

# SD8100



## Flow rate meter for gases

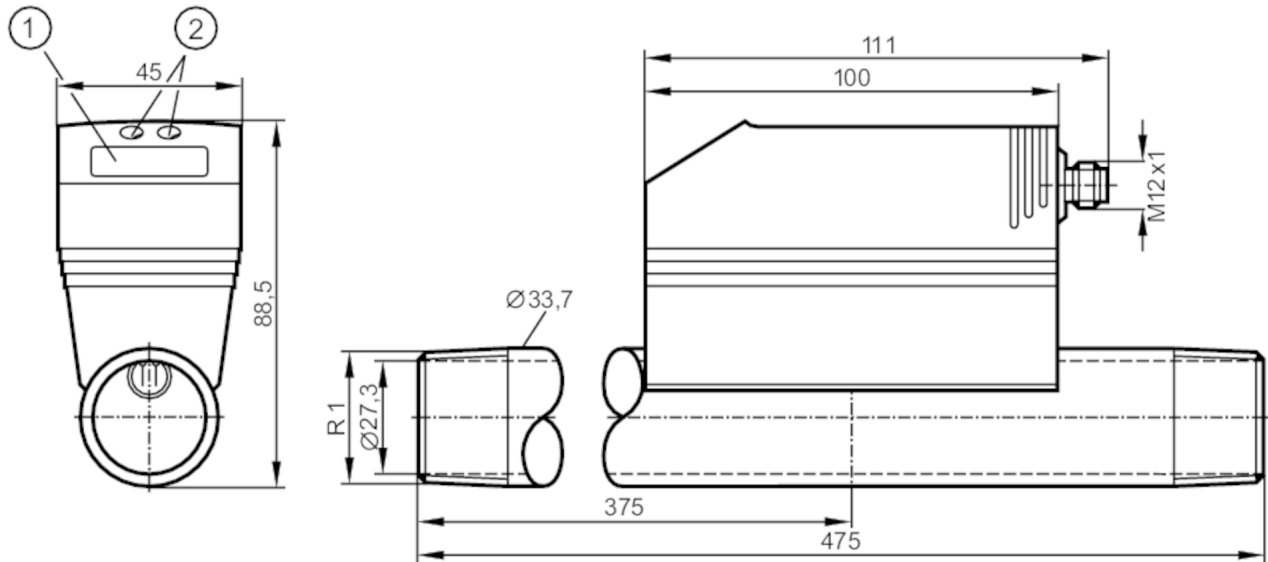
SDR11DGXFPKG/US-100

Article to be discontinued

Discontinuation date: 12/31/2024

Alternative articles: SD8600

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



- 1 alphanumeric display 4-digit
- 2 Programming buttons



### Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analog outputs: 1	
Process connection	threaded connection R 1 DN25	
Ar		
Measuring range	[m <sup>3</sup> /h]	1.2...366.6
CO <sub>2</sub>		
Measuring range	[m <sup>3</sup> /h]	0.8...223.6
N <sub>2</sub>		
Measuring range	[m <sup>3</sup> /h]	0.8...225

### Application

Application	for industrial applications	
Media	Argon (Ar); carbon dioxide (CO <sub>2</sub> ); nitrogen (N <sub>2</sub> )	
Medium temperature	[°C]	0...60
Pressure rating	[bar]	16
Pressure rating	[MPa]	1.6

### Electrical data

Operating voltage	[V]	18...30 DC
Current consumption	[mA]	< 100
Protection class		III

