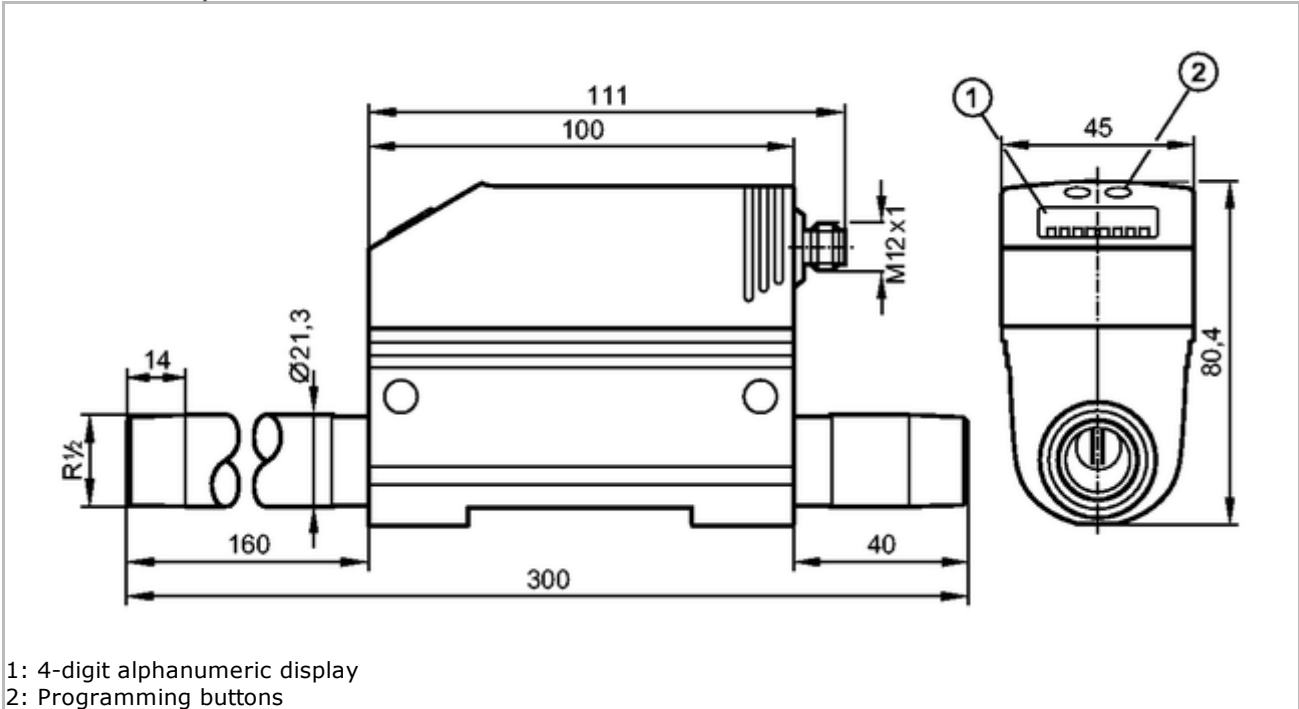




# SD6000

SDR12DGXFPKG/US-100

Flow sensors



- 1: 4-digit alphanumeric display
- 2: Programming buttons



Product characteristics	
Compressed air meter	
Connector	
Process connection: R $\frac{1}{2}$ (DN15)	
Function programmable	
2 outputs	
OUT1: flow monitoring (binary), quantity meter (pulse), preset counter (binary)	
OUT2: flow or temperature monitoring (analogue or binary)	
flow monitoring	
Display range	
0.0...90 Nm $^3$ /h	
Measuring range	
0.2...75 Nm $^3$ /h	
Temperature monitoring	
Display range	
-12...72 °C	
Application	
Application	Compressed air Air quality(ISO 8573-1): Class 141 (measuring error: see below, value A) Class 344 (measuring error: see below, value B)
Pressure rating [bar]	16
MAWP (for applications according to CRN) [bar]	16
Medium temperature [°C]	0...60
Electrical data	

Electrical design	DC PNP
Operating voltage [V]	18...30 DC <sup>1)</sup>
Current consumption [mA]	< 110
Protection class	III
Reverse polarity protection	yes

