

SD6101



Flow rate meter for gases

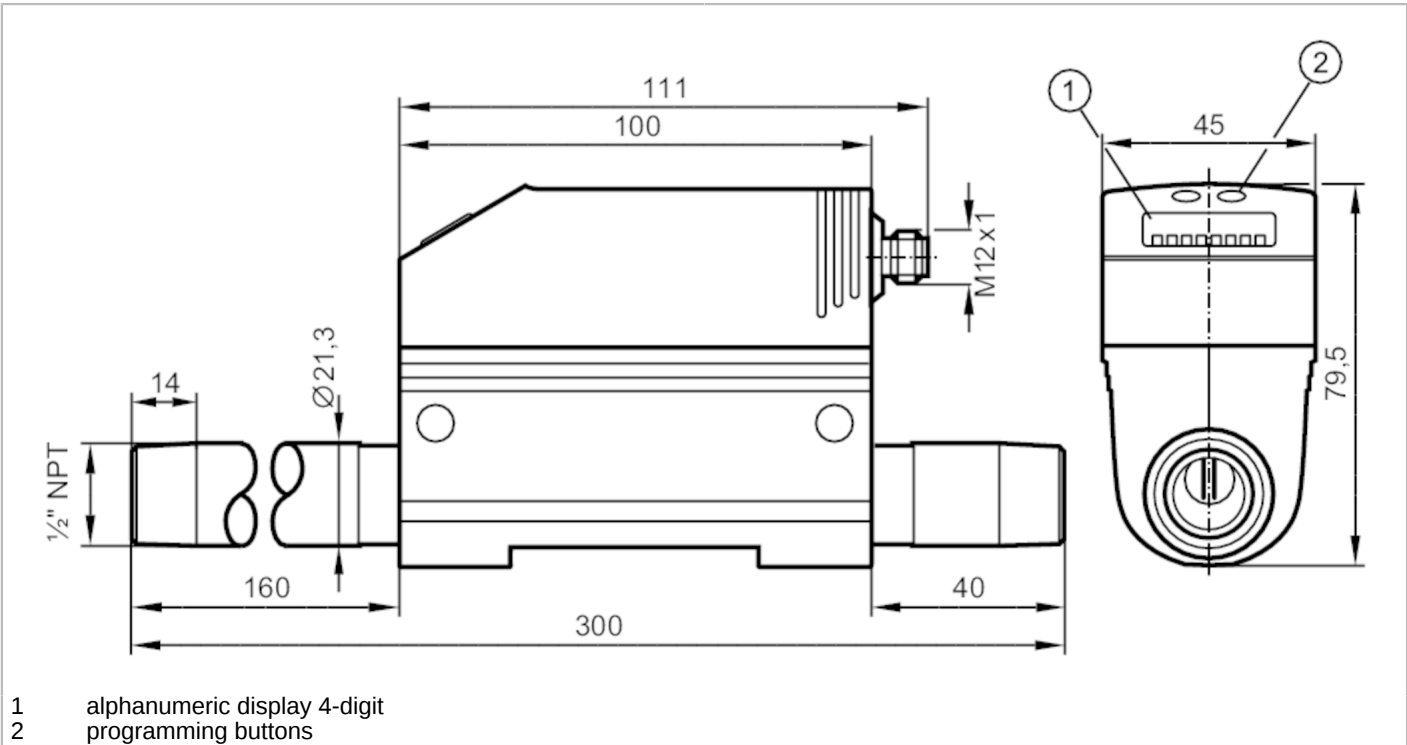
SDN12DGXFPKG/US-100

phase-out article

Discontinuation date: 12/31/2024

Alternative articles: SD6601

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



Product characteristics

Number of inputs and outputs	Number of digital outputs: 2; Number of analogue outputs: 1		
Process connection	threaded connection 1/2" NPT DN15		
Ar			
Measuring range	15...4310 scfh	0.2...71.8 scfm	2...552 sfs
CO2			
Measuring range	10...2640 scfh	0.15...44 scfm	1...338.5 sfs
N2			
Measuring range	10...2650 scfh	0.15...44.15 scfm	1...339.5 sfs

