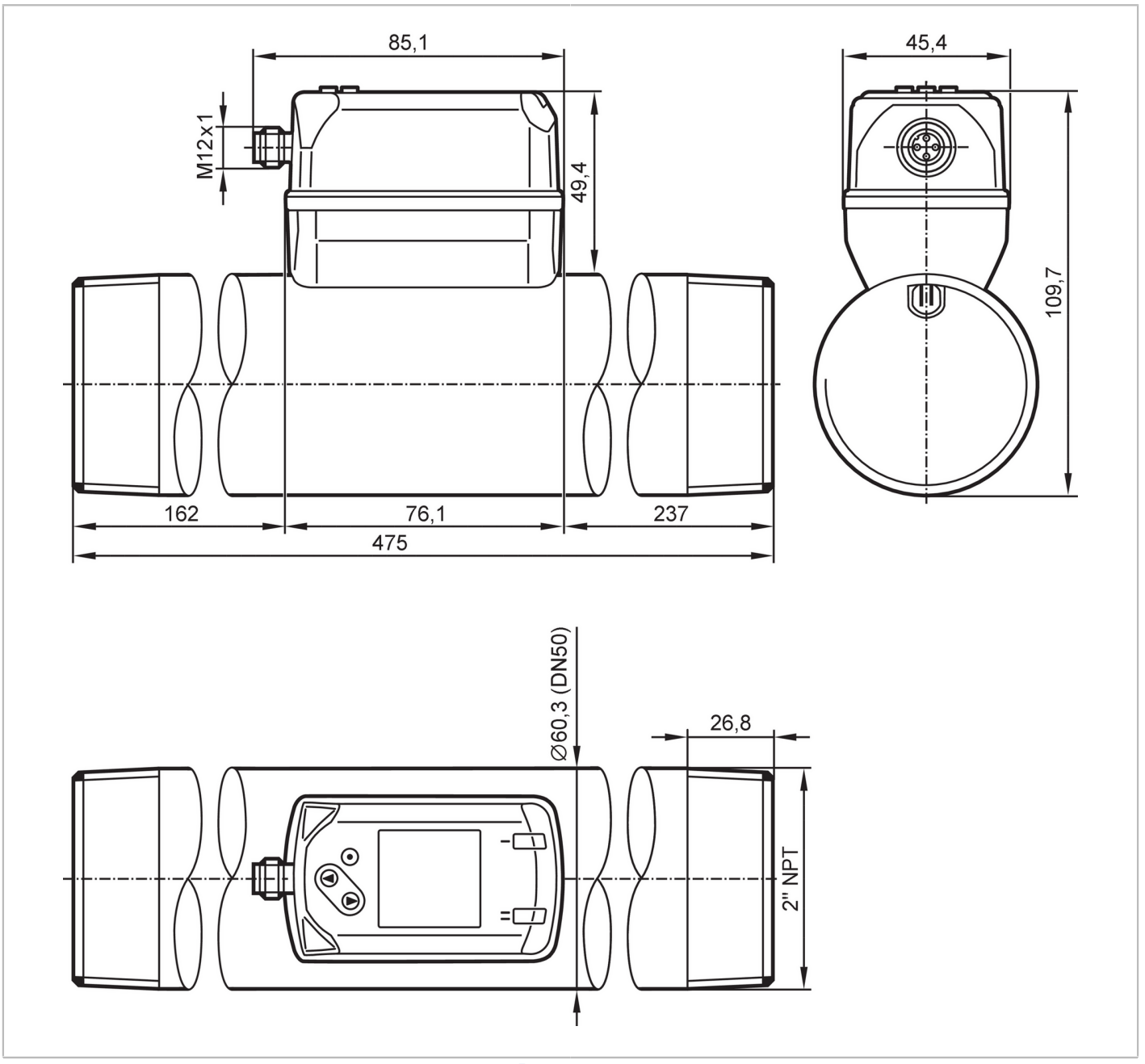
SD2501

Compressed air meter

SDN21DGXFRKG/US-100



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1		
Measuring range	80...24720 scfh	1.5...412 scfm	1...275.6 ft/s
Process connection	threaded connection 2" NPT external thread DN50		
Application			
Application	for industrial applications		
Media	compressed air		
Medium temperature [°C]	-10...60		
Min. burst pressure [psi]	928		
Pressure rating [psi]	232		

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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		
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		80...24720 scfh	1.5...412 scfm	1...275.6 ft/s
Display range		0...29660 scfh	0...494.5 scfm	0...330.8 ft/s
Resolution		20 scfh	0.5 scfm	0.2 ft/s
Set point SP		210...24710 scfh	3.5...411.8 scfm	2.4...275.5 ft/s
Reset point rP		90...24590 scfh	1.5...409.8 scfm	1...274.1 ft/s
Analog start point ASP		0...19780 scfh	0...329.6 scfm	0...220.5 ft/s
Analog end point AEP		4940...24720 scfh	82.4...412 scfm	55.1...275.6 ft/s
Low flow cut-off LFC		70...250 scfh	1.2...4.1 scfm	0.8...2.8 ft/s
In steps of		1 scfh	0.1 scfm	0.1 ft/s
Pressure monitoring				
Measuring range	[psi]	-15...232		
Display range	[psi]	-15...290		
Resolution	[psi]	1		
Set point SP	[psi]	-13...232		
Reset point rP	[psi]	-15...231		
Analog start point	[psi]	-15...186		

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Analog end point	[psi]	32...232	
In steps of	[psi]	1	
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
Pulse length	[s]	0.002...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)		class 141: ± (2 % MW + 0,5 % MEW); class 344: ± (6 % MW + 0,6 % MEW) ; air quality to ISO 8573-1:2010; at medium temperature 73 °F	
Repeatability		± (0,4 % MW + 0,1 % 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]	± 0,3	
Greatest TEMPCO of the zero point	[% MEW / 10 K]	± 0,1	
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, T09)	
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	

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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	
Profiles		Common - I&D	Identification and Diagnosis
		Function	Measurement data, standard resolution
SIO mode		yes	
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	871
Operating conditions			
Ambient temperature	[°F]	32...140	
Storage temperature	[°F]	-4...185	
Max. relative air humidity	[%]	90	
Protection		IP 65; IP 67	
Tests / approvals			
EMC		DIN EN 60947-5-9	
Vibration resistance		DIN EN 68000-2-6	5 g (10...2000 Hz)
MTTF	[years]	183	
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]	2681.5	
Housing		rectangular	
Dimensions	[mm]	475 x 60.3 x 109.7	
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)		stainless steel (1.4301 / 304); stainless steel (1.4305 / 303); FKM; ceramics glass passivated; PPS GF40; Al2O3 (ceramics); acrylate	
Process connection		threaded connection 2" NPT external thread DN50	
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	
		Measuring, display and setting ranges refer to standard volume flow according to DIN ISO 2533.	
		For information about installation and operation please see the operating instructions.	
Pack quantity		1 pcs.	

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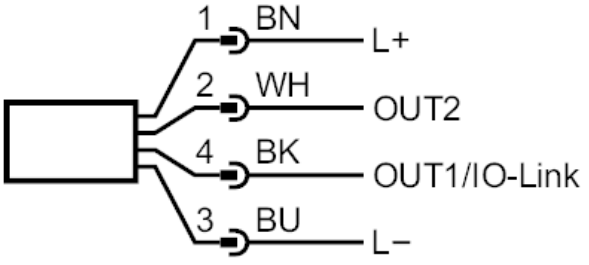
Electrical connection

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