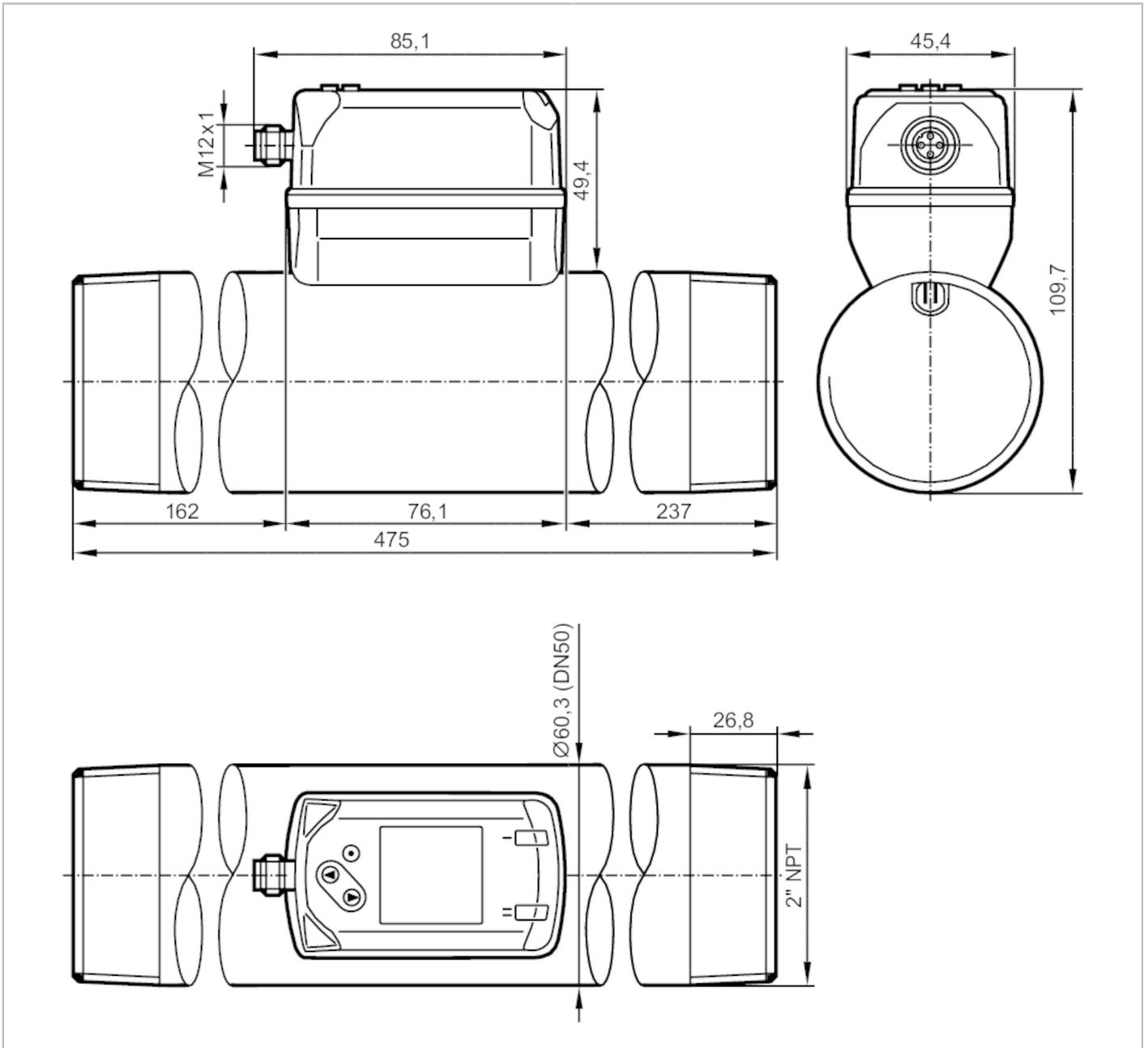


SD2501



Compressed air meter

SDN21DGXFRKG/US-100



Product characteristics

| | |
|------------------------------|---|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analog outputs: 1 |
| Process connection | threaded connection 2" NPT DN50 |
| Pressure monitoring | |
| Measuring range [psi] | -15...232 |

