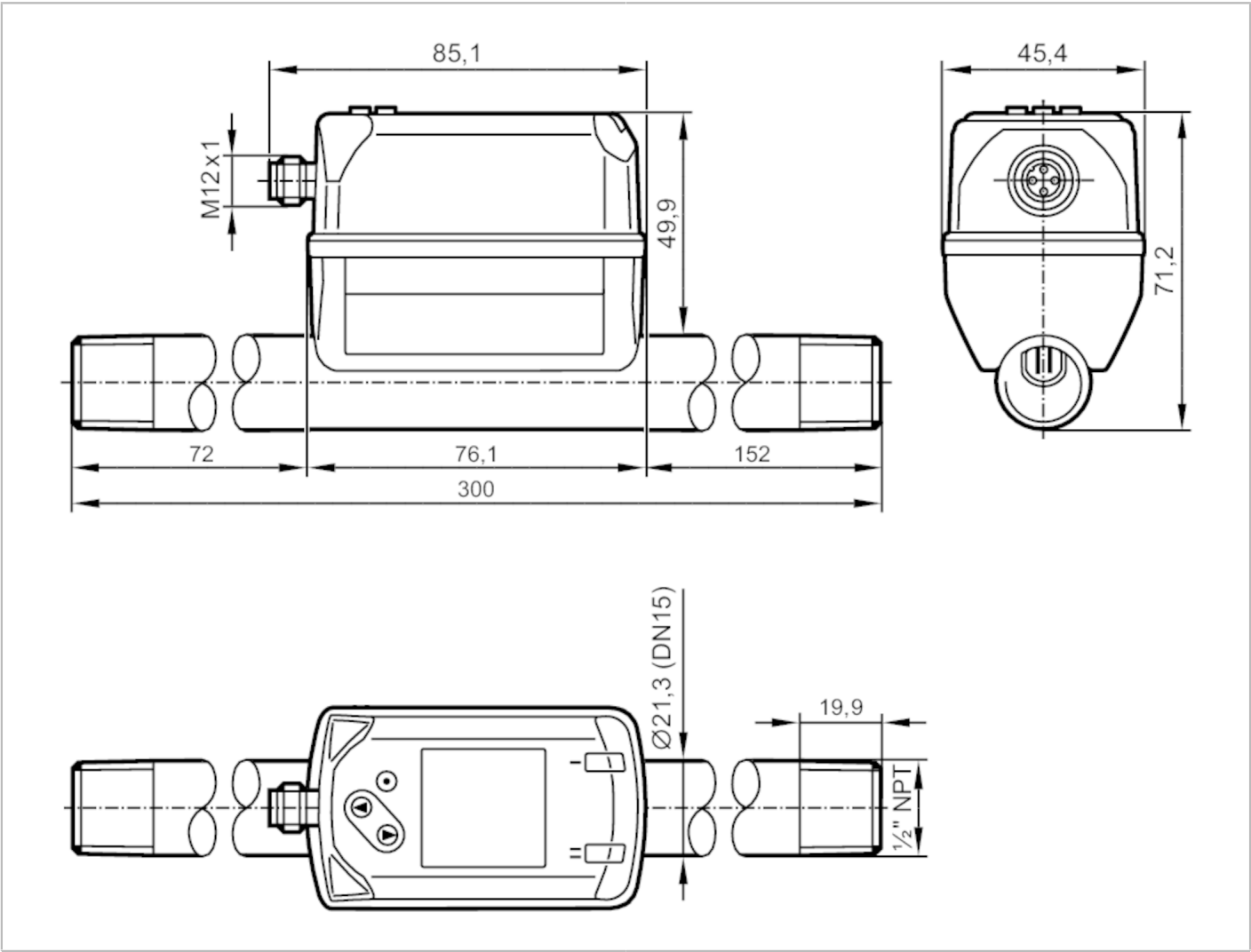


# SD6601

## Industrial gas counter

SDN12DGXFRKG/US-100



CRN



DNV  
DNV.COM/AF

IO-Link



UK  
CA

### Product characteristics

|                              |                                                             |                   |                |
|------------------------------|-------------------------------------------------------------|-------------------|----------------|
| Number of inputs and outputs | Number of digital outputs: 2; Number of analogue outputs: 1 |                   |                |
| Measuring range              | 8...2648 scfh                                               | 0.15...44.15 scfm | 1...327.4 ft/s |
| Process connection           | threaded connection 1/2" NPT external thread DN15           |                   |                |

### Application

|                                              |                                                                                           |  |
|----------------------------------------------|-------------------------------------------------------------------------------------------|--|
| Application                                  | for industrial applications                                                               |  |
| Media                                        | Argon (Ar); carbon dioxide (CO <sub>2</sub> ); nitrogen (N <sub>2</sub> ); compressed air |  |
| Medium temperature [°F]                      | 14...140                                                                                  |  |
| Min. bursting pressure [psi]                 | 928                                                                                       |  |
| Pressure rating [psi]                        | 232                                                                                       |  |
| MAWP for applications according to CRN [bar] | 9.7                                                                                       |  |

