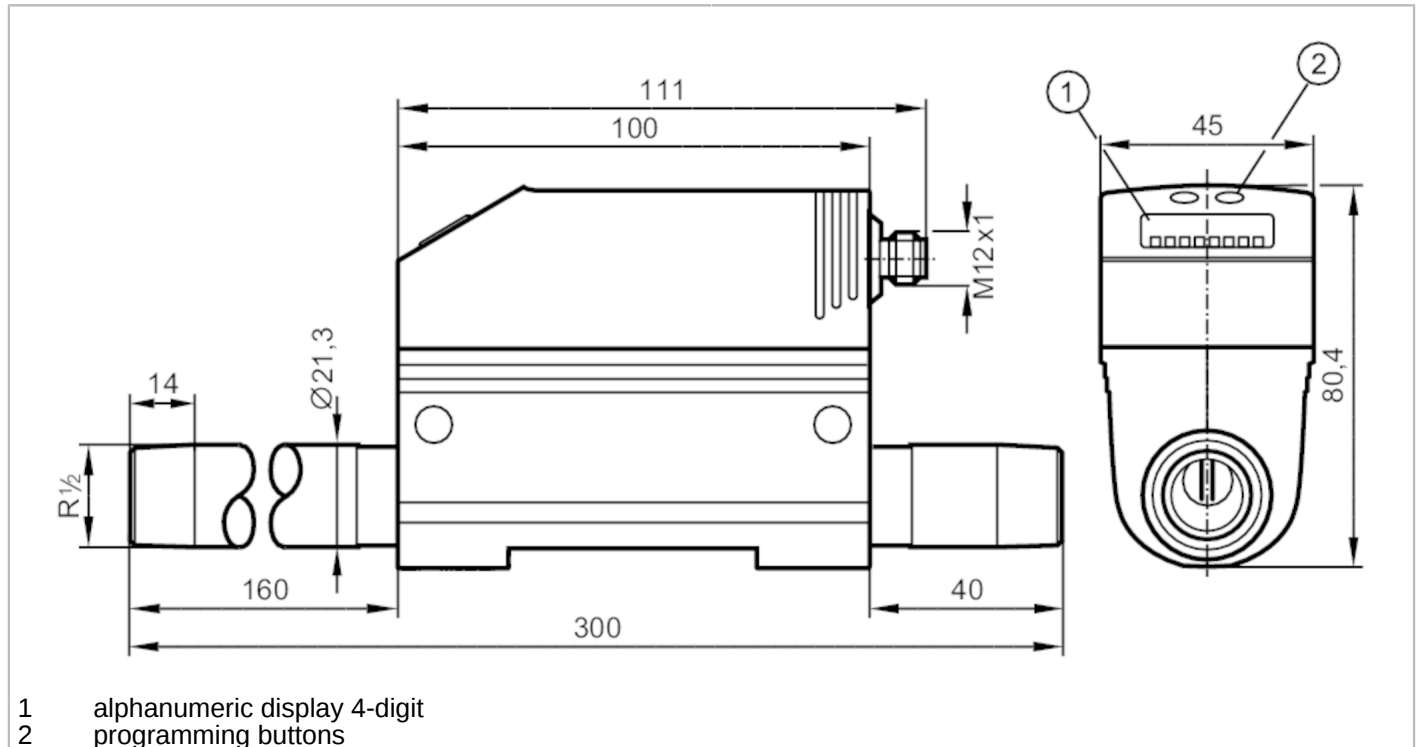# SD6100

Flow rate meter for gases

SDR12DGXFPKG/US-100

1   alphanumeric display 4-digit
2   programming buttons

Product characteristics		
Number of inputs and outputs		Number of digital outputs: 2; Number of analogue outputs: 1
Process connection		threaded connection R 1/2 DN15
Ar		
Measuring range	[m³/h]	0.4...122
CO2		
Measuring range	[m³/h]	0.2...74.7
N2		
Measuring range	[m³/h]	0.2...75
Application		
Application		for industrial applications
Media		Argon (Ar); carbon dioxide (CO2); nitrogen (N2)
Medium temperature	[°C]	0...60
Pressure rating	[bar]	16
Electrical data		
Operating voltage	[V]	18...30 DC; (according to EN 50178 SELV/PELV)
Current consumption	[mA]	< 100
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

