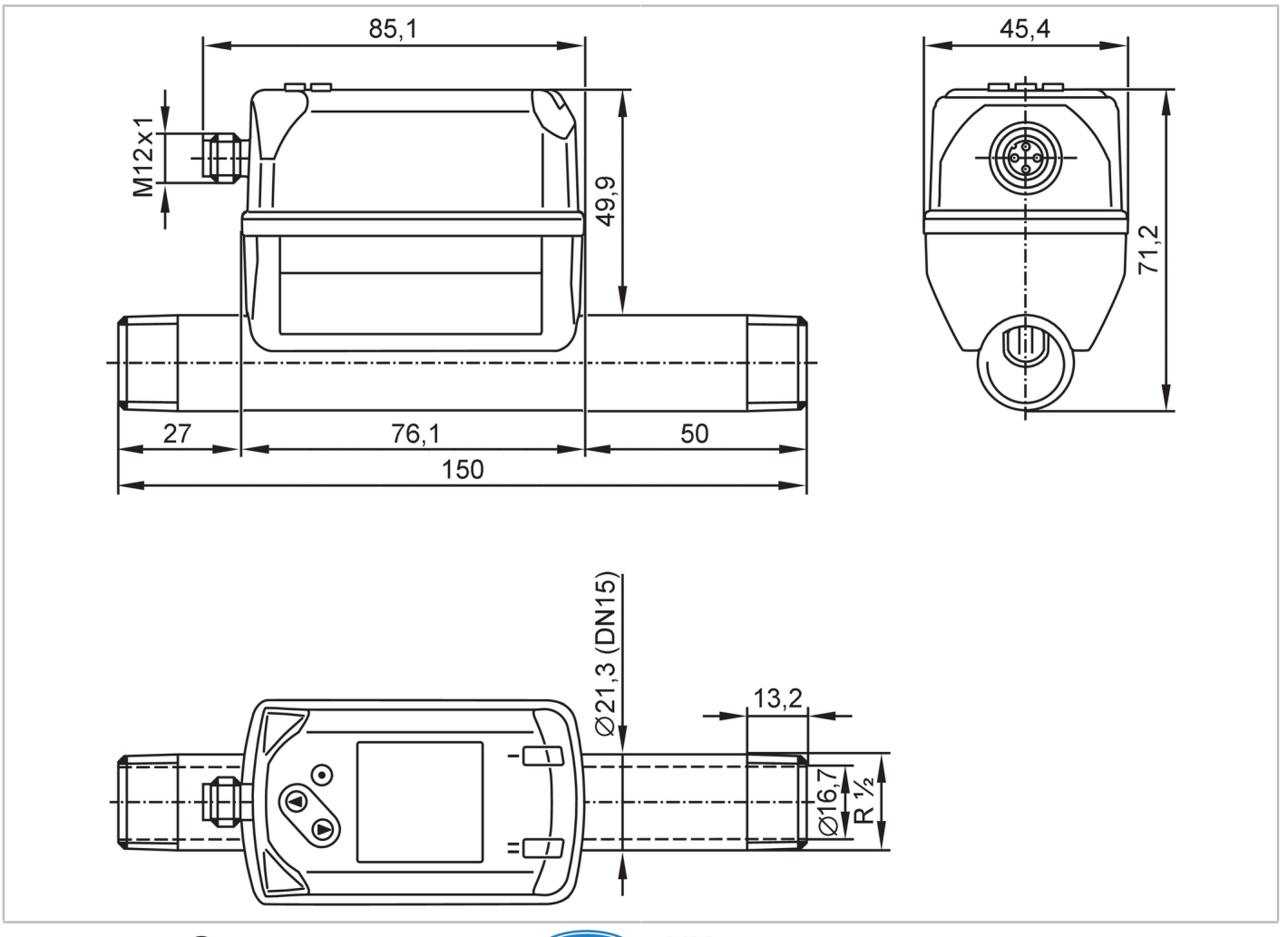
# SD6020

## Compressed air meter

SDR12DGXFRKG/US-100




| | | | |
|---|---|---|---|
| **Product characteristics** | | | |
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 | | |
| Measuring range | 4...1250 l/min | 0.3...99.8 m/s | 0.25...75 m³/h |
| Process connection | threaded connection R 1/2 external thread DN15 | | |
| **Application** | | | |
| Application | for industrial applications | | |
| Media | compressed air | | |
| Medium temperature [°C] | -10...60 | | |
| Min. burst pressure | 64 bar | 6.4 MPa | |
| Pressure rating | 16 bar | 1.6 MPa | |
| MAWP for applications according to CRN [bar] | 16 | | |
| **Electrical data** | | | |
| Operating voltage [V] | 18...30 DC; (to SELV/PELV) | | |
| Current consumption [mA] | < 80 | | |
| Min. insulation resistance [MΩ] | 100; (500 V DC) | | |
| Protection class | III | | |
| Reverse polarity protection | yes | | |

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| | | |
|---|---|---|
| Power-on delay time | [s] | 1 |
| **Inputs / outputs** | | |
| Number of inputs and outputs | | Number of digital outputs: 2; Number of analogue outputs: 1 |
| **Inputs** | | |
| Inputs | | counter reset |
| **Outputs** | | |
| Output signal | | switching signal; analogue signal; pulse signal; IO-Link; (configurable) |
| Electrical design | | PNP/NPN |
| Number of digital outputs | | 2 |
| Output function | | normally open / normally closed; (parameterisable) |
| Max. voltage drop switching output DC | [V] | 2.5 |
