SD5100

Flow rate meter for gases

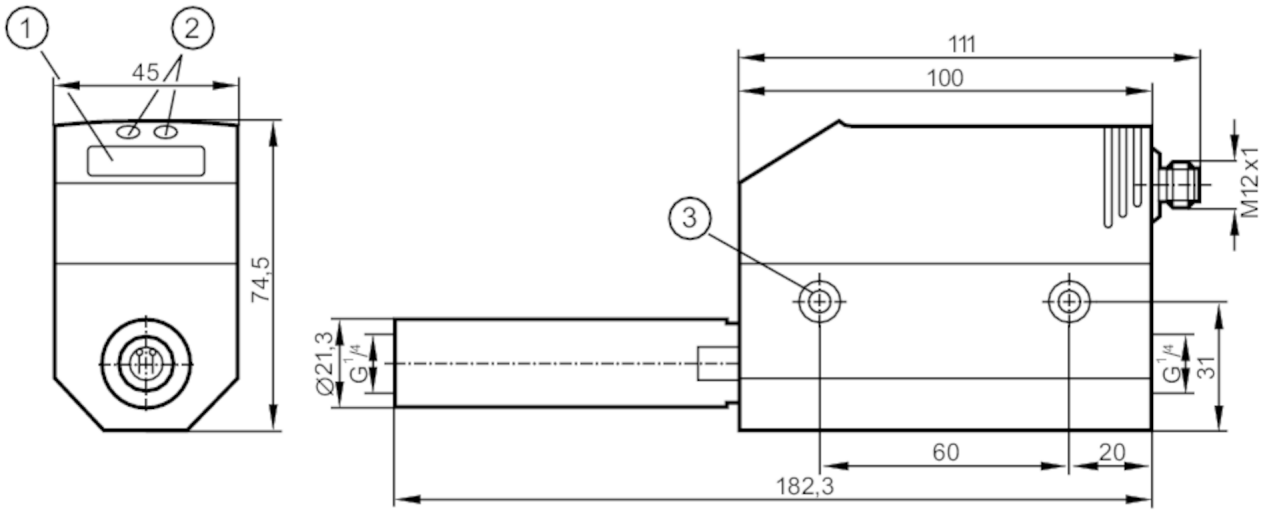
SDR14DGXFPKG/US-100

Article to be discontinued

Discontinuation date: 12/31/2024

Alternative articles: SD5600

When selecting an alternative article and accessories please note that technical data may differ!



1 alphanumeric display 4-digit
2 Programming buttons
3 hole for fixing screw M5

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
Ar		
Measuring range	[m³/h]	0.08...24.04
CO2		
Measuring range	[m³/h]	0.04...14.36
N2		
Measuring range	[m³/h]	0.04...15
Application		
Application		for industrial applications
Media		Argon (Ar); carbon dioxide (CO2); nitrogen (N2)
Medium temperature	[°C]	0...60
Pressure rating	[bar]	16
Pressure rating	[MPa]	1.6
Electrical data		
Operating voltage	[V]	18...30 DC; (to SELV/PELV)
Current consumption	[mA]	< 100
Protection class		III

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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
Outputs		
Total number of outputs		2
Output signal		switching signal; analog signal; pulse signal; IO-Link; (configurable)
Electrical design		PNP
Number of digital outputs		2
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	250; (per output)
Number of analog outputs		1
Analog current output	[mA]	4...20; (scalable)
Max. load	[Ω]	500
Pulse output		consumed quantity meter
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Measuring/setting range		
Low flow cut-off LFC	[m³/h]	< 0.26
Measuring dynamics		1:300
Ar		
Measuring range	[m³/h]	0.08...24.04
Display range	[m³/h]	0...28.84
Resolution	[m³/h]	0.02
Set point SP	[m³/h]	0.22...24.04
Reset point rP	[m³/h]	0.12...23.94
Analog start point ASP	[m³/h]	0...19.24
Analog end point AEP	[m³/h]	4.8...24.04
In steps of	[m³/h]	0.02
CO2		
Measuring range	[m³/h]	0.04...14.36
Display range	[m³/h]	0...17.24
Resolution	[m³/h]	0.02
Set point SP	[m³/h]	0.14...14.36
Reset point rP	[m³/h]	0.08...14.3
Analog start point ASP	[m³/h]	0...11.48
Analog end point AEP	[m³/h]	2.88...14.36
In steps of	[m³/h]	0.02