### Outputs

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

### Measuring / setting range

#### Flow monitoring

Measuring range	0.2...75.0 Nm <sup>3</sup> /h	10...1250 NI/min	0.3...103.6 Nm/s
Display range	0.0...90.0 Nm <sup>3</sup> /h	0...1500 NI/min	0.0...124.3 Nm/s
Set point, SP	0.6...75.0 Nm <sup>3</sup> /h	10...1250 NI/min	0.8...103.6 Nm/s
Reset point, rP	0.2...74.6 Nm <sup>3</sup> /h	4...1244 NI/min	0.3...103.1 Nm/s
Analogue start point, ASP	0.0...56.3 Nm <sup>3</sup> /h	0...938 NI/min	0.0...77.7 Nm/s
Analogue end point, AEP	18.7...75.0 Nm <sup>3</sup> /h	312...1250 NI/min	25.9...103.6 Nm/s
in steps of	0.1 Nm <sup>3</sup> /h	1 NI/min	0.1 Nm/s

#### Volumetric flow quantity monitoring

Pulse value	0.001...1000000 m <sup>3</sup>
in steps of	0.001 m <sup>3</sup>
Pulse length [s]	$\geq 0.02 / \leq 2$

#### Temperature monitoring

Measuring range [°C]	0...60
Display range [°C]	-12...72

### Accuracy / deviations

#### Flow monitoring

Accuracy (within measuring range)	A): $\pm (3\% \text{ MW} + 0.3\% \text{ MEW})$ / B): $\pm (6\% \text{ MW} + 0.6\% \text{ MEW})$ ***)
Repeatability [% of the measured value]	$\pm 1.5$

#### Temperature monitoring

Accuracy [K]	$\pm 2$ **)
--------------	-------------

### 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, totalizer
---------------------	--

### Interfaces

**IO-Link device**

Transfer type	COM2 (38.4 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9 CDV
IO-Link device ID	262 d / 00 01 06 h
Profiles	no profile
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 [°C]	0...60
Storage temperature [°C]	-20...85
Max. relative air humidity [%]	90
Protection	IP 65

**Tests / approvals**

Pressure equipment directive	Article 3, section 3 - sound engineering practice	
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Vibration resistance	DIN EN 68000-2-6:	5 g (55...2000 Hz)
MTTF [Years]	227	

**Mechanical data**

Process connection	R½ (DN15)	
Materials (wetted parts)	stainless steel (304S15); FKM; ceramics glass passivated; PEEK GF30; polyester; aluminium	
Housing materials	PBT-GF 20; NBR; PC (polycarbonate); stainless steel (304S15); PTFE; Brass coated; FKM; aluminium powder-coated	
Tightening torque [Nm]	50	
Weight [kg]	0.961	

**Displays / operating elements**

Display	Display unit	5 x LED green (NI/min, Nm <sup>3</sup> /h, Nm/s, Nm <sup>3</sup> , °C)
	Function display	1 x LED green
	Switching status	2 x LED yellow
	Measured values	4-digit alphanumeric display
	Programming	4-digit alphanumeric display

**Electrical connection**

Connection	M12 connector
------------	---------------

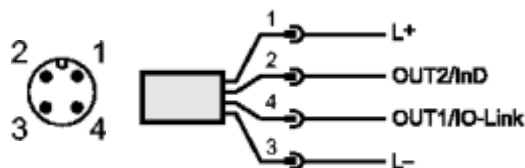
**Wiring**

OUT1/IO-Link: 3 selection options

- switching output flow rate monitoring
- pulse output quantity meter
- signal output preset counter

OUT2/InD: 5 selection options

- switching output flow rate monitoring
- switching output temperature monitoring
- analogue output flow rate
- analogue output temperature
- input signal counter reset

**Remarks**

Remarks	1) to EN50178, SELV, PELV **) medium flow in the limit area of the flow measurement range
---------	--

\*\*\*) under conditions acc. to DIN ISO 2533

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.

For information about installation and operation please see the operating instructions.

Pack quantity [piece]	1
-----------------------	---

ifm electronic gmbh • Friedrichstraße 1 • 45128 Essen — We reserve the right to make technical alterations without prior notice. — GB — SD6000 — 25.06.2013