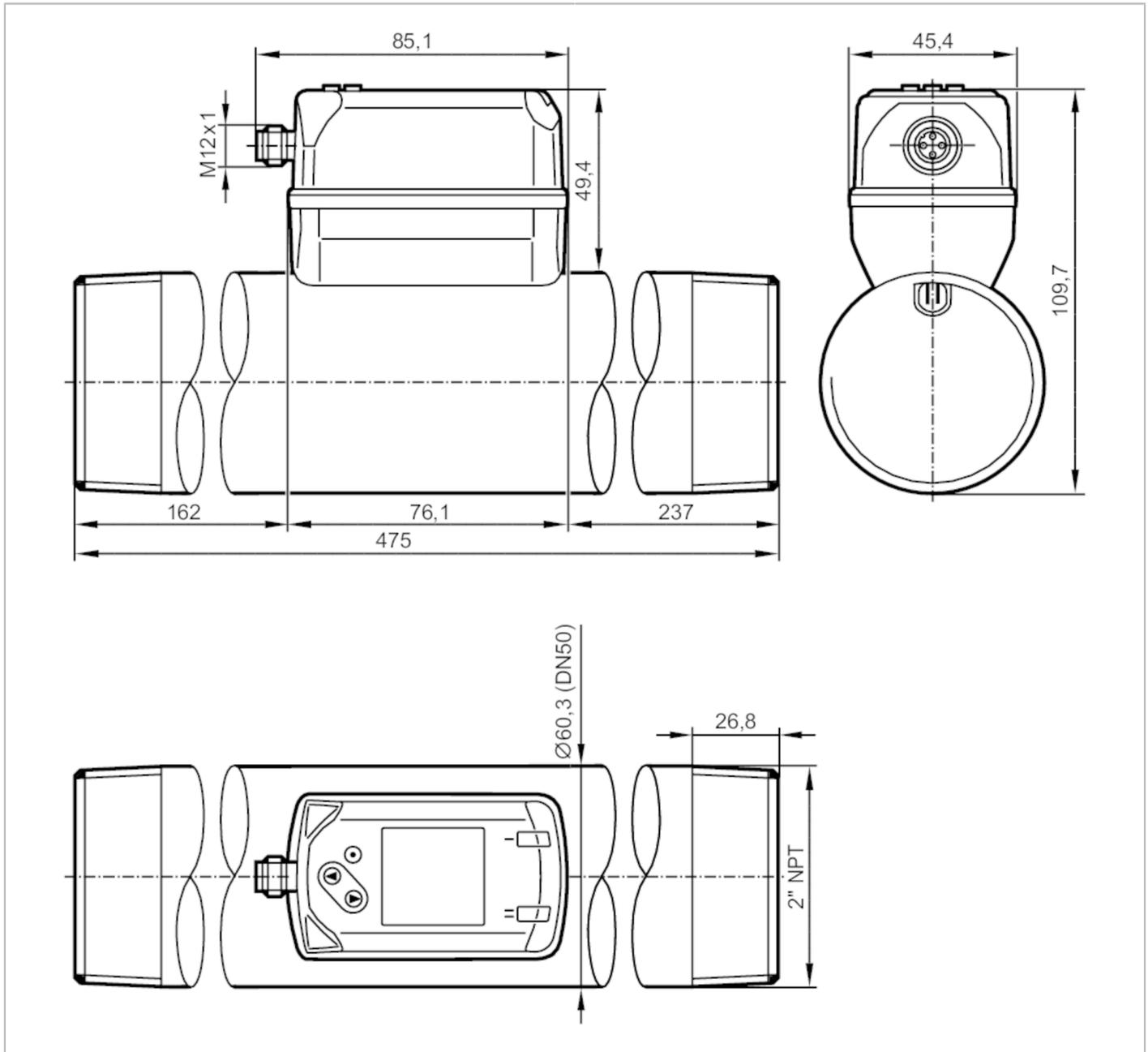


SD2501



Compressed air meter

SDN21DGXFRKG/US-100



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue 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. bursting pressure [psi]	928		
Pressure rating [psi]	232		

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MAWP (for applications according to CRN)	[bar]	9.5
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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 analogue outputs: 1
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Inputs

Inputs	counter reset
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Outputs

Output signal	switching signal; analogue signal; pulse 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]	2.5	
Permanent current rating of switching output DC	[mA]	150; (per output)	
Number of analogue outputs	1		
Analogue current output	[mA]	4...20; (scalable)	
Max. load	[Ω]	500	
Pulse output	consumed quantity meter		
Short-circuit protection	yes		
Type of short-circuit protection	pulsed		
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
Analogue start point ASP	0...19780 scfh	0...329.6 scfm	0...220.5 ft/s
Analogue 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
Analogue start point	[psi]	-15...186

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Analogue end point	[psi]	32...232
In steps of	[psi]	1
Volumetric flow quantity monitoring		
Measuring range	0...100000000 m ³	0...353146667.2 scf
Display range	0...100000000 m ³	0...353146667.2 scf
Set point SP	0.001...10000000 m ³	0.05...353146667.2 scf
Pulse value	0.001...10000000 m ³	0.05...353146667.2 scf
In steps of	0.0001 m ³	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
Analogue start point	-10...46 °C	14...114.8 °F
Analogue 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)
Response 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 / normally closed; current/pulse output; display can be rotated and switched off; Display unit; totaliser

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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	Digital Measuring Sensor (0x800A), Identification and Diagnosis (0x4000)	
SIO mode	yes	
Required master port type	A	
Process data analogue	8	
Process data binary	2	
Min. process cycle time [ms]	7.2	
Supported DeviceIDs	Type of operation default	DeviceID 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 no.	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	
Materials	PBT+PC-GF30; PPS GF40; stainless steel (304/1.4301); stainless steel (303/1.4305); steel (1.5523) galvanised; 2.0401 (brass / CW614N); FKM	
Materials (wetted parts)	stainless steel (304/1.4301); stainless steel (303/1.4305); FKM; ceramics glass passivated; PPS GF40; Al2O3 (ceramics); acrylate	
Process connection	threaded connection 2" NPT external thread DN50	
Displays / operating elements		
Display	colour 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 the 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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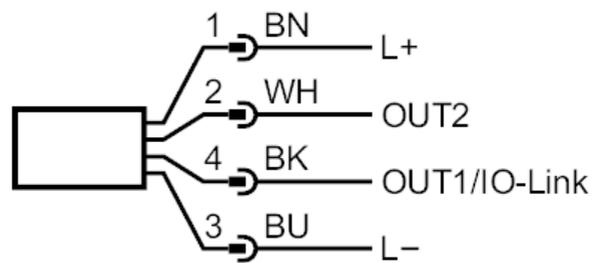
SDN21DGXFRKG/US-100

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

OUT2/InD: signal output Preset counter
switching output flow
switching output temperature
switching output pressure
analogue output flow
analogue output temperature
analogue output pressure
signal output Preset counter
Pulse output quantity meter
input counter reset