Application

Application	for industrial applications		
Media	Argon (Ar); carbon dioxide (CO ₂); nitrogen (N ₂)		
Medium temperature [°F]	32...140		
Pressure rating [bar]	16		
Pressure rating [psi]	232		
MAWP (for applications according to CRN) [bar]	16		



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Electrical data			
Operating voltage	[V]	18...30 DC; (to 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	
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		< 46 scfh	< 0.76 scfm
Measuring dynamics		1:300	
Volumetric flow quantity monitoring			
Pulse value		0.040...4 000 000 scf	
In steps of		0.020...1000 scf	
Pulse length	[s]	0,007...2	
Ar			
Measuring range		15...4310 scfh	0.2...71.8 scfm
Display range		0...5170 scfh	0...86.2 scfm
Resolution		5 scfh	0.1 scfm
Set point SP		40...4310 scfh	0.7...71.8 scfm
Reset point rP		20...4290 scfh	0.4...71.5 scfm
Analogue start point ASP		0...3445 scfh	0...57.4 scfm
Analogue end point AEP		860...4310 scfh	14.4...71.8 scfm
In steps of		5 scfh	0.1 scfm
CO2			
Measuring range		10...2640 scfh	0.15...44 scfm
Display range		0...3170 scfh	0...52.8 scfm



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Resolution	5 scfh	0.05 scfm	0.5 sfs
Set point SP	25...2640 scfh	0.4...44 scfm	3...338.5 sfs
Reset point rP	15...2630 scfh	0.2...43.8 scfm	1.5...337 sfs
Analogue start point ASP	0...2110 scfh	0...35.2 scfm	0...271 sfs
Analogue end point AEP	530...2640 scfh	8.8...44 scfm	67.5...338.5 sfs
In steps of	5 scfh	0.05 scfm	0.5 sfs

N2			
Measuring range	10...2650 scfh	0.15...44.15 scfm	1...339.5 sfs
Display range	0...3175 scfh	0...52.95 scfm	0...407.5 sfs
Resolution	5 scfh	0.05 scfm	0.5 sfs
Set point SP	25...2650 scfh	0.4...44.15 scfm	3...339.5 sfs
Reset point rP	15...2635 scfh	0.2...43.95 scfm	1.5...338 sfs
Analogue start point ASP	0...2120 scfh	0...35.3 scfm	0...271.5 sfs
Analogue end point AEP	530...2650 scfh	8.85...44.15 scfm	68...339.5 sfs
In steps of	5 scfh	0.05 scfm	0.5 sfs

Temperature monitoring			
Measuring range	[°F]	32...140	
Display range	[°F]	10.5...161.5	
Resolution	[°F]	0.5	
Set point SP	[°F]	32.5...140	
Reset point rP	[°F]	32...139.5	
Analogue start point	[°F]	32...118.5	
Analogue end point	[°F]	53.5...140	
In steps of	[°F]	0.5	

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 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		
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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	266

Operating conditions		
Ambient temperature [°F]	32...140	
Storage temperature [°F]	-4...185	
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]	925.5	
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 1/2" NPT DN15	

Displays / operating elements		
Display	Display unit	4 x LED, green (scfm, scfh, scf, °F)
	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	scfm; scfh; scf; °F	

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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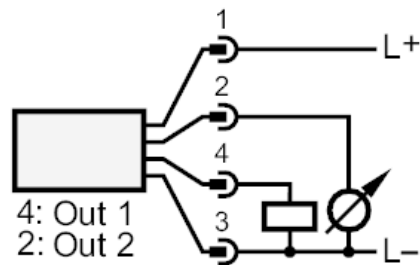
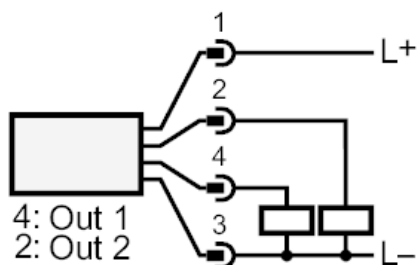
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Electrical connection

Connector: 1 x M12; coding: A



Connection



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

OUT2: switching output
analogue output