

SD5100



Flow rate meter for gases

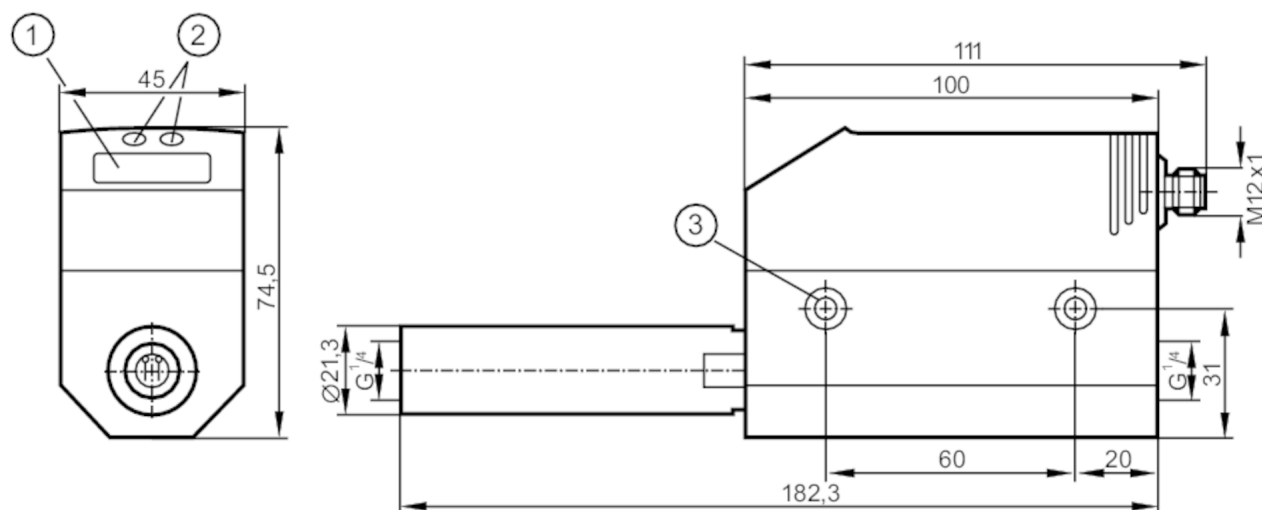
SDR14DGXFPKG/US-100

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 threaded connection G 1/4 DN8
Process connection		
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)
Vibration resistance		14,36 m³/h (CO2)
		24,04 m³/h (Ar)
MTTF [years]	DIN IEC 68-2-6	5 g (55...2000 Hz)
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 (304/1.4301); FKM	
Materials (wetted parts)	stainless steel (304/1.4301); 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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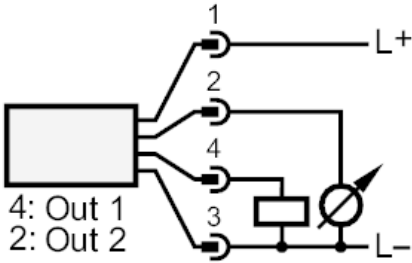
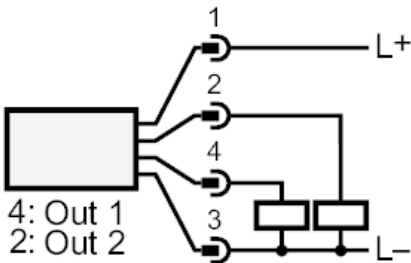
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	Measuring, display and setting ranges refer to the standard volume flow according to DIN ISO 2533.
	For information about installation and operation please see the operating instructions.
Pack quantity	1 pcs.

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