SD2501



Compressed air meter

SDN21DGXFRKG/US-100

| Application | | | |
|---|--|----------------------------|-------------------|
| Application | for industrial applications | | |
| Media | compressed air | | |
| Medium temperature | [°C] | -10...60 | |
| Min. bursting pressure | [psi] | 928 | |
| Pressure rating | [psi] | 232 | |
| MAWP (for applications according to CRN) | [bar] | 9.5 | |
| Electrical data | | | |
| Operating voltage | [V] | 18...30 DC; (to SELV/PELV) | |
| 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 analog outputs: 1 | | |
| Inputs | | | |
| Inputs | counter reset | | |
| Outputs | | | |
| Output signal | switching signal; analog signal; pulse signal; IO-Link; (configurable) | | |
| Electrical design | PNP/NPN | | |
| Number of digital outputs | 2 | | |
| Output function | normally open / closed; (configurable) | | |
| Max. voltage drop switching output DC | [V] | 2.5 | |
| Permanent current rating of switching output DC | [mA] | 150; (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 | 80...24720 scfh | 1.5...412 scfm | 1...275.6 ft/s |
| Display range | 0...29660 scfh | 0...494.5 scfm | 0...330.8 ft/s |
| Resolution | 20 scfh | 0.5 scfm | 0.2 ft/s |
| Set point SP | 210...24710 scfh | 3.5...411.8 scfm | 2.4...275.5 ft/s |
| Reset point rP | 90...24590 scfh | 1.5...409.8 scfm | 1...274.1 ft/s |
| Analog start point ASP | 0...19780 scfh | 0...329.6 scfm | 0...220.5 ft/s |
| Analog end point AEP | 4940...24720 scfh | 82.4...412 scfm | 55.1...275.6 ft/s |
| Low flow cut-off LFC | 70...250 scfh | 1.2...4.1 scfm | 0.8...2.8 ft/s |
| In steps of | 1 scfh | 0.1 scfm | 0.1 ft/s |

SD2501



Compressed air meter

SDN21DGXFRKG/US-100

| Pressure monitoring | | |
|-------------------------------------|------------------------|--|
| Measuring range | [psi] | -15...232 |
| Display range | [psi] | -15...290 |
| Resolution | [psi] | 1 |
| Set point SP | [psi] | -13...232 |
| Reset point rP | [psi] | -15...231 |
| Analog start point | [psi] | -15...186 |
| Analog end point | [psi] | 32...232 |
| In steps of | [psi] | 1 |
| Volumetric flow quantity monitoring | | |
| Measuring range | | 0...100000000 m ³ 0...353146667.2 scf |
| Display range | | 0...100000000 m ³ 0...353146667.2 scf |
| Set point SP | | 0.001...10000000 m ³ 0.05...353146667.2 scf |
| Pulse value | | 0.001...10000000 m ³ 0.05...353146667.2 scf |
| In steps of | | 0.0001 m ³ 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 |
| Analog start point | | -10...46 °C 14...114.8 °F |
| Analog 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) | | class 141: ± (2 % MW + 0,5 % MEW); class 344: ± (6 % MW + 0,6 % MEW) ; air quality to ISO 8573-1:2010; at medium temperature 73 °F |
| Repeatability | | ± (0,4 % MW + 0,1 % MEW) |
| Pressure monitoring | | |
| Repeatability | [% of the final value] | ± 0,2 |
| Characteristics deviation | [% of the final value] | < ± 0,5; (BFSL = Best Fit Straight Line) |
| Greatest TEMPCO of the span | [% MEW / 10 K] | ± 0,3 |
| Greatest TEMPCO of the zero point | [% MEW / 10 K] | ± 0,1 |
| Temperature monitoring | | |
| Accuracy | [K] | ± 0,5; (medium flow in the limit area of the flow measurement range) |
| Reaction times | | |
| Response time | [s] | 0.1; (dAP = 0) |
| Damping process value dAP | [s] | 0...5 |