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Flow rate meter for gases

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Outputs	
Total number of outputs	2
Output signal	switching signal; analogue signal; pulse signal; IO-Link; (configurable)
Electrical design	PNP
Number of digital outputs	2
Output function	normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC [V]	2
Permanent current rating of switching output DC [mA]	250; (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	
Low flow cut-off LFC [m³/h]	< 1.3
Measuring dynamics	1:300
Ar	
Measuring range [m³/h]	0.4...122
Display range [m³/h]	0...146.4
Resolution [m³/h]	0.1
Set point SP [m³/h]	1.1...122
Reset point rP [m³/h]	0.6...121.5
Analogue start point ASP [m³/h]	0...97.6
Analogue end point AEP [m³/h]	24.4...122
In steps of [m³/h]	0.1
CO2	
Measuring range [m³/h]	0.2...74.7
Display range [m³/h]	0...89.7
Resolution [m³/h]	0.1
Set point SP [m³/h]	0.7...74.7
Reset point rP [m³/h]	0.4...74.4
Analogue start point ASP [m³/h]	0...59.8
Analogue end point AEP [m³/h]	14.9...74.7
In steps of [m³/h]	0.1
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

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Flow rate meter for gases

N2		
Measuring range	[m³/h]	0.2...75
Display range	[m³/h]	0...90
Resolution	[m³/h]	0.1
Set point SP	[m³/h]	0.7...75
Reset point rP	[m³/h]	0.4...74.7
Analogue start point ASP	[m³/h]	0...60
Analogue end point AEP	[m³/h]	15...75
In steps of	[m³/h]	0.1
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
Analogue start point	[°C]	0...48
Analogue end point	[°C]	12...60
In steps of	[°C]	0.2

Accuracy / deviations

Flow monitoring		
Repeatability [% of the measured value]		± 1,5
Accuracy (in the measuring range)		± (6 % MW + 0,6 % MEW); (conditions: installation to DIN ISO 2533; installation in pipes: DN15)
Temperature monitoring		
Accuracy	[K]	± 2; (medium flow in the limit area of the flow measurement range)

Response times

Flow monitoring		
Response time	[s]	0.1; (dAP = 0)
Damping for the switching output dAP in steps	[s]	0 - 0,2 - 0,4 - 0,6 - 0,8 - 1

Software / programming

Parameter setting options	Flow monitoring; quantity meter; Preset counter; hysteresis / window; normally open / normally closed; current/pulse output; display can be rotated and switched off; Display unit; medium selection

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Flow rate meter for gases

Interfaces	
Communication interface	IO-Link
Transmission 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 type	A
Process data analogue	3
Process data binary	2
Min. process cycle time [ms]	4.1

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

Tests / approvals		
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	
Pressure Equipment Directive	Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight [g]	963.5	
Materials	PBT-GF20; PC; PC; stainless steel (1.4301 / 304); FKM	
Materials (wetted parts)	stainless steel (1.4301 / 304); ceramics glass passivated; PEEK; polyester; FKM; aluminium anodised	
Tightening torque [Nm]	50	
Process connection	threaded connection R 1/2 DN15	

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	alphanumeric display, 4-digit
	programming	alphanumeric display, 4-digit
Display unit	Nl/min; Nm³/h; Nm³; °C	

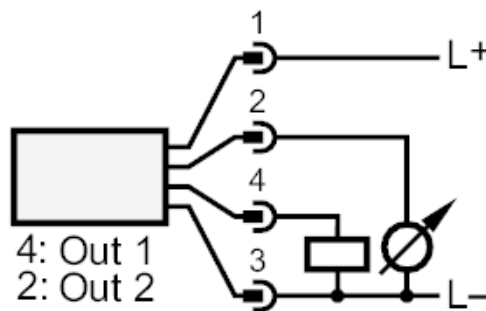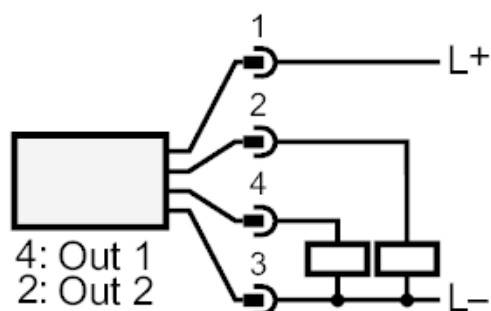| Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	Measuring, display and setting ranges refer to the standard volume flow according to DIN ISO 2533.
Pack quantity	1 pcs.

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Flow rate meter for gases

Electrical connection

Connector: 1 x M12

Connection

OUT1:	switching output	
	Pulse output quantity meter	
	signal output Preset counter	
OUT2:	switching output	
	analogue output	