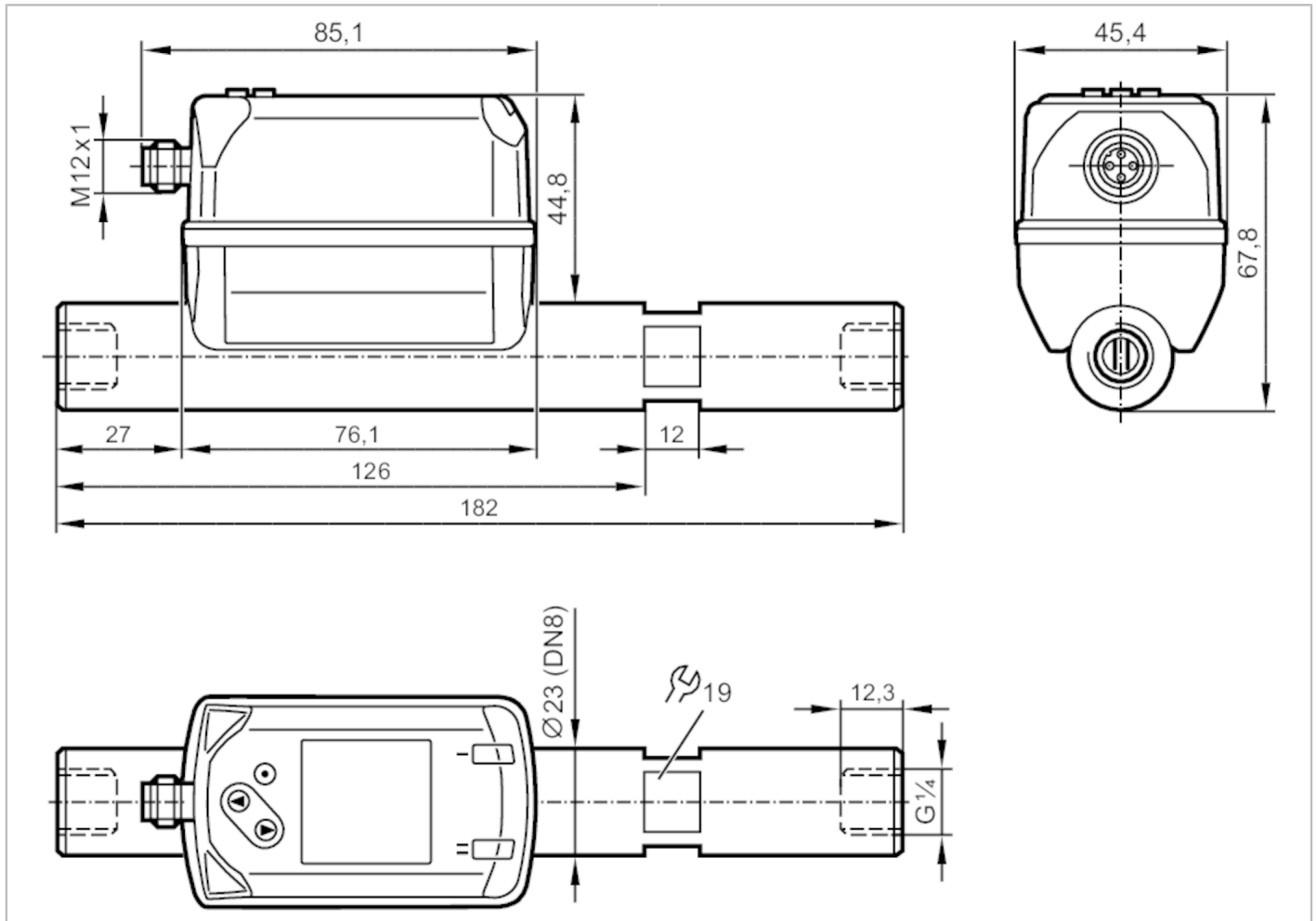


SDP110



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	[$^{\circ}\text{C}$] -10...60
Min. burst pressure	64 bar 6.4 MPa
Pressure rating	16 bar 1.6 MPa
MAWP (for applications according to CRN)	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



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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	[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

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Set point SP	[bar]	-0.92...16
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 m ³ /h
Display range	0...120 l/min	0...39.8 m/s	0...7.2 m ³ /h
Resolution	0.2 l/min	0.1 m/s	0.01 m ³ /h
Set point SP	1.4...100 l/min	0.5...33.2 m/s	0.08...6 m ³ /h
Reset point rP	0.9...99.5 l/min	0.3...33 m/s	0.05...5.97 m ³ /h
Analog start point ASP	0...80 l/min	0...26.6 m/s	0...4.8 m ³ /h
Analog end point AEP	20...100 l/min	6.6...33.2 m/s	1.2...6 m ³ /h
Low flow cut-off LFC	0.6...1 l/min	0.2...0.3 m/s	0.04...0.06 m ³ /h
In steps of	0.1 l/min	0.1 m/s	0.01 m ³ /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

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Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
Profiles	Common - I&D	Identification and Diagnosis
	Function	Measurement data, standard resolution
SIO mode	yes	
Required master port class	A	
Process data analog	7	
Process data binary	2	
Min. process cycle time [ms]	5.9	
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

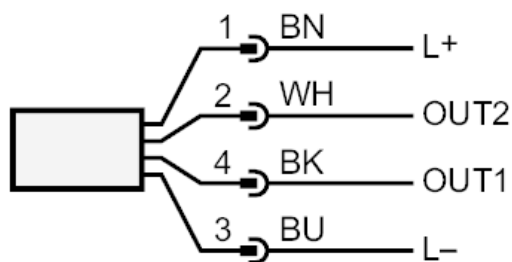
SDR14DGXFRKG/US-100

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