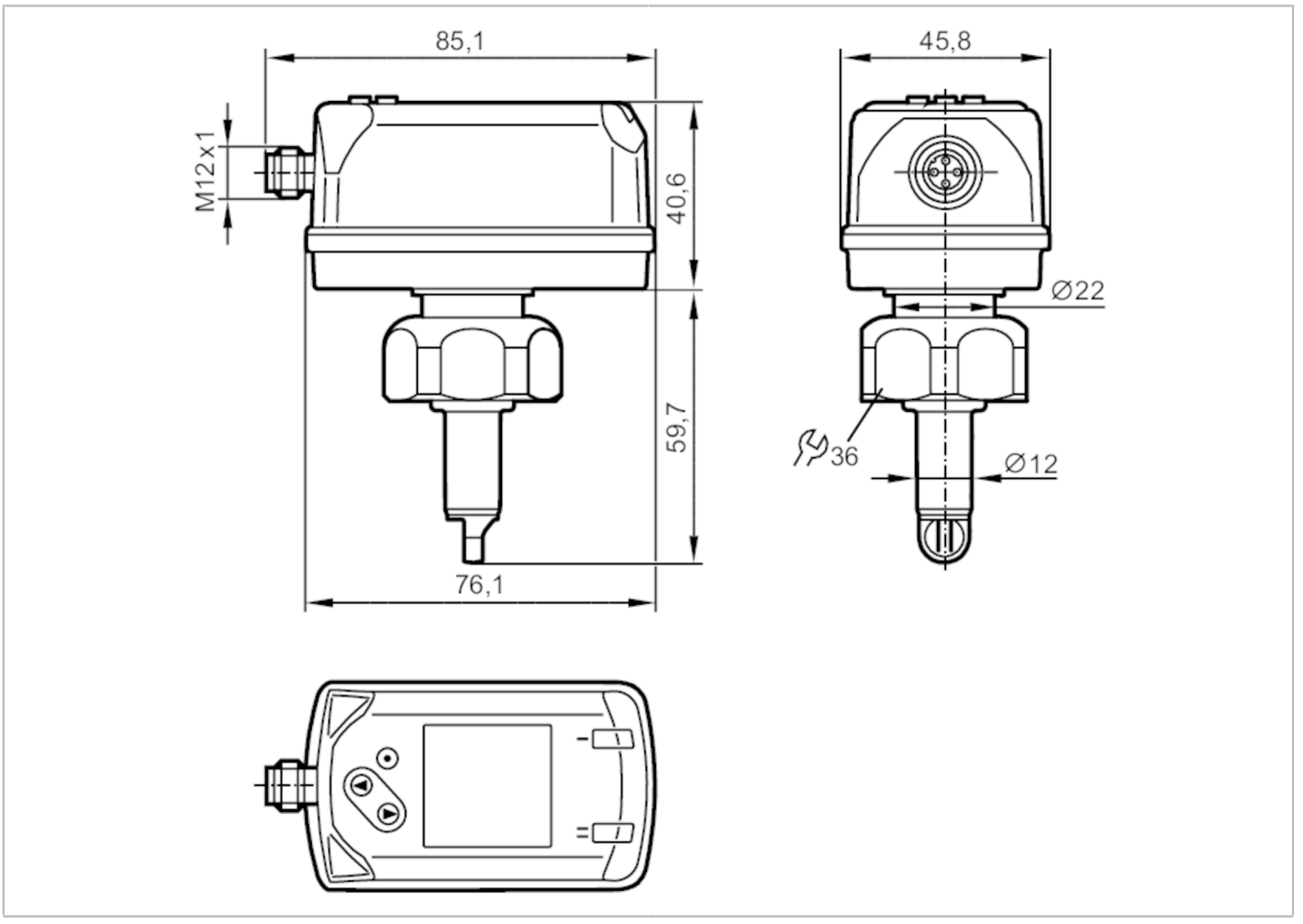
SD1540

Compressed air meter

SDD11DGXFRKG/US-100



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	0.6...143.9 m/s	0.3...26260 m³/h	0.005...437.6 m³/min
Process connection	threaded connection G 1 internal thread		
Application			
Application	for industrial applications		
Installation	Adjustable to inside pipe diameters; (14...254 mm)		
Media	compressed air		
Medium temperature [°C]	-10...60		
Min. bursting pressure [bar]	64		
Min. bursting pressure [MPa]	6.4		
Pressure rating [bar]	16		
Pressure rating [MPa]	1.6		
MAWP (for applications according to CRN) [bar]	10		
Electrical data			
Operating voltage [V]	18...30 DC; (to SELV/PELV)		
Current consumption [mA]	< 80		

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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		
Inputs				
Inputs		counter reset		
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		0.6...143.9 m/s	0.3...26260 m³/h	0.005...437.6 m³/min
Display range		0...172.7 m/s	0...31520 m³/h	0...525.2 m³/min
Resolution		0.1 m/s	0.05 m³/h	0.01 m³/min
Set point SP		1.4...143.9 m/s	0.8...26260 m³/h	0.013...437.6 m³/min
Reset point rP		0.7...143.2 m/s	0.4...26140 m³/h	0.007...435.6 m³/min
Analogue start point ASP		0...115.1 m/s	0...21000 m³/h	0...350 m³/min
Analogue end point AEP		28.8...143.9 m/s	422...26260 m³/h	7.04...437.6 m³/min
Low flow cut-off LFC		0.2...1.4 m/s	0.1...260 m³/h	0.002...4.4 m³/min
In steps of		0.1 m/s	0.01 m³/h	0.001 m³/min
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		
Analogue start point	[bar]	-1...12.8		
Analogue end point	[bar]	2.2...16		
In steps of	[bar]	0.01		
Volumetric flow quantity monitoring				
Measuring range		0...1000000000 m³	0...35314666721 scf	

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Display range		0...1000000000 m³	0...35314666721 scf