### Electrical data

|                          |                            |
|--------------------------|----------------------------|
| Operating voltage [V]    | 18...30 DC; (to SELV/PELV) |
| Current consumption [mA] | < 80                       |
| Protection class         | III                        |



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|                             |     |
|-----------------------------|-----|
| 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]            | 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          | 8...2648 scfh   | 0.15...44.15 scfm | 1...327.4 ft/s    |
| Display range            | 0...3178 scfh   | 0...52.95 scfm    | 0...393 ft/s      |
| Resolution               | 2 scfh          | 0.05 scfm         | 0.2 ft/s          |
| Set point SP             | 23...2648 scfh  | 0.38...44.13 scfm | 2.8...327.3 ft/s  |
| Reset point rP           | 10...2635 scfh  | 0.16...43.91 scfm | 1.2...325.7 ft/s  |
| Analogue start point ASP | 0...2119 scfh   | 0...35.31 scfm    | 0...261.9 ft/s    |
| Analogue end point AEP   | 530...2649 scfh | 8.83...44.14 scfm | 65.5...327.4 ft/s |
| Low flow cut-off LFC     | 3...28 scfh     | 0.05...0.47 scfm  | 0.4...3.5 ft/s    |
| In steps of              | 1 scfh          | 0.01 scfm         | 0.1 ft/s          |

## 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 |
| Analogue start point [psi] | -15...186 |
| Analogue end point [psi]   | 32...232  |
| In steps of [psi]          | 1         |

## Volumetric flow quantity monitoring

|                 |                                 |                        |
|-----------------|---------------------------------|------------------------|
| Measuring range | 0...100000000 m <sup>3</sup>    | 0...353146667.2 scf    |
| Display range   | 0...100000000 m <sup>3</sup>    | 0...353146667.2 scf    |
| Set point SP    | 0.001...10000000 m <sup>3</sup> | 0.05...353146667.2 scf |



## Industrial gas counter

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|                  |                     |                        |
|------------------|---------------------|------------------------|
| 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    |
| In steps of            | 0.1 °C        | 0.1 °F           |

|                                   |                          |  |
|-----------------------------------|--------------------------|--|
| Accuracy / deviations             |                          |  |
| Temperature coefficient [1/K]     | ± 0,07 % MW              |  |
| Accuracy (in the measuring range) | ± (6 % MW + 0,6 % MEW)   |  |
| 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) |  |

|                               |                |  |
|-------------------------------|----------------|--|
| Response times                |                |  |
| Response time [s]             | 0.1; (dAP = 0) |  |
| Damping process value dAP [s] | 0...5          |  |

|                     |      |  |
|---------------------|------|--|
| 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 / 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 |

# SD6601



## Industrial gas counter

SDN12DGXFRKG/US-100

| SIO mode                     | yes                                                                                                           |                   |          |         |     |
|------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------|----------|---------|-----|
| Required master port type    | A                                                                                                             |                   |          |         |     |
| Process data analogue        | 8                                                                                                             |                   |          |         |     |
| Process data binary          | 2                                                                                                             |                   |          |         |     |
| Min. process cycle time [ms] | 7.2                                                                                                           |                   |          |         |     |
| Supported DeviceIDs          | <table> <tr> <th>Type of operation</th><th>DeviceID</th></tr> <tr> <td>default</td><td>865</td></tr> </table> | Type of operation | DeviceID | default | 865 |
| Type of operation            | DeviceID                                                                                                      |                   |          |         |     |
| default                      | 865                                                                                                           |                   |          |         |     |

| 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> <tr> <td>UL approval no.</td><td>I012</td></tr> <tr> <td>File number UL</td><td>E174189</td></tr> </table> | UL approval no. | I012 | File number UL | E174189 |
| 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]               | 742.5                                                                                                                                      |
| Housing                  | rectangular                                                                                                                                |
| Dimensions [mm]          | 300 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; Al2O3 (ceramics); acrylate           |
| Process connection       | threaded connection 1/2" NPT 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                                                |
|               | Standard conditions: 1013.25 mbar / 15 °C / 0 % relative humidity                       |
|               | For information about installation and operation please see the operating instructions. |
| Pack quantity | 1 pcs.                                                                                  |

# SD6601

## Industrial gas counter

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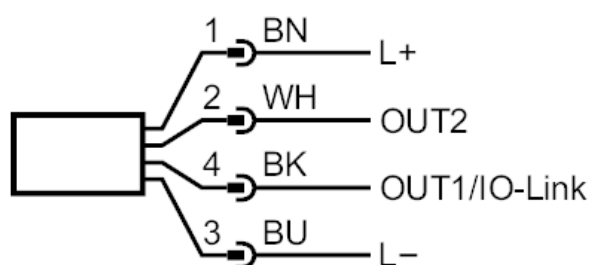


### Electrical connection

Connector: 1 x M12; coding: A



### 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  
analogue output flow  
analogue output temperature  
analogue output pressure  
signal output Preset counter  
Pulse output quantity meter  
input counter reset