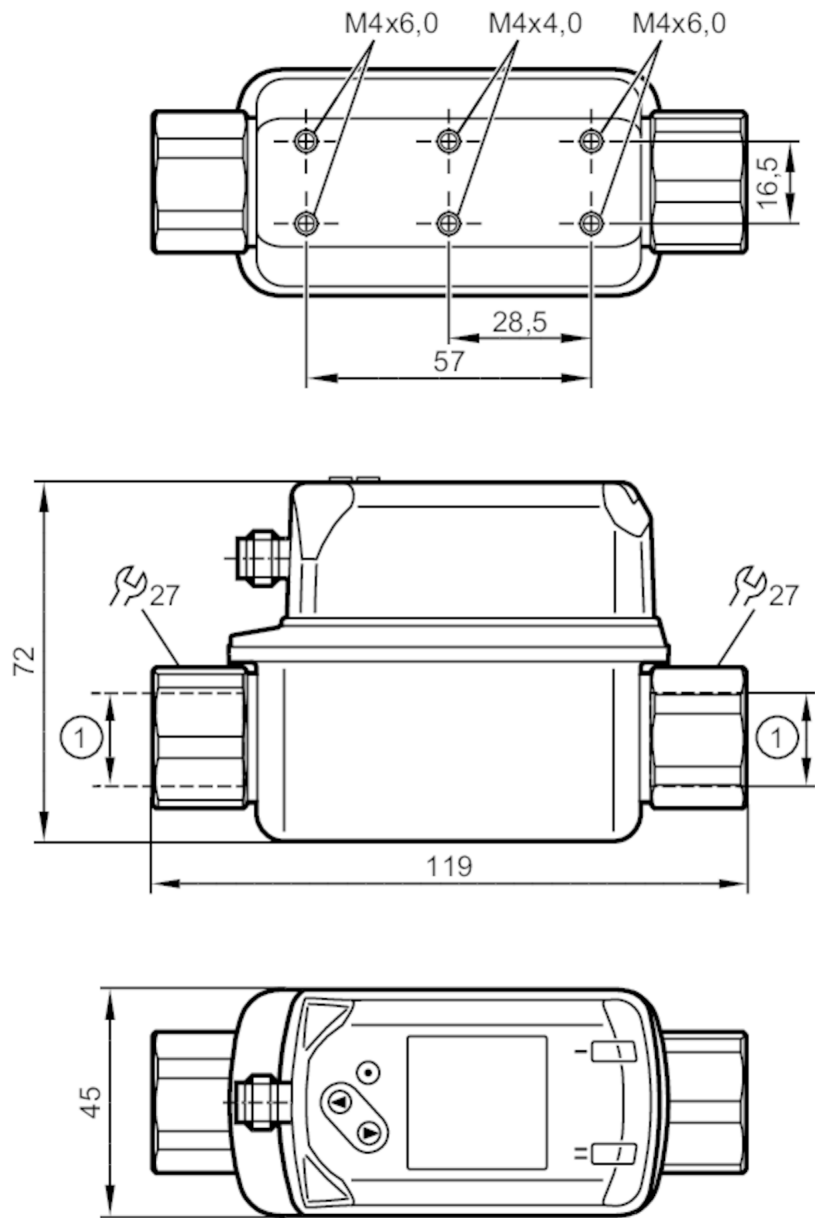


SV4610



Vortex flow meter with display

SVN12XXXIRKG/US-100



1 1/2" NPT  
DN 8



Product characteristics

|                              |                                  |                 |
|------------------------------|----------------------------------|-----------------|
| Number of inputs and outputs | Number of digital outputs: 2     |                 |
| Measuring range              | 16...317 gph                     | 0.26...5.28 gpm |
| Process connection           | threaded connection 1/2" NPT DN8 |                 |

Application

|                         |                                   |
|-------------------------|-----------------------------------|
| Special feature         | Gold-plated contacts              |
| Application             | for industrial applications       |
| Media                   | water; glycol solutions; coolants |
| Medium temperature [°F] | 14...194                          |



## Vortex flow meter with display

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|                                          |       |             |
|------------------------------------------|-------|-------------|
| Pressure rating                          | [bar] | 12          |
| Pressure rating                          | [psi] | 174         |
| Note on pressure rating                  |       | up to 40 °C |
| MAWP (for applications according to CRN) | [bar] | 3.9         |

## Electrical data

|                             |      |                 |
|-----------------------------|------|-----------------|
| Operating voltage           | [V]  | 18...30 DC      |
| Current consumption         | [mA] | < 30            |
| Min. insulation resistance  | [MΩ] | 100; (500 V DC) |
| Protection class            |      | III             |
| Reverse polarity protection |      | yes             |
| Power-on delay time         | [s]  | < 3             |

## Inputs / outputs

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
|------------------------------|------------------------------|

## Outputs

|                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| Total number of outputs                         | 2                                                           |
| Output signal                                   | switching signal; frequency 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>100                                                 |
| Short-circuit protection                        | yes                                                         |
| Overload protection                             | yes                                                         |

## Measuring/setting range

|                                |              |                 |
|--------------------------------|--------------|-----------------|
| Measuring range                | 16...317 gph | 0.26...5.28 gpm |
| Display range                  | 0...380 gph  | 0...6.34 gpm    |
| Resolution                     | 1 gph        | 0.02 gpm        |
| Set point SP                   | 19...317 gph | 0.32...5.28 gpm |
| Reset point rP                 | 16...314 gph | 0.26...5.24 gpm |
| Frequency end point, FEP       | 63...317 gph | 1.06...5.28 gpm |
| In steps of                    | 1 gph        | 0.02 gpm        |
| Frequency at the end point FRP | [Hz]         | 100...1000      |
| Measuring dynamics             |              | 1:20            |

