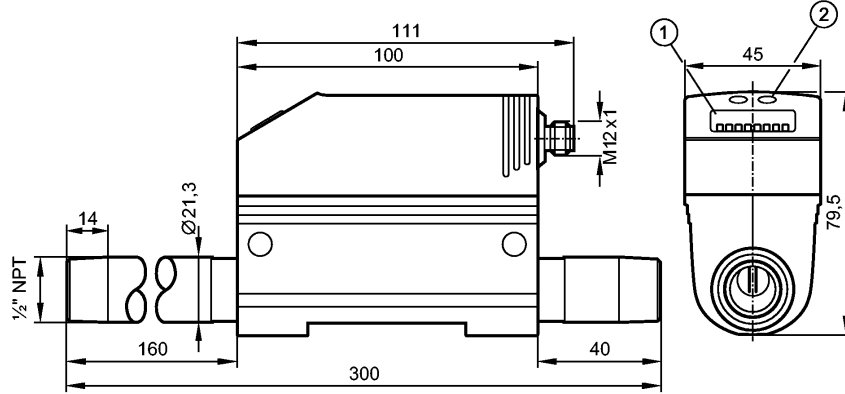


**SD6101**

SDN12DGXFPKG/US-100

Flow sensors



1: 4-digit alphanumeric display  
2: Programming buttons



**Product characteristics**

Flow rate meter for gases	
Quick disconnect	
Process connection: ½" NPT (DN15)	
Function programmable	
2 outputs	
OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)	
OUT2 = flow monitoring (analog or binary)	

**Application**

Application	argon (Ar), carbon dioxide (CO <sub>2</sub> ), nitrogen (N <sub>2</sub> )
Pressure rating [psi]	232
MAWP (for applications according to CRN) [bar]	16
Medium temperature [°F]	32...140

**Electrical data**

Electrical design	DC PNP
Operating voltage [V]	18...30 DC *)
Current consumption [mA]	< 100
Protection class	III
Reverse polarity protection	yes

**Outputs**

Output function	OUT1: normally open / closed programmable or pulse OUT2: normally open / closed programmable or analog (4...20 mA scaleable)
Current rating [mA]	2 x 250
Voltage drop [V]	< 2
Short-circuit protection	yes (non-latching)
Overload protection	yes
Analog output	4...20 mA
Max. load [Ω]	< 500
Pulse output	consumed quantity meter

**Measuring / setting range**

Flow monitoring

**SD6101**

SDN12DGXFPKG/US-100

**Flow sensors**

Measuring range	[ scfh] N2: 10...2650 Ar: 15...4310 CO2: 10...2640	[ scfm] N2: 0.15...44.15 Ar: 0.2...71.8 CO2: 0.15...44	[ sfs] N2: 1...339.5 Ar: 2...552 CO2: 1...338.5
Display range	[ scfh] N2: 0...3175 Ar: 0...5170 CO2: 0...3170	[ scfm] N2: 0...52.95 Ar: 0...86.2 CO2: 0...52.8	[ sfs] N2: 0...407.5 Ar: 0...663 CO2: 0...406
Resolution	[ scfh] N2: 5 Ar: 5 CO2: 5	[ scfm] N2: 0.05 Ar: 0.1 CO2: 0.05	[ sfs] N2: 0.5 Ar: 1 CO2: 0.5
Set point, SP	[ scfh] N2: 25...2650 Ar: 40...4310 CO2: 25...2640	[ scfm] N2: 0.4...44.15 Ar: 0.7...71.8 CO2: 0.4...44	[ sfs] N2: 3...339.5 Ar: 5...552 CO2: 3...338.5
Reset point, rP	[ scfh] N2: 15...2635 Ar: 20...4290 CO2: 15...2630	[ scfm] N2: 0.2...43.95 Ar: 0.4...71.5 CO2: 0.2...43.8	[ sfs] N2: 1.5...338 Ar: 3...550 CO2: 1.5...337
Analog start point, ASP	[ scfh] N2: 0...2120 Ar: 0...3445 CO2: 0...2110	[ scfm] N2: 0...35.3 Ar: 0...57.4 CO2: 0...35.2	[ sfs] N2: 0...271.5 Ar: 0...442 CO2: 0...271
Analog end point, AEP	[ scfh] N2: 530...2650 Ar: 860...4310 CO2: 530...2640	[ scfm] N2: 8.85...44.15 Ar: 14.4...71.8 CO2: 8.8...44	[ sfs] N2: 68...339.5 Ar: 110...552 CO2: 67.5...338.5
Low flow cut-off, LFC	8...46 scfh	0.14...0.76 scfm	1...5.8 sfs
in steps of	[ scfh] N2: 5 Ar: 5 CO2: 5	[ scfm] N2: 0.05 Ar: 0.1 CO2: 0.05	[ sfs] N2: 0.5 Ar: 1 CO2: 0.5
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		
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]	32.0...139.5		
Analog start point, ASP [°F]	32.0...118.5		
Analog end point, AEP [°F]	53.5...140		
in steps of [°F]	0.5		
<b>Accuracy / deviations</b>			
Flow monitoring			
Accuracy	± (6% MW + 0.6% MEW) ***)		
Repeatability[% of the measured value]	± 1.5		
Temperature monitoring			
Accuracy [K]	± 2 **)		

