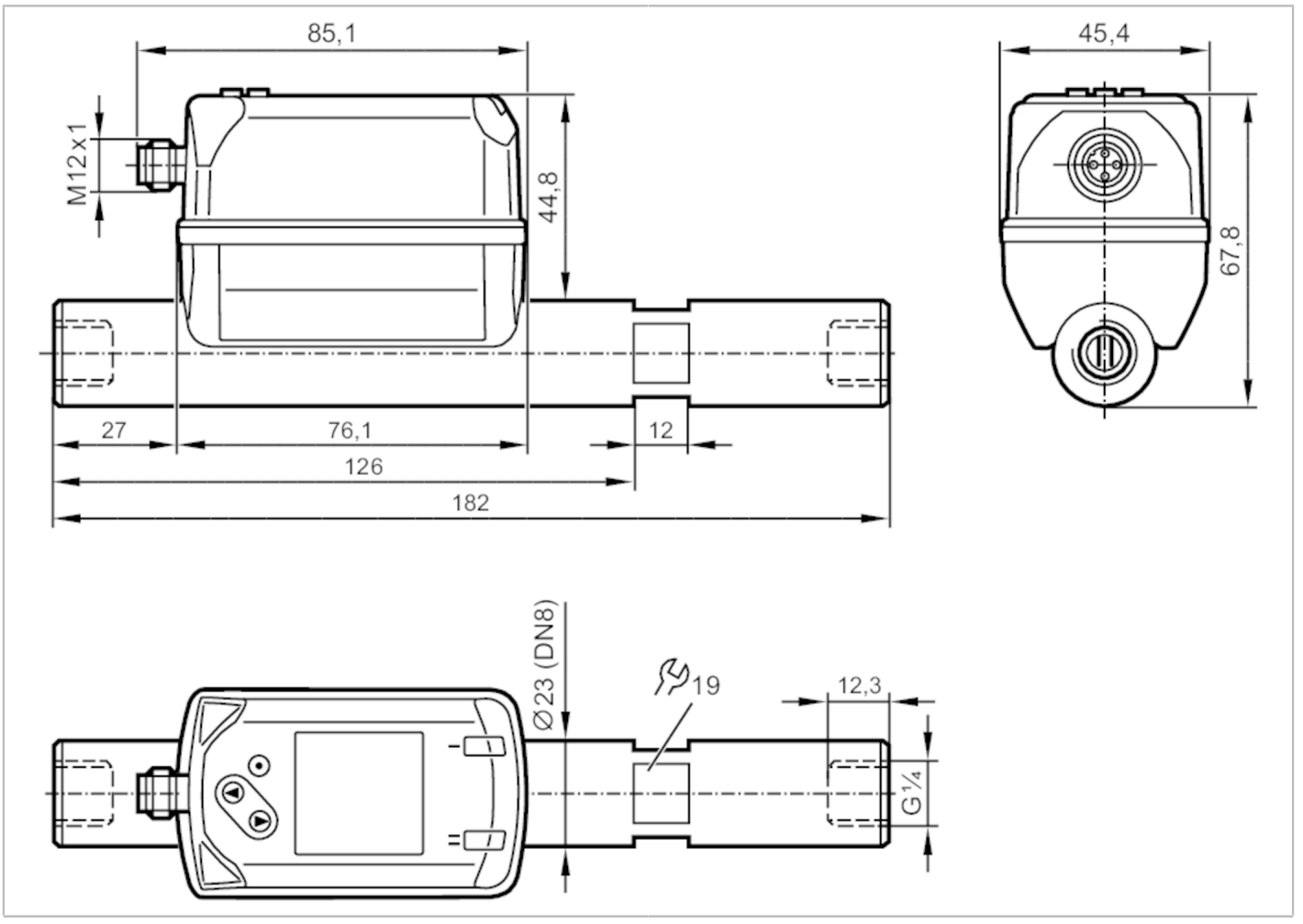
SDP110

Gap distance sensor

SDR14DGXFRKG/US-100



Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1	
Process connection		threaded connection G 1/4 DN8	
Absolute			
Measuring range		0...400; (depending on the nozzle used) µm	
Relative (without unit of measurement)			
Measuring range			0...800
Application			
Application		for industrial applications	
Media		compressed air	
Medium temperature	[°C]	-10...60	
Min. bursting pressure		64 bar	6.4 MPa
Pressure rating		16 bar	1.6 MPa
Electrical data			
Operating voltage	[V]	18...30 DC; (to SELV/PELV)	
Current consumption	[mA]	< 80	
Protection class		III	

