

# SD5000



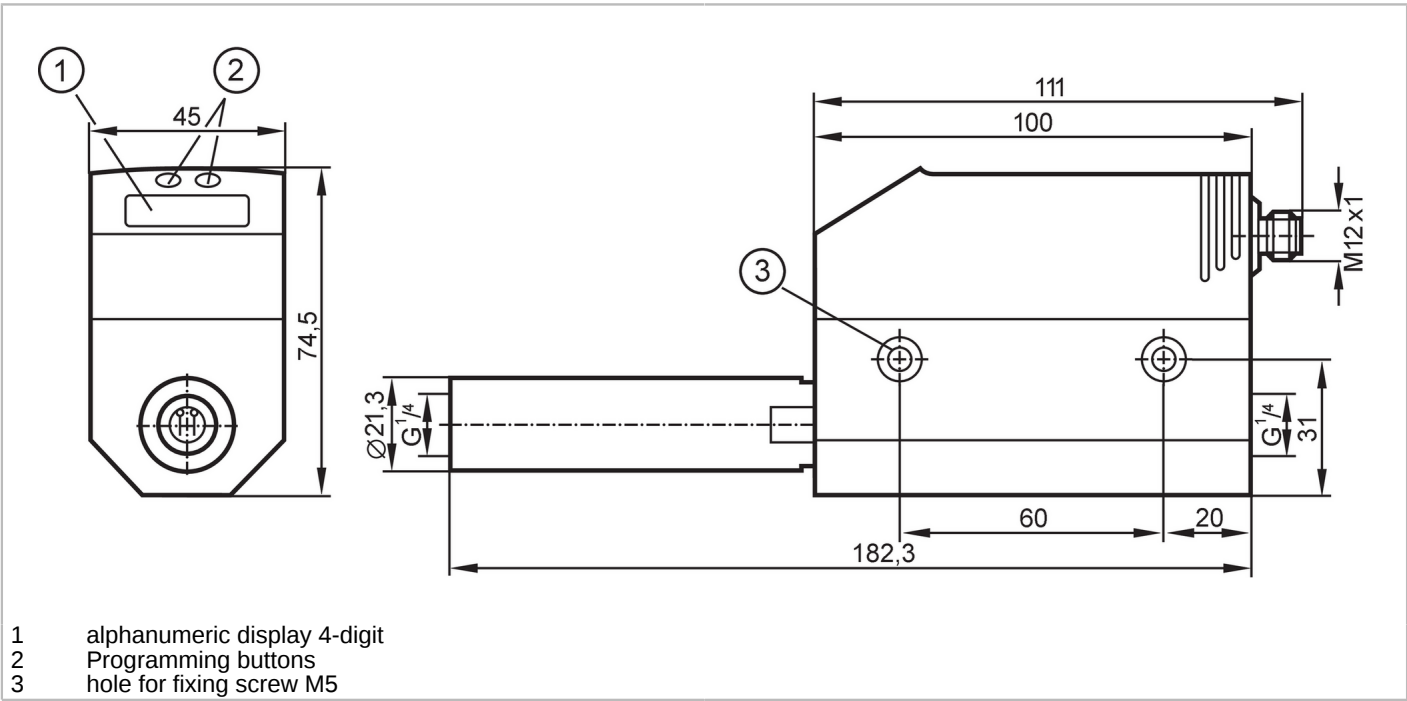
## Compressed air meter

SDR14DGXFPKG/US-100

Article to be discontinued

Alternative articles: SD5500

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 analog outputs: 1 |                |                |
| Measuring range              | 1...250 l/min                                             | 0.3...82.9 m/s | 0.04...15 m³/h |
| Process connection           | threaded connection G 1/4 Internal thread DN8             |                |                |

### Application

|                         |                             |         |  |
|-------------------------|-----------------------------|---------|--|
| Application             | for industrial applications |         |  |
| Media                   | compressed air              |         |  |
| Note on media           | air quality ISO 8573-1      |         |  |
|                         | class 141                   |         |  |
|                         | class 344                   |         |  |
| Medium temperature [°C] | 0...60                      |         |  |
| Pressure rating         | 16 bar                      | 1.6 MPa |  |