**SD6101**

SDN12DGXFPKG/US-100

**Flow sensors**

Reaction times	
Power-on delay time [s]	1
Flow monitoring	
Response time [s]	< 0.1 (dAP = 0)
Damping, dAP [s]	0 - 0.2 - 0.4 - 0.6 - 0.8 - 1
Software / programming	
Programming options	hysteresis / window function; NO / NC; current / pulse output; display can be rotated / deactivated; display unit, medium
Interfaces	
IO-Link Device	
Transfer type	COM2
IO-Link revision	1.1
SDCI standard	IEC 61131-9
IO-Link Device ID	266 d / 00 01 0a h
Profiles	Smart Sensor: Process Data Variable; Device Identification; Device Diagnosis
SIO mode	yes
Required master port class	A
Process data analogue	3
Process data binary	2
Min. process cycle time [ms]	4.1
Environment	
Ambient temperature [°F]	32...140
Storage temperature [°F]	-4...185
Max. relative air humidity [%]	90
Protection	IP 65
Tests / approvals	
Pressure equipment directive	article 3, section 3 - sound engineering practice
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
Mechanical data	
Process connection	½" NPT (DN15)
Materials (wetted parts)	stainless steel (304S15); ceramics glass passivated; PEEK (polyether ether ketone); polyester; Viton; aluminum anodized
Housing materials	PBT-GF 20; PC (APEC); Makrolon; stainless steel (304S15); Viton
Weight [kg]	1.151
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 4-digit alphanumeric display Programming 4-digit alphanumeric display
Electrical connection	
Connection	M12 connector

**SD6101**

SDN12DGXFPKG/US-100

Flow sensors

**Wiring**

Programming of the output function

-----OUT1-----

- Switching output

Hno = hysteresis / normally open

Hnc = hysteresis / normally closed

Fno = window function / normally open

Fnc = window function / normally closed

- ImP = pulse output for flow rate meter / signal output

for preset meter

-----OUT2-----

- Switching output

Hno = hysteresis / normally open

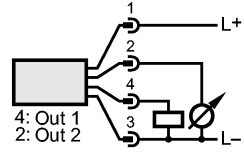
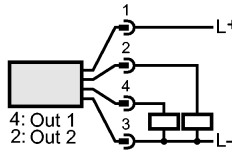
Hnc = hysteresis / normally closed

Fno = window function / normally open

Fnc = window function / normally closed

- Analog output

I = current output (4...20 mA)



**Remarks**

Remarks

\*) to EN50178, SELV, PELV

\*\*\*) medium flow in the limit area of the flow measurement range

and when installed in DN15 pipes

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.

Pack quantity

[piece]

1