SDP110

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SDR14DGXFRKG/US-100

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		teach input
Outputs		
Output signal		switching signal; analog 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
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Measuring/setting range		
Absolute		
Measuring range		0...400; (depending on the nozzle used) µm
Setting range		0...500; (depending on the nozzle used) µm
Resolution		1 µm
Set point SP		2...500 µm
Reset point rP		0...498 µm
Analog start point ASP		0...400 µm
Analog end point AEP		100...500 µm
In steps of		1 µm
Relative (without unit of measurement)		
Measuring range		0...800
Setting range		0...1000
Resolution		1
Set point SP		4...1000
Reset point rP		0...996
Analog start point ASP		0...800
Analog end point AEP		200...1000
In steps of		1
Pressure monitoring		
Measuring range	[bar]	-1...16
Display range	[bar]	-1...20
Resolution	[bar]	0.05
Set point SP	[bar]	-0.92...16

SDP110

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SDR14DGXFRKG/US-100

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		
Flow monitoring				
Measuring range		0.8...100 l/min	0.3...33.2 m/s	0.05...6 m³/h
Display range		0...120 l/min	0...39.8 m/s	0...7.2 m³/h
Resolution		0.2 l/min	0.1 m/s	0.01 m³/h
Set point SP		1.4...100 l/min	0.5...33.2 m/s	0.08...6 m³/h
Reset point rP		0.9...99.5 l/min	0.3...33 m/s	0.05...5.97 m³/h
Analog start point ASP		0...80 l/min	0...26.6 m/s	0...4.8 m³/h
Analog end point AEP		20...100 l/min	6.6...33.2 m/s	1.2...6 m³/h
Low flow cut-off LFC		0.6...1 l/min	0.2...0.3 m/s	0.04...0.06 m³/h
In steps of		0.1 l/min	0.1 m/s	0.01 m³/h
Accuracy / deviations				
Accuracy (in the measuring range)		± (5% MW + 5 µm); (pressure 1...3 bar)		
Repeatability		± (3% MW + 2 µm); (pressure 1...6 bar)		
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		
Flow monitoring				
Temperature coefficient	[1/K]	± 0,07 % MW		
Accuracy (in the measuring range)		class 141: ± (2 % MW + 1 % MEW); class 344: ± (6 % MW + 1,2 % MEW) ; air quality to ISO 8573-1:2010; at medium temperature 23 °C		
Repeatability		± (0,8 % MW + 0,4 % MEW)		
Reaction times				
Pressure monitoring				
Response time	[s]	0.05		
Flow monitoring				
Response time	[s]	0.1; (dAP = 0)		
Damping process value dAP	[s]	0...5		
Software / programming				
Parameter setting options		hysteresis / window; normally open / closed; current output; display can be rotated and switched off; Display unit; Teach function		
Interfaces				
Communication interface		IO-Link		
Transmission type		COM2 (38,4 kBaud)		

SDP110

Gap distance sensor

SDR14DGXFRKG/US-100

IO-Link revision		1.1	
SDCI standard		IEC 61131-9	
SIO mode		yes	
Required master port class		A	
Process data analog		7	
Process data binary		2	
Min. process cycle time	[ms]	7.2	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	1333
Note		For further information please see the IODD PDF file at "Downloads"	
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	
Vibration resistance		DIN EN 68000-2-6	5 g (10...2000 Hz)
MTTF	[years]	167	
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]	548.2	
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; SINT-A51; stainless steel (1.4301 / 304); CW510L (brass)	
Process connection		threaded connection G 1/4 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	
		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.	

SDP110

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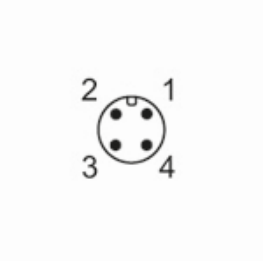
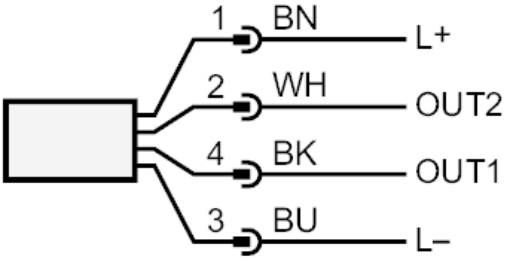
Electrical connection

Connector: 1 x M12; coding: A



Connection



OUT1/IO-Link:	Switching output distance Switching output flow Switching output pressure
OUT2/InD:	Switching output distance Switching output flow Switching output pressure analog output distance analog output flow analog output pressure teach input