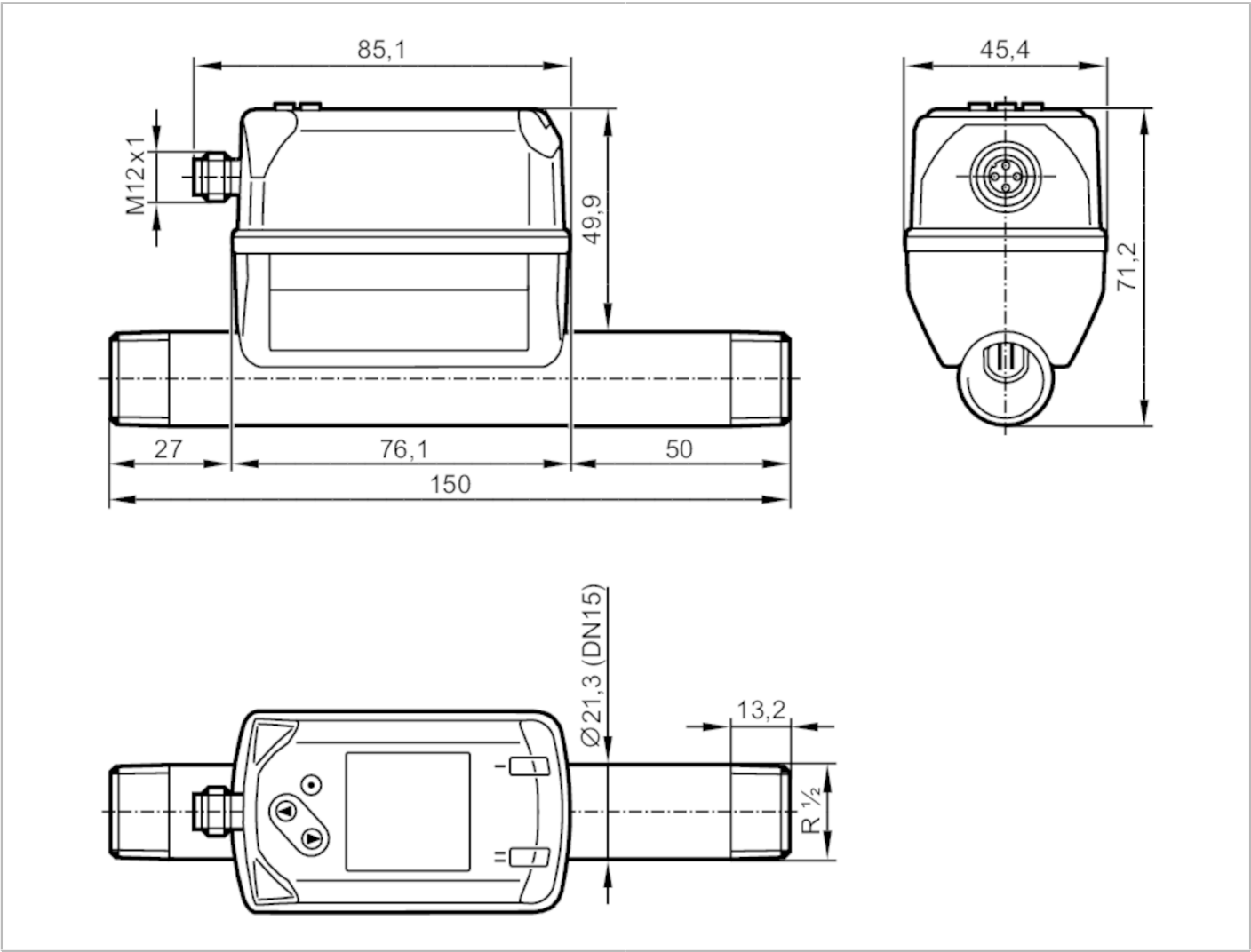


# SD6020



## 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 DN15                              |                            |                |
| Application                              |                                                             |                            |                |
| Application                              | for industrial applications                                 |                            |                |
| Media                                    | compressed air                                              |                            |                |
| Medium temperature                       | [°C]                                                        | -10...60                   |                |
| Min. bursting pressure                   | [bar]                                                       | 64                         |                |
| Min. bursting pressure                   | [MPa]                                                       | 6.4                        |                |
| Pressure rating                          | [bar]                                                       | 16                         |                |
| Pressure rating                          | [MPa]                                                       | 1.6                        |                |
| MAWP (for applications according to CRN) | [bar]                                                       | 16                         |                |
| Electrical data                          |                                                             |                            |                |
| Operating voltage                        | [V]                                                         | 18...30 DC; (to SELV/PELV) |                |



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|                             |      |      |
|-----------------------------|------|------|
| Current consumption         | [mA] | < 80 |
| 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 |
|------------------------------|-------------------------------------------------------------|

## 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]<br>2.5                                                               |
| Permanent current rating of switching output DC | [mA]<br>150; (per output)                                                |
| Number of analogue outputs                      | 1                                                                        |
| Analogue current output                         | [mA]<br>4...20; (scalable)                                               |
| Max. load                                       | [Ω]<br>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           |



## Compressed air meter

SDR12DGXFRKG/US-100

|                      |               |               |
|----------------------|---------------|---------------|
| 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 |
| 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) |
| 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                  | Digital Measuring Sensor (0x800A), Identification and Diagnosis (0x4000) |                 |
| 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       | <b>Type of operation</b>                                                 | <b>DeviceID</b> |
|                           | 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 |  |
|-----|------------------|--|

# SD6020



## Compressed air meter

SDR12DGXFRKG/US-100

|                              |                                                                        |                        |
|------------------------------|------------------------------------------------------------------------|------------------------|
| CPA approval                 | model number                                                           | 004TG                  |
|                              | accuracy class                                                         | -                      |
|                              | maximum allowable error                                                | $\pm 16,5$ % FS        |
|                              | Q (min)                                                                | 0,25 m <sup>3</sup> /h |
|                              | Q (t)                                                                  | -                      |
|                              | Q (max)                                                                | 75 m <sup>3</sup> /h   |
| Vibration resistance         | DIN EN 68000-2-6                                                       | 5 g (10...2000 Hz)     |
| 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                                                                                                                                      |
| 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 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

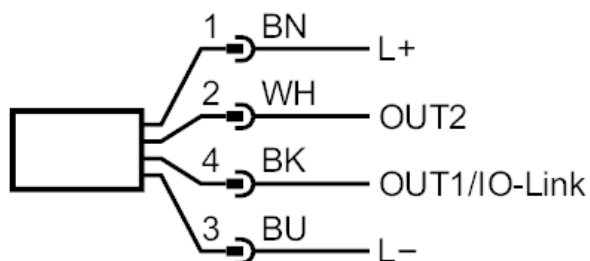




## Compressed air meter

SDR12DGXFRKG/US-100

### Connection



OUT1/IO-Link: switching output flow  
switching output temperature  
Pulse output quantity meter  
signal output Preset counter

OUT2/InD: switching output flow  
switching output temperature  
switching output pressure  
analogue output flow  
analogue output temperature  
signal output Preset counter  
Pulse output quantity meter  
input counter reset