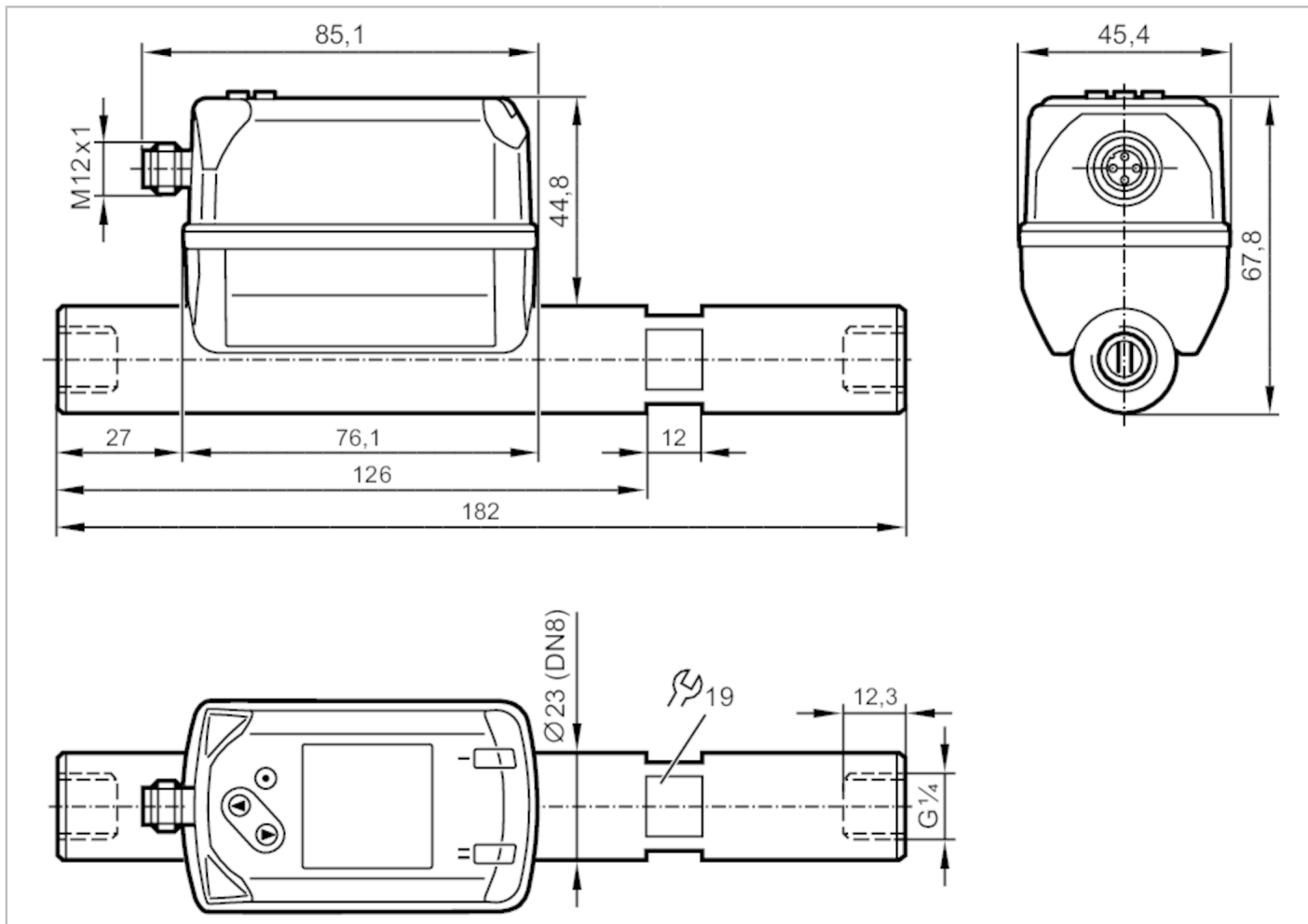


SDP110



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 Internal thread DN8
Absolute	
Measuring range	[µm]
	0...400; (depending on the nozzle used)

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
Reverse polarity protection		yes
Power-on delay time	[s]	1



Gap distance sensor

SDR14DGXFRKG/US-100

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 [μm]	0...400; (depending on the nozzle used)	
Setting range [μm]	0...500; (depending on the nozzle used)	
Resolution [μm]	1	
Set point SP [μm]	2...500	
Reset point rP [μm]	0...498	
Analog start point ASP [μm]	0...400	
Analog end point AEP [μm]	100...500	
In steps of [μm]	1	
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	



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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)

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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	
Housing	rectangular	
Dimensions [mm]	182 x 45.4 x 67.8	
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 Internal thread 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.	

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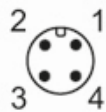


Gap distance sensor

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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 |