| Permanent current rating of switching output DC | [mA] | 150; (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** | | | |
|---|---|---|---|
| Measuring range | 4...1250 l/min | 0.3...99.8 m/s | 0.25...75 m³/h |
| Display range | 0...1500 l/min | 0...119.8 m/s | 0...90 m³/h |
| Resolution | 1 l/min | 0.1 m/s | 0.05 m³/h |
| Set point SP | 11...1250 l/min | 0.9...99.8 m/s | 0.65...74.97 m³/h |
| Reset point rP | 5...1243 l/min | 0.4...99.3 m/s | 0.28...74.6 m³/h |
| Analogue start point ASP | 0...1000 l/min | 0...79.8 m/s | 0...60 m³/h |
| Analogue end point AEP | 250...1250 l/min | 20...99.8 m/s | 15...75 m³/h |
| Low flow cut-off LFC | 1...13 l/min | 0.1...1.1 m/s | 0.09...0.8 m³/h |
| In steps of | 1 l/min | 0.1 m/s | 0.01 m³/h |

| Volumetric flow quantity monitoring | | |
|---|---|---|
| Measuring range | 0...100000000 m³ | 0...353146667.2 scf |
| Display range | 0...100000000 m³ | 0...353146667.2 scf |
| Set point SP | 0.001...10000000 m³ | 0.05...353146667.2 scf |
| Pulse value | 0.001...10000000 m³ | 0.05...353146667.2 scf |
| In steps of | 0.0001 m³ | 0.005 scf |
| Pulse length [s] | 0.002...2 | |

| Temperature monitoring | | |
|---|---|---|
| Measuring range | -10...60 °C | 14...140 °F |
| Display range | -24...74 °C | -11.2...165.2 °F |
| Resolution | 0.2 °C | 0.5 °F |
| Set point SP | -9.7...60 °C | 14.6...140 °F |
| Reset point rP | -10...59.7 °C | 14...139.4 °F |
| Analogue start point | -10...46 °C | 14...114.8 °F |
| Analogue end point | 4...60 °C | 39.2...140 °F |