### Electrical data

|                             |                            |  |  |
|-----------------------------|----------------------------|--|--|
| Operating voltage [V]       | 18...30 DC; (to SELV/PELV) |  |  |
| Current consumption [mA]    | < 110                      |  |  |
| 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 analog outputs: 1 |
|------------------------------|-----------------------------------------------------------|



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| Outputs                                              |                                                                                                                                                 |                 |                   |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------|
| Total number of outputs                              | 2                                                                                                                                               |                 |                   |
| Output signal                                        | switching signal; analog signal; pulse signal; IO-Link; (configurable)                                                                          |                 |                   |
| Electrical design                                    | PNP                                                                                                                                             |                 |                   |
| Number of digital outputs                            | 2                                                                                                                                               |                 |                   |
| Output function                                      | normally open / closed; (configurable)                                                                                                          |                 |                   |
| Max. voltage drop switching output DC [V]            | 2                                                                                                                                               |                 |                   |
| Permanent current rating of switching output DC [mA] | 250; (per output)                                                                                                                               |                 |                   |
| Number of analog outputs                             | 1                                                                                                                                               |                 |                   |
| Analog current output [mA]                           | 4...20; (scalable)                                                                                                                              |                 |                   |
| Max. load [Ω]                                        | 500                                                                                                                                             |                 |                   |
| Pulse output                                         | consumed quantity meter                                                                                                                         |                 |                   |
| Short-circuit protection                             | yes                                                                                                                                             |                 |                   |
| Type of short-circuit protection                     | yes (non-latching)                                                                                                                              |                 |                   |
| Overload protection                                  | yes                                                                                                                                             |                 |                   |
| Measuring/setting range                              |                                                                                                                                                 |                 |                   |
| Measuring range                                      | 1...250 l/min                                                                                                                                   | 0.3...82.9 m/s  | 0.04...15 m³/h    |
| Display range                                        | 0...300 l/min                                                                                                                                   | 0...99.5 m/s    | 0...18 m³/h       |
| Set point SP                                         | 2...250 l/min                                                                                                                                   | 0.7...82.9 m/s  | 0.12...15 m³/h    |
| Reset point rP                                       | 1...249 l/min                                                                                                                                   | 0.3...82.5 m/s  | 0.04...14.92 m³/h |
| Analog start point ASP                               | 0...187.5 l/min                                                                                                                                 | 0...62.2 m/s    | 0...11.26 m³/h    |
| Analog end point AEP                                 | 62.5...250 l/min                                                                                                                                | 20.7...82.9 m/s | 3.74...15 m³/h    |
| In steps of                                          | 0.5 l/min                                                                                                                                       | 0.1 m/s         | 0.02 m³/h         |
| Volumetric flow quantity monitoring                  |                                                                                                                                                 |                 |                   |
| Pulse value                                          | 0.001...1000000 m³                                                                                                                              |                 |                   |
| In steps of                                          | 0.001 m³                                                                                                                                        |                 |                   |
| Pulse length [s]                                     | 0,1...2                                                                                                                                         |                 |                   |
| Temperature monitoring                               |                                                                                                                                                 |                 |                   |
| Measuring range [°C]                                 | 0...60                                                                                                                                          |                 |                   |
| Display range [°C]                                   | -12...72                                                                                                                                        |                 |                   |
| Accuracy / deviations                                |                                                                                                                                                 |                 |                   |
| Flow monitoring                                      |                                                                                                                                                 |                 |                   |
| Repeatability [% of the measured value]              | ± 1,5                                                                                                                                           |                 |                   |
| Accuracy (in the measuring range)                    | ± (3 % MW + 0,3 % MEW) / ± (6 % MW + 0,6 % MEW); (class 141 /; class 344; conditions: installation to DIN ISO 2533; installation in pipes: DN8) |                 |                   |
| Temperature monitoring                               |                                                                                                                                                 |                 |                   |
| Accuracy [K]                                         | ± 2; (medium flow in the limit area of the flow measurement range)                                                                              |                 |                   |
| Reaction times                                       |                                                                                                                                                 |                 |                   |
| Flow monitoring                                      |                                                                                                                                                 |                 |                   |
| Response time [s]                                    | 0.1; (dAP = 0)                                                                                                                                  |                 |                   |

