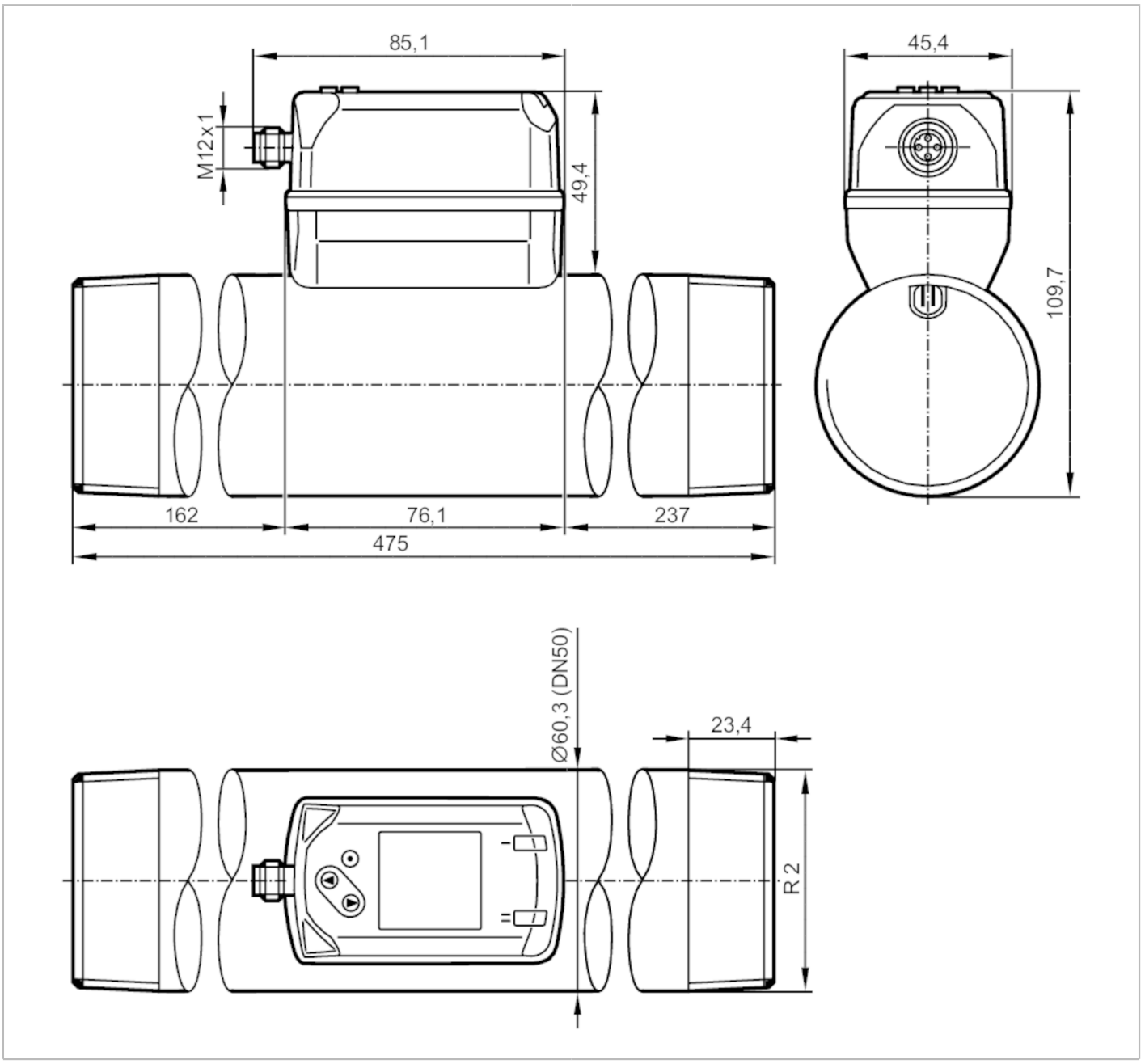
SD2500

Compressed air meter

SDR21DGXFRKG/US-100



Product characteristics			
Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Measuring range	40...11670 l/min	0.3...84 m/s	2.5...700 m³/h
Process connection	threaded connection R 2 DN50		
Application			
Application	for industrial applications		
Media	compressed air		
Medium temperature [°C]	-10...60		
Min. bursting pressure [bar]	64		
Min. bursting pressure [MPa]	6.4		

SD2500

Compressed air meter

SDR21DGXFRKG/US-100

Pressure rating	[bar]	16		
Pressure rating	[MPa]	1.6		
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 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		40...11670 l/min	0.3...84 m/s	2.5...700 m³/h
Display range		0...14000 l/min	0...100.8 m/s	0...840 m³/h
Resolution		10 l/min	0.1 m/s	0.5 m³/h
Set point SP		100...11660 l/min	0.7...84 m/s	5.9...699.7 m³/h
Reset point rP		40...11600 l/min	0.3...83.6 m/s	2.5...696.3 m³/h
Analogue start point ASP		0...9330 l/min	0...67.2 m/s	0...560 m³/h
Analogue end point AEP		2330...11670 l/min	16.8...84 m/s	140...700 m³/h
Low flow cut-off LFC		30...120 l/min	0.2...0.8 m/s	2...7 m³/h
In steps of		1 l/min	0.1 m/s	0.1 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		

SD2500

Compressed air meter

SDR21DGXFRKG/US-100

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...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
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 23 °C
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

SD2500

Compressed air meter

SDR21DGXFRKG/US-100

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	
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	870
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	001TG
		accuracy class	-
		maximum allowable error	± 2,5 % FS
		Q (min)	0,05 m³/h
		Q (t)	-
		Q (max)	700 m³/h
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]	2650.5	
Materials		PBT+PC-GF30; PPS GF40; stainless steel (1.4301 / 304); stainless steel (1.4305 / 303); steel (1.5523) galvanised; 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 R 2 DN50	
Displays / operating elements			
Display			colour display 1,44", 128 x 128 pixels
			2 x LED, yellow

SD2500

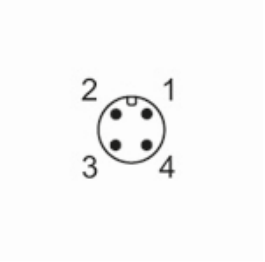
Compressed air meter

SDR21DGXFRKG/US-100

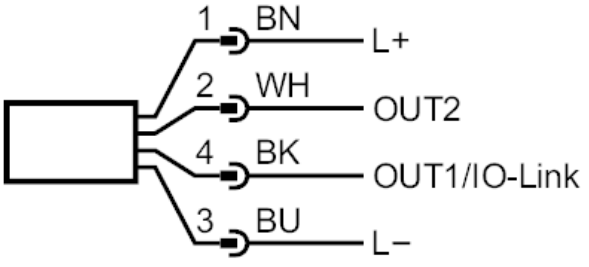
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	Measuring, display and setting ranges refer to the standard volume flow according to DIN ISO 2533.
	For information about installation and operation please see the operating instructions.
Pack quantity	1 pcs.

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