...16		
Reset point rP	[bar]	-1...15.92		
Analog start point	[bar]	-1...12.8		
Analog end point	[bar]	2.2...16		
In steps of	[bar]	0.01		
Volumetric flow quantity monitoring				
Measuring range		0...100000000 m³	0...353146667.2 scf	
Display range		0...100000000 m³	0...353146667.2 scf	
Set point SP		0.001...10000000 m³	0.05...353146667.2 scf	
Pulse value		0.001...10000000 m³	0.05...353146667.2 scf	
In steps of		0.0001 m³	0.005 scf	

SD5800

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Pulse length	[s]	0.01...2	
Temperature monitoring			
Measuring range		-10...60 °C	14...140 °F
Display range		-24...74 °C	-11.2...165.2 °F
Resolution		0.2 °C	0.5 °F
Set point SP		-9.7...60 °C	14.6...140 °F
Reset point rP		-10...59.7 °C	14...139.4 °F
Analog start point		-10...46 °C	14...114.8 °F
Analog end point		4...60 °C	39.2...140 °F
In steps of		0.1 °C	0.1 °F
Accuracy / deviations			
Temperature coefficient	[1/K]	± 0,07 % MW	
Accuracy (in the measuring range)		± (6 % MW + 0,6 % MEW); at medium temperature 23 °C	
Repeatability		0,8 % MW + 0,2 % MEW	
Pressure monitoring			
Repeatability	[% of the final value]	± 0,2	
Characteristics deviation	[% of the final value]	< ± 0,5; (BFSL = Best Fit Straight Line)	
Greatest TEMPCO of the span	[% MEW / 10 K]	± 0,15	
Greatest TEMPCO of the zero point	[% MEW / 10 K]	± 0,25	
Temperature monitoring			
Accuracy	[K]	± 0,5; (medium flow in the limit area of the flow measurement range)	
Reaction times			
Response time	[s]	0.1; (dAP = 0)	
Damping process value dAP	[s]	0...5	
Pressure monitoring			
Response time	[s]	0.05	
Temperature monitoring			
Dynamic response T05 / T09	[s]	T09 = 0,5	
Software / programming			
Parameter setting options		hysteresis / window; normally open / closed; current/pulse output; display can be rotated and switched off; Display unit; totalizer	
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9 CDV	
Profiles		Common - I&D	Identification and Diagnosis
		Function	Measurement data, standard resolution
SIO mode		yes	

SD5800

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Required master port class		A	
Process data analog		8	
Process data binary		2	
Min. process cycle time	[ms]	7.2	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	1301
Operating conditions			
Ambient temperature	[°C]	0...60	
Storage temperature	[°C]	-20...85	
Max. relative air humidity	[%]	90	
Protection		IP 65; IP 67	
Tests / approvals			
EMC		DIN EN 60947-5-9	
CPA approval		model number	003TG
		accuracy class	-
		maximum allowable error	± 7 % FS
		Q (min)	0,05 m³/h (He)
		Q (t)	-
		Q (max)	5 m³/h (He)
Vibration resistance		DIN EN 68000-2-6	5 g (10...2000 Hz)
MTTF	[years]	180	
UL approval		UL approval number	I012
		File number UL	E174189
Pressure equipment directive		sound engineering practice; can be used for stable gases fluid group 2	
Mechanical data			
Weight	[g]	554	
Housing		rectangular	
Dimensions	[mm]	182 x 45.4 x 67.8	
Material		PBT+PC-GF30; PPS GF40; stainless steel (1.4301 / 304); stainless steel (1.4305 / 303); steel (1.5523) galvanized; 2.0401 (brass / CW614N); FKM	
Materials (wetted parts)		EN AW-6082 (aluminium); stainless steel (1.4305 / 303); FKM; ceramics glass passivated; PPS GF40; Al2O3 (ceramics); acrylate	
Process connection		threaded connection G 1/4 Internal thread DN8	
Displays / operating elements			
Display			Color display 1,44", 128 x 128 pixels
			2 x LED, yellow
Remarks			
Remarks		MW = Measured value	
		MEW = Final value of the measuring range	
		Standard conditions: 1013.25 mbar / 15 °C / 0 % relative humidity	
		For information about installation and operation please see the operating instructions.	
Pack quantity		1 pcs.	

SD5800

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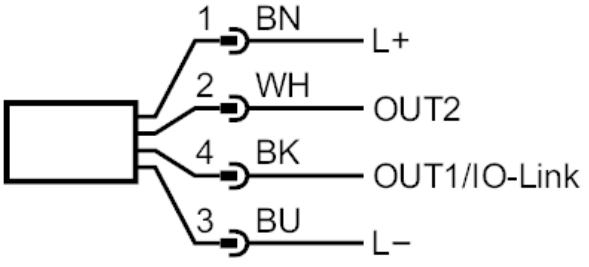
Electrical connection

Connector: 1 x M12; coding: A

Connection



OUT1/IO-Link:	Switching output flow Switching output temperature Switching output pressure Pulse output quantity meter signal output Preset counter
OUT2/InD:	Switching output flow Switching output temperature Switching output pressure analog output flow analog output temperature analog output pressure signal output Preset counter Pulse output quantity meter Input counter reset