SD2501



Compressed air meter

SDN21DGXFRKG/US-100

| Pressure monitoring | | | | | |
|---------------------------------------|---|---------------------------------------|-----------------|----------------|---------|
| Response time [s] | 0.05 | | | | |
| Temperature monitoring | | | | | |
| Dynamic response T05 / T09 [s] | T09 = 0,5 | | | | |
| Software / programming | | | | | |
| Parameter setting options | 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 | | | | |
| Profiles | Digital Measuring Sensor (0x800A), Identification and Diagnosis (0x4000) | | | | |
| SIO mode | yes | | | | |
| Required master port class | A | | | | |
| Process data analog | 8 | | | | |
| Process data binary | 2 | | | | |
| Min. process cycle time [ms] | 7.2 | | | | |
| Supported DeviceIDs | <table border="1"><thead><tr><th>Type of operation</th><th>DeviceID</th></tr></thead><tbody><tr><td>default</td><td>871</td></tr></tbody></table> | Type of operation | DeviceID | default | 871 |
| Type of operation | DeviceID | | | | |
| default | 871 | | | | |
| Operating conditions | | | | | |
| Ambient temperature [°F] | 32...140 | | | | |
| Storage temperature [°F] | -4...185 | | | | |
| Max. relative air humidity [%] | 90 | | | | |
| Protection | IP 65; IP 67 | | | | |
| Tests / approvals | | | | | |
| EMC | DIN EN 60947-5-9 | | | | |
| Vibration resistance | DIN EN 68000-2-6 | | | | |
| MTTF [years] | 183 | | | | |
| UL approval | <table border="1"><thead><tr><th>UL approval number</th><th>I012</th></tr></thead><tbody><tr><td>File number UL</td><td>E174189</td></tr></tbody></table> | UL approval number | I012 | File number UL | E174189 |
| UL approval number | I012 | | | | |
| File number UL | E174189 | | | | |
| Pressure equipment directive | sound engineering practice; can be used for stable gases fluid group 2 | | | | |
| Mechanical data | | | | | |
| Weight [g] | 2681.5 | | | | |
| Material | PBT+PC-GF30; PPS GF40; stainless steel (1.4301 / 304); stainless steel (1.4305 / 303); steel (1.5523) galvanized; 2.0401 (brass / CW614N); FKM | | | | |
| Materials (wetted parts) | stainless steel (1.4301 / 304); stainless steel (1.4305 / 303); FKM; ceramics glass passivated; PPS GF40; Al2O3 (ceramics); acrylate | | | | |
| Process connection | threaded connection 2" NPT DN50 | | | | |
| Displays / operating elements | | | | | |
| Display | <table border="1"><tbody><tr><td>Color display 1,44", 128 x 128 pixels</td></tr><tr><td>2 x LED, yellow</td></tr></tbody></table> | Color display 1,44", 128 x 128 pixels | 2 x LED, yellow | | |
| Color display 1,44", 128 x 128 pixels | | | | | |
| 2 x LED, yellow | | | | | |

SD2501



Compressed air meter

SDN21DGXFRKG/US-100

| 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



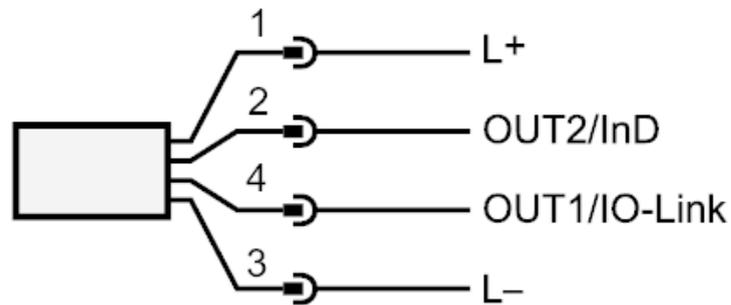
SD2501



Compressed air meter

SDN21DGXFRKG/US-100

Connection



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

OUT2/InD: Switching output flow
Switching output temperature
Switching output pressure
analog output flow
analog output temperature
analog output pressure
signal output Preset counter
Pulse output quantity meter
Input counter reset