SD6100

SDR12DGXFPKG/US-100
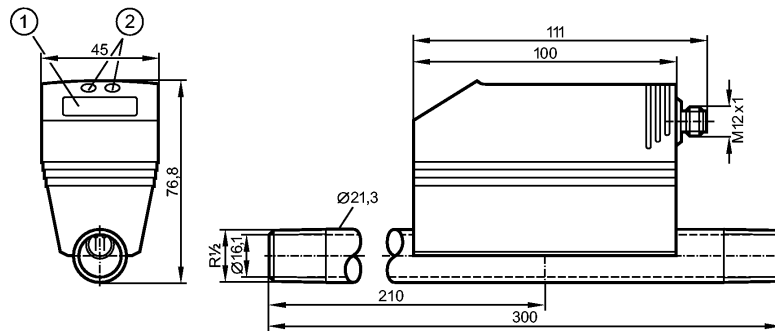
1: 4-digit alphanumeric display
2: Programming buttons

CE   c(UL)us LISTED   ◆ IO-Link

Product characteristics

Flow rate meter for gases

Quick disconnect

Process connection: R½ (DN15)

Function programmable

2 outputs
OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)
OUT2 = flow monitoring (analog or binary)

Application

Application		argon (Ar), carbon dioxide (CO2), nitrogen (N2)
Pressure rating	[bar]	16
Medium temperature	[°C]	0...60

Electrical data

Electrical design		DC PNP
Operating voltage	[V]	18...30 DC *)
Current consumption	[mA]	< 100
Protection class		III
Reverse polarity protection		yes

Outputs

Output function		OUT1: normally open / closed programmable or pulse OUT2: normally open / closed programmable or analog (4...20 mA scaleable)
Current rating	[mA]	2 x 250
Voltage drop	[V]	< 2
Short-circuit protection		yes (non-latching)
Overload protection		yes
Analog output		4...20 mA
Max. load	[Ω]	< 500
Pulse output		consumed quantity meter

Measuring / setting range

Flow monitoring

Measuring range	[Nm³/h]	[] N2: 0.2...75.0 Ar: 0.4...122.0 CO2: 0.2...74.7 |

Display range	[Nm³/h]	[] N2: 0.0...90.0 Ar: 0.0...146.4 CO2: 0.0...89.7 |
Resolution	[Nm³/h]	[] N2: 0.1 Ar: 0.1 CO2: 0.1 |
Set point, SP	[Nm³/h]	[] N2: 0.7...75.0 Ar: 1.1...122.0 CO2: 0.7...74.7 |
Reset point, rP	[Nm³/h]	[] N2: 0.4...74.7 Ar: 0.6...121.5 CO2: 0.4...74.4 |
Analog start point, ASP	[Nm³/h]	[] N2: 0.0...60.0 Ar: 0.0...97.60 CO2: 0.0...59.8 |
Analog end point, AEP	[Nm³/h]	[] N2: 15.0...75.0 Ar: 24.4...122.0 CO2: 14.9...74.7 |
Low flow cut-off, LFC	[Nm³/h]	0.25...1.3
in steps of	[Nm³/h]	[] N2: 0.1 Ar: 0.1 CO2: 0.1 |
Measuring dynamics		1:300
Volumetric flow quantity monitoring		
Pulse value		0.001...1 000 000 m³
in steps of		0.001...1000 m³
Pulse length	[s]	0.012...2
Temperature monitoring		
Measuring range	[°C]	0...60
Display range	[°C]	-12...72
Resolution	[°C]	0.2
Set point, SP	[°C]	0.4...60
Reset point, rP	[°C]	0...59.8
Analog start point, ASP	[°C]	0...48
Analog end point, AEP	[°C]	12...60
in steps of	[°C]	0.2
Accuracy / deviations		
Flow monitoring		
Accuracy		± (6% MW + 0.6% MEW) ***)
Repeatability[% of the measured value]		± 1.5
Temperature monitoring		
Accuracy	[K]	± 2 **)
Reaction times		
Power-on delay time	[s]	1
Flow monitoring		

Response time	[s]	< 0.1 (dAP = 0)
Damping, dAP	[s]	0 - 0.2 - 0.4 - 0.6 - 0.8 - 1

Software / programming		
Programming options		hysteresis / window function; NO / NC; current / pulse output; display can be rotated / deactivated; display unit, medium

Interfaces	
IO-Link Device	
Transfer type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link Device ID	265 d / 00 01 09 h
Profiles	Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis
SIO mode	yes
Required master port class	A
Process data analogue	3
Process data binary	2
Min. process cycle time	[ms]	4.1

Environment		
Ambient temperature	[°C]	0...60
Storage temperature	[°C]	-20...85
Max. relative air humidity	[%]	90
Protection		IP 65

Tests / approvals		
Pressure equipment directive		article 3, section 3 - sound engineering practice
EMC		EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV EN 61000-4-6 HF conducted: 10 V
Vibration resistance		DIN IEC 68-2-6: 5 g (55...2000 Hz)
MTTF	[Years]	227

Mechanical data		
Process connection		R½ (DN15)
Materials (wetted parts)		stainless steel (304S15); ceramics glass passivated; PEEK (polyether ether ketone); polyester; Viton; aluminum anodized
Housing materials		PBT-GF 20; PC (APEC); Makrolon; stainless steel (304S15); Viton
Tightening torque	[Nm]	50
Weight	[kg]	1.178

Displays / operating elements	
Display	Display unit 4 x LED green (Nl/min, Nm³/h, Nm³, °C) Function display 1 x LED yellow Switching status 2 x LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display

Electrical connection	
Connection	M12 connector
Wiring	

Programming of the output function
----------OUT1----------
- Switching output
Hno = hysteresis / normally open
Hnc = hysteresis / normally closed
Fno = window function / normally open
Fnc = window function / normally closed
- ImP = pulse output for flow rate meter / signal output
for preset meter
----------OUT2----------
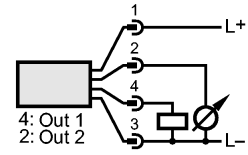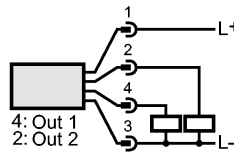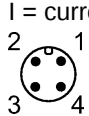- Switching output
Hno = hysteresis / normally open
Hnc = hysteresis / normally closed
Fno = window function / normally open
Fnc = window function / normally closed
- Analog output
I = current output (4...20 mA)

Remarks

Remarks	
	*) to EN50178, SELV, PELV
	**) medium flow in the limit area of the flow measurement range
	***) under conditions acc. to DIN ISO 2533
	and when installed in DN15 pipes
	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.

Pack quantity	[piece]	1