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|                                    |     |                               |
|------------------------------------|-----|-------------------------------|
| 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; Temperature monitoring; hysteresis / window; normally open / closed; current/pulse output; display can be rotated and switched off; Display unit; totalizer |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Interfaces

| Communication interface    | IO-Link                                                                                                  |                   |          |         |     |
|----------------------------|----------------------------------------------------------------------------------------------------------|-------------------|----------|---------|-----|
| Transmission type          | COM2 (38,4 kBaud)                                                                                        |                   |          |         |     |
| IO-Link revision           | 1.1                                                                                                      |                   |          |         |     |
| SDCI standard              | IEC 61131-9 CDV                                                                                          |                   |          |         |     |
| SIO mode                   | yes                                                                                                      |                   |          |         |     |
| Required master port class | A                                                                                                        |                   |          |         |     |
| Process data analog        | 3                                                                                                        |                   |          |         |     |
| Process data binary        | 2                                                                                                        |                   |          |         |     |
| Min. process cycle time    | [ms] 4.1                                                                                                 |                   |          |         |     |
| Supported DeviceIDs        | <table><tr><th>Type of operation</th><th>DeviceID</th></tr><tr><td>default</td><td>260</td></tr></table> | Type of operation | DeviceID | default | 260 |
| Type of operation          | DeviceID                                                                                                 |                   |          |         |     |
| default                    | 260                                                                                                      |                   |          |         |     |

### Operating conditions

|                            |               |
|----------------------------|---------------|
| Ambient temperature        | [°C] 0...60   |
| Storage temperature        | [°C] -20...85 |
| Max. relative air humidity | [%] 90        |
| Protection                 | IP 65         |

### Tests / approvals

|                              |                                                                                       |                    |
|------------------------------|---------------------------------------------------------------------------------------|--------------------|
| EMC                          | DIN EN 61000-6-2                                                                      |                    |
|                              | DIN EN 61000-6-3                                                                      |                    |
| CPA approval                 | model number                                                                          | 002TG              |
|                              | accuracy class                                                                        | -                  |
|                              | maximum allowable error                                                               | ± 4 % FS           |
|                              | Q (min)                                                                               | 0,04 m³/h          |
|                              | Q (t)                                                                                 | -                  |
|                              | Q (max)                                                                               | 15 m³/h            |
| Vibration resistance         | DIN EN 68000-2-6                                                                      | 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] 974                                                                                            |
| Housing                  | rectangular                                                                                        |
| Dimensions               | [mm] 182.3 x 45 x 74.5                                                                             |
| Material                 | PBT-GF20; NBR; PC; stainless steel (1.4301 / 304); PTFE; brass coated; FKM; aluminum powder-coated |
| Materials (wetted parts) | stainless steel (1.4301 / 304); FKM; ceramics glass passivated; PEEK GF30; polyester; aluminum     |
| Process connection       | threaded connection G 1/4 Internal thread DN8                                                      |

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### Displays / operating elements

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

### Remarks

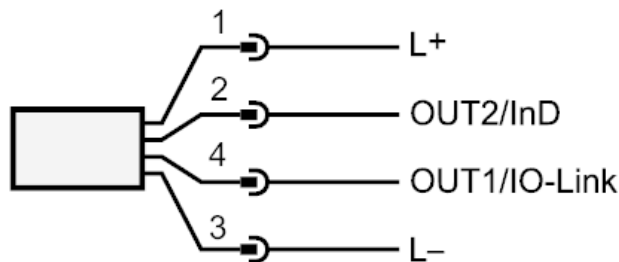
|               |                                                                                                |
|---------------|------------------------------------------------------------------------------------------------|
| Remarks       | MW = Measured value                                                                            |
|               | 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 | 1 pcs.                                                                                         |

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4



### Connection



OUT1/IO-Link: Switching output Volumetric flow quantity monitoring  
Pulse output quantity meter  
signal output Preset counter

OUT2/InD: Switching output Volumetric flow quantity monitoring / Temperature monitoring  
analog output Volumetric flow quantity monitoring / Temperature monitoring  
Input counter reset