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| | | | |
|---|---|---|---|
| In steps of | | 0.1 °C | 0.1 °F |
| **Accuracy / deviations** | | | |
| Temperature coefficient | [1/K] | ± 0,07 % MW | |
| Accuracy (in the measuring range) | | ± (15 % MW + 1,5 % MEW); (maximum value to be achieved for air quality class 344 (DIN8573-1:2010); when using pipes of tolerance class T3/T4; inlet and outlet pipe lengths without edges and abrupt diameter changes; inner surface of the pipe free of burrs) | |
| Repeatability | | ± 1,5 % MW | |
| Temperature monitoring | | | |
| Accuracy | [K] | ± 0,5; (medium flow in the limit area of the flow measurement range) | |
| **Response times** | | | |
| Response time | [s] | < 0.1; (dAP = 0, T09) | |
| Damping process value dAP | [s] | 0...5 | |
| Temperature monitoring | | | |
| Dynamic response T05 / T09 | [s] | T09 = 0,5 | |
| **Software / programming** | | | |
| Parameter setting options | | hysteresis / window; normally open / normally closed; current/pulse output; display can be rotated and switched off; Display unit; totaliser | |
| **Interfaces** | | | |
| Communication interface | | IO-Link | |
| Transmission type | | COM2 (38,4 kBaud) | |
| IO-Link revision | | 1.1 | |
| SDCI standard | | IEC 61131-9 CDV | |
| Profiles | | Common - I&D | Identification and Diagnosis |
| | | Function | Measurement data, standard resolution |
| SIO mode | | yes | |
| Required master port type | | A | |
| Process data analogue | | 6 | |
| Process data binary | | 2 | |
| Min. process cycle time | [ms] | 5.9 | |
| Supported DeviceIDs | | **Type of operation** | **DeviceID** |
| | | default | 1001 |
| **Operating conditions** | | | |
| Ambient temperature | [°C] | 0...60 | |
| Storage temperature | [°C] | -20...85 | |
| Max. relative air humidity | [%] | 90 | |
| Protection | | IP 65; IP 67 | |
| **Tests / approvals** | | | |
| EMC | | DIN EN 60947-5-9 | |
| CPA approval | | model number | 004TG |
| | | accuracy class | - |
| | | maximum allowable error | ± 16,5 % FS |
| | | Q (min) | 0,25 m³/h |
| | | Q (t) | - |
| | | Q (max) | 75 m³/h |
| Vibration resistance | | DIN EN 68000-2-6 | 5 g (10...2000 Hz) |

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## Compressed air meter

SDR12DGXFRKG/US-100

| | | | |
|---|---|---|---|
| MTTF | [years] | 195 | |
| UL approval | | UL approval no. | I012 |
| | | File number UL | E174189 |
| Pressure Equipment Directive | | Sound engineering practice; can be used for stable gases fluid group 2 | |

### Mechanical data

| | | | |
|---|---|---|---|
| Weight | [g] | 546.5 | |
| Housing | | rectangular | |
| Dimensions | [mm] | 150 x 45.4 x 71.2 | |
| Materials | | PBT+PC-GF30; PPS GF40; stainless steel (304/1.4301); stainless steel (303/1.4305); steel (1.5523) galvanised; 2.0401 (brass / CW614N); FKM | |
| Materials (wetted parts) | | stainless steel (304/1.4301); stainless steel (303/1.4305); FKM; ceramics glass passivated; PPS GF40; acrylate | |
| Process connection | | threaded connection R 1/2 external thread DN15 | |

### Displays / operating elements

| | | | |
|---|---|---|---|
| Display | | | colour display 1,44", 128 x 128 pixels |
| | | | 2 x LED, yellow |

### 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; Contacts: 4

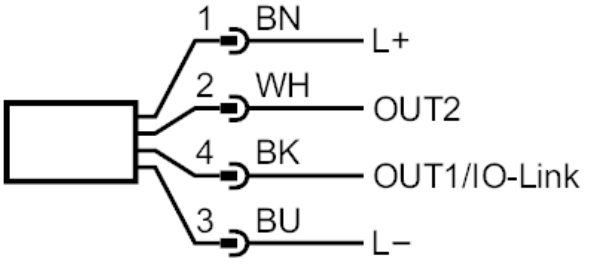


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## Compressed air meter

**SDR12DGXFRKG/US-100**

### Connection




| | |
|---|---|
| OUT1/IO-Link: | switching output flow<br>switching output temperature<br>Pulse output quantity meter<br>signal output Preset counter |
| OUT2/InD: | switching output flow<br>switching output temperature<br>analogue output flow<br>analogue output temperature<br>signal output Preset counter<br>Pulse output quantity meter<br>input counter reset |