Set point SP		0.01...100000000 m³	0.35...3531466672.1 scf
Pulse value		0.01...100000000 m³	0.35...3531466672.1 scf
In steps of		0.001 m³	0.05 scf
Pulse length	[s]	0.001...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)		± (6 % MW + 0,6 % MEW); (reference conditions: diA = 73 mm; inlet pipe length >= 3 m; outlet pipe length >= 0,5 m; reference temperature: 20...25 °C; standard volume flow: 50...850 Nm³/h)	
Repeatability		± 1,5 % MW	
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	
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	

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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**	**DeviceID**
		default	872
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	-
		accuracy class	-
		maximum allowable error	± 7 % FS
		Q (min)	0,3 m³/h
		Q (t)	-
		Q (max)	26260 m³/h
Vibration resistance		DIN EN 68000-2-6	5 g (10...2000 Hz)
MTTF	[years]	167	
UL approval		UL Approval no.	I013
		File number UL	E174189
Mechanical data			
Weight	[g]	408.3	
Materials		PBT+PC-GF30; PPS GF40; stainless steel (304/1.4301); stainless steel (303/1.4305); stainless steel (316L/1.4404); FKM	
Materials (wetted parts)		stainless steel (304/1.4301); stainless steel (316L/1.4404); FKM; ceramics glass passivated; PPS GF40; Al2O3 (ceramics); acrylate	
Process connection		threaded connection G 1 internal thread	
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	
		D = inside pipe diameter	
		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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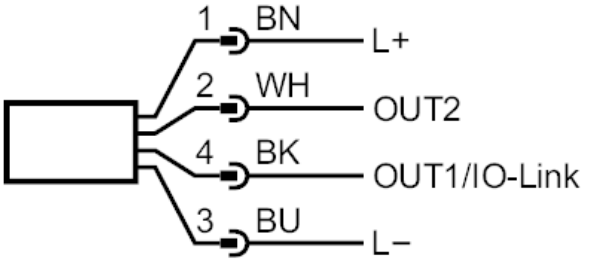
Electrical connection

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 analogue output flow analogue output temperature analogue output pressure signal output Preset counter Pulse output quantity meter input counter reset