

SD5100



Flow rate meter for gases

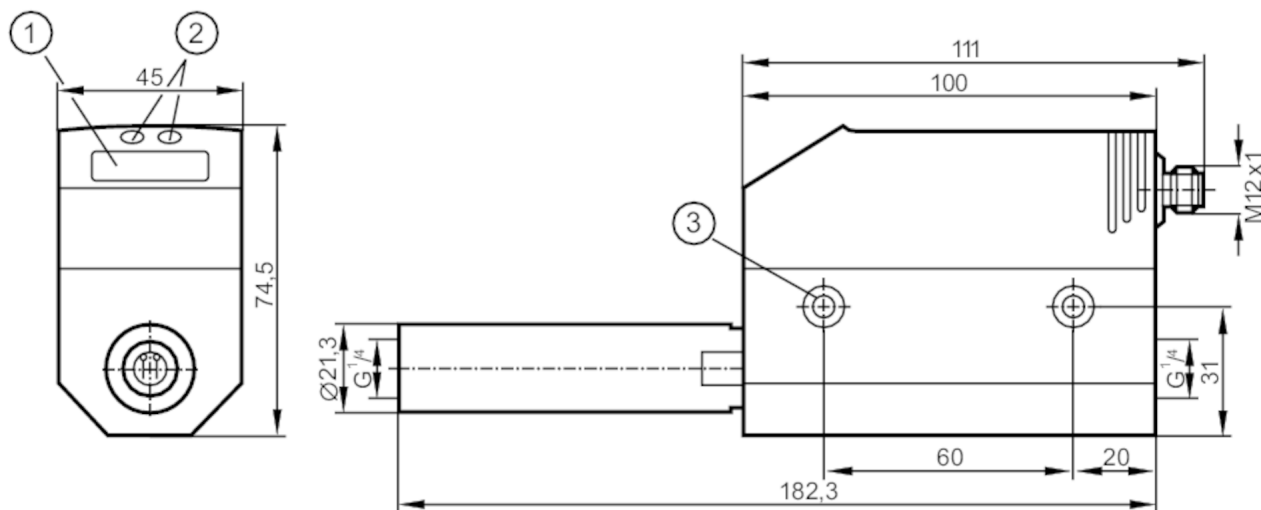
SDR14DGXFPKG/US-100

phase-out article

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 analogue 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 analogue outputs: 1
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]	< 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
Analogue start point ASP [m³/h]	0...19.24
Analogue 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
Analogue start point ASP [m³/h]	0...11.48
Analogue 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
Analogue start point ASP	[m³/h]	0...12
Analogue 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
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)		
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 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 / normally 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 type		A	
Process data analogue		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	
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	
Process connection		threaded connection G 1/4 DN8	
Displays / operating elements			
Display	Display unit		4 x LED, green (NI/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		NI/min; Nm³/h; Nm³; °C	

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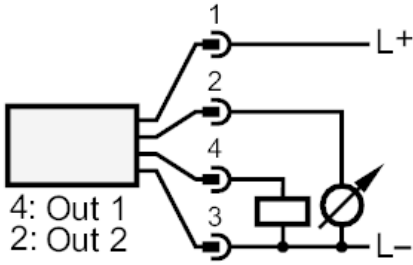
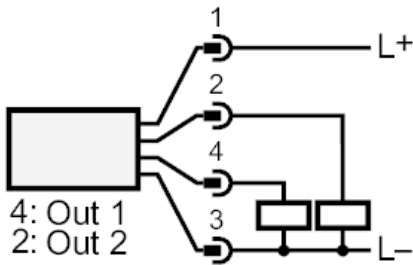
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	Measuring, display and setting ranges refer to the standard volume flow according to DIN ISO 2533.
	For information about installation and operation please see the operating instructions.
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A



Connection



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