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Reverse polarity protection		yes
Power-on delay time	[s]	1
<b>Inputs / outputs</b>		
Number of inputs and outputs		Number of digital outputs: 2; Number of analog outputs: 1
<b>Outputs</b>		
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
<b>Measuring/setting range</b>		
Low flow cut-off LFC	[m <sup>3</sup> /h]	< 3.8
<b>Ar</b>		
Measuring range	[m <sup>3</sup> /h]	1.2...366.6
Display range	[m <sup>3</sup> /h]	0...440
Resolution	[m <sup>3</sup> /h]	0.2
Set point SP	[m <sup>3</sup> /h]	3.4...366.6
Reset point rP	[m <sup>3</sup> /h]	1.8...365
Analog start point ASP	[m <sup>3</sup> /h]	0...293.2
Analog end point AEP	[m <sup>3</sup> /h]	73.4...366.6
In steps of	[m <sup>3</sup> /h]	0.2
<b>CO2</b>		
Measuring range	[m <sup>3</sup> /h]	0.8...223.6
Display range	[m <sup>3</sup> /h]	0...268.2
Resolution	[m <sup>3</sup> /h]	0.2
Set point SP	[m <sup>3</sup> /h]	2...223.6
Reset point rP	[m <sup>3</sup> /h]	1...222.6
Analog start point ASP	[m <sup>3</sup> /h]	0...178.8
Analog end point AEP	[m <sup>3</sup> /h]	44.8...223.6
In steps of	[m <sup>3</sup> /h]	0.2
<b>Volumetric flow quantity monitoring</b>		
Pulse value		0.001...3 000 000 Nm <sup>3</sup>

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In steps of		0.001...1000 Nm <sup>3</sup>
Pulse length	[s]	0,004...2
<b>N2</b>		
Measuring range	[m <sup>3</sup> /h]	0.8...225
Display range	[m <sup>3</sup> /h]	0...270
Resolution	[m <sup>3</sup> /h]	0.2
Set point SP	[m <sup>3</sup> /h]	2.2...225
Reset point rP	[m <sup>3</sup> /h]	1...224
Analog start point ASP	[m <sup>3</sup> /h]	0...180
Analog end point AEP	[m <sup>3</sup> /h]	45...225
In steps of	[m <sup>3</sup> /h]	0.2
<b>Temperature monitoring</b>		
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
<b>Accuracy / deviations</b>		
<b>Flow monitoring</b>		
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: DN25)
<b>Temperature monitoring</b>		
Accuracy	[K]	± 2; (medium flow in the limit area of the flow measurement range)
<b>Reaction times</b>		
<b>Flow monitoring</b>		
Response time	[s]	0.1; (dAP = 0)
Damping process value dAP in steps	[s]	0 - 0,2 - 0,4 - 0,6 - 0,8 - 1
<b>Software / programming</b>		
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
<b>Interfaces</b>		
Communication interface		IO-Link
Transmission type		COM2 (38,4 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9
Profiles		Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis

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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	<b>Type of operation</b>	<b>DeviceID</b>
	default	443

### Operating conditions

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

### Tests / approvals

EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
CPA approval	model number	003TG
	accuracy class	-
	maximum allowable error	± 7 % FS
	Q (min)	0,8 m³/h (N2)
		0,8 m³/h (CO2)
		1,2 m³/h (Ar)
	Q (t)	-
	Q (max)	225 m³/h (N2)
		223,6 m³/h (CO2)
		366,6 m³/h (Ar)
Vibration resistance	DIN EN 68000-2-6	5 g (55...2000 Hz)
MTTF	[years]	224
Pressure equipment directive	sound engineering practice; can be used for group 2 fluids; group 1 fluids on request	

### Mechanical data

Weight	[g]	2029
Material	PBT-GF20; NBR; PC; stainless steel (1.4301 / 304); PTFE; brass coated; FKM; aluminum powder-coated	
Materials (wetted parts)	stainless steel (1.4301 / 304); FKM; ceramics glass passivated; PEEK-GF30; polyester; aluminum	
Process connection	threaded connection R 1 DN25	

### 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	

### 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.

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Pack quantity

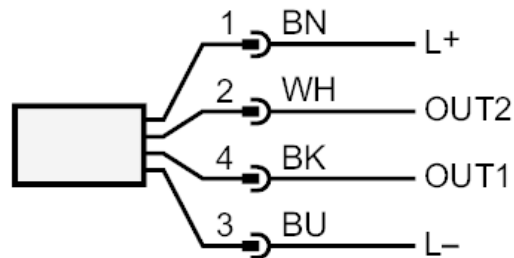
1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A



### Connection



OUT1: Switching output  
Pulse output

OUT2: Switching output  
analog output  
Colors to DIN EN 60947-5-2  
Core colors :

BK = black  
BN = brown  
BU = blue  
WH = white