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Volumetric flow quantity monitoring		
Pulse value		0.001...1 000 000 m³
In steps of		0.001...1000 m³
Pulse length	[s]	0,062...2
N2		
Measuring range	[m³/h]	0.04...15
Display range	[m³/h]	0...18
Resolution	[m³/h]	0.02
Set point SP	[m³/h]	0.14...15
Reset point rP	[m³/h]	0.08...14.94
Analog start point ASP	[m³/h]	0...12
Analog end point AEP	[m³/h]	3...15
In steps of	[m³/h]	0.02
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	[°C]	0...48
Analog 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)
Temperature monitoring		
Accuracy	[K]	± 2; (medium flow in the limit area of the flow measurement range)
Reaction times		
Flow monitoring		
Response time	[s]	0.1; (dAP = 0)
Damping process value 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 / closed; current/pulse output; display can be rotated and switched off; Display unit; medium selection
Interfaces		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1

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SDCI standard		IEC 61131-9	
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis	
SIO mode		yes	
Required master port class		A	
Process data analog		3	
Process data binary		2	
Min. process cycle time	[ms]	4.1	
Supported DeviceIDs		**Type of operation**	**DeviceID**
		default	263
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
CPA approval		model number	003TG
		accuracy class	-
		maximum allowable error	± 7 % FS
		Q (min)	0,04 m³/h (N2)
			0,04 m³/h (CO2)
			0,08 m³/h (Ar)
		Q (t)	-
		Q (max)	15 m³/h (N2)
			14,36 m³/h (CO2)
			24,04 m³/h (Ar)
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]	981	
Material		PBT-GF20; PC; PC; stainless steel (1.4301 / 304); FKM	
Materials (wetted parts)		stainless steel (1.4301 / 304); ceramics glass passivated; PEEK; polyester; FKM; aluminum anodized	
Process connection		threaded connection G 1/4 DN8	
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	

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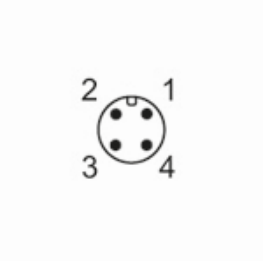
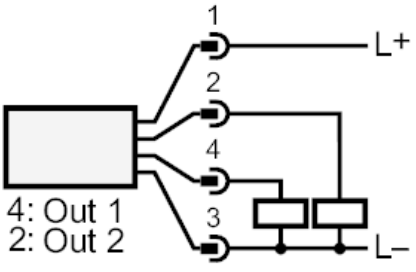
Remarks	
Remarks	MW = Measured value
	MEW = Final value of the measuring range
	Measuring, display and setting ranges refer to standard volume flow according to DIN ISO 2533.
	For information about installation and operation please see the operating instructions.
Pack quantity	1 pcs.

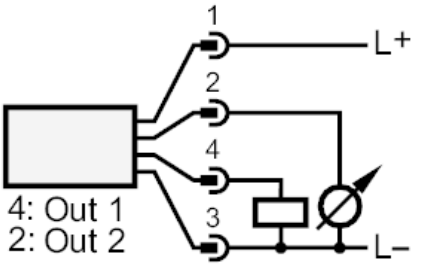
Electrical connection

Connector: 1 x M12; coding: A



Connection





OUT1:	Switching output Pulse output quantity meter signal output Preset counter
OUT2:	Switching output analog output