## Temperature monitoring

|                            |      |           |
|----------------------------|------|-----------|
| Measuring range            | [°F] | 14...194  |
| Display range              | [°F] | -22...230 |
| Resolution                 | [°F] | 1         |
| Set point SP               | [°F] | 16...194  |
| Reset point rP             | [°F] | 14...192  |
| In steps of                | [°F] | 1         |
| Frequency start point, FSP | [°F] | 14...158  |
| Frequency end point, FEP   | [°F] | 50...194  |



## Vortex flow meter with display

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|                                |      |            |
|--------------------------------|------|------------|
| Frequency at the end point FRP | [Hz] | 100...1000 |
|--------------------------------|------|------------|

## Accuracy / deviations

|                                   |  |                        |
|-----------------------------------|--|------------------------|
| Flow monitoring                   |  |                        |
| Accuracy (in the measuring range) |  | $\pm 2\%$ MEW; (water) |
| Repeatability                     |  | $\pm 0,5\%$ MEW        |

## Temperature monitoring

|          |     |         |
|----------|-----|---------|
| Accuracy | [K] | $\pm 1$ |
|----------|-----|---------|

## Response times

|                           |     |              |
|---------------------------|-----|--------------|
| Flow monitoring           |     |              |
| Response time             | [s] | 1; (dAP = 0) |
| Damping process value dAP | [s] | 0...5        |

## Temperature monitoring

|                            |     |         |
|----------------------------|-----|---------|
| Dynamic response T05 / T09 | [s] | T09 = 6 |
|----------------------------|-----|---------|

## Software / programming

|                           |                                                                                                                                            |  |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--|
| Parameter setting options | hysteresis / window; normally open / normally closed; switching logic; frequency output; switch-on/switch-off delay; Damping; Display unit |  |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--|

## Interfaces

|                           |                                                                              |                 |
|---------------------------|------------------------------------------------------------------------------|-----------------|
| Communication interface   | IO-Link                                                                      |                 |
| Transmission type         | COM2 (38,4 kBaud)                                                            |                 |
| IO-Link revision          | 1.1                                                                          |                 |
| SDCI standard             | IEC 61131-9                                                                  |                 |
| Profiles                  | Smart Sensor: Process Data Variable; Device Identification, Device Diagnosis |                 |
| SIO mode                  | yes                                                                          |                 |
| Required master port type | A                                                                            |                 |
| Process data analogue     | 2                                                                            |                 |
| Process data binary       | 2                                                                            |                 |
| Min. process cycle time   | [ms]                                                                         | 3               |
| Supported DeviceIDs       | <b>Type of operation</b>                                                     | <b>DeviceID</b> |
|                           | default                                                                      | 486             |

## Operating conditions

|                             |                                          |          |
|-----------------------------|------------------------------------------|----------|
| Ambient temperature         | [°F]                                     | 32...140 |
| Note on ambient temperature | medium temperature < 176 °F              |          |
|                             | medium temperature < 194 °F: 32...122 °F |          |
| Storage temperature         | [°F]                                     | -4...176 |
| Protection                  | IP 65; IP 67                             |          |

## Tests / approvals

|                      |                   |                               |
|----------------------|-------------------|-------------------------------|
| EMC                  | DIN EN 61000-6-2  |                               |
|                      | DIN EN 61000-6-3  |                               |
| Shock resistance     | DIN EN 60068-2-27 | 5 g (11 ms)                   |
| Vibration resistance | DIN EN 60068-2-6  | with water / 10...50 Hz 1 mm  |
|                      |                   | with water / 50...2000 Hz 2 g |
| MTTF                 | [ANN]             | 342                           |
| UL approval          | UL Approval no.   | I001                          |

# SV4610



## Vortex flow meter with display

SVN12XXXIRKG/US-100

|                              |                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------|
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |
|------------------------------|---------------------------------------------------------------------------------------|

### Mechanical data

|                          |                                                              |       |
|--------------------------|--------------------------------------------------------------|-------|
| Weight                   | [g]                                                          | 481.5 |
| Materials                | stainless steel (1.4404 / 316L); PC; PBT+PC-GF30; PPS; TPE-U |       |
| Materials (wetted parts) | stainless steel (1.4404 / 316L); ETFE; PA 6T; PPS; FKM       |       |
| Tightening torque        | [Nm]                                                         | 30    |
| Process connection       | threaded connection 1/2" NPT DN8                             |       |

### Remarks

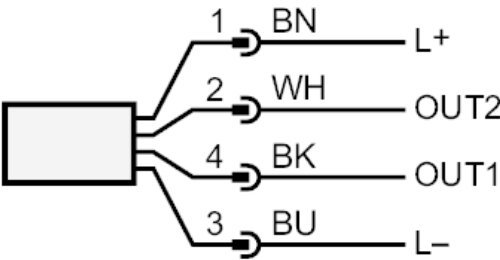
|               |                                          |
|---------------|------------------------------------------|
| Remarks       | MW = measured value                      |
|               | MEW = Final value of the measuring range |
| Pack quantity | 1 pcs.                                   |

### Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



### Connection



|       |                                            |
|-------|--------------------------------------------|
| OUT1: | Flow monitoring                            |
| -     | switching output                           |
| -     | frequency output                           |
| -     | IO-Link                                    |
| OUT2: | flow monitoring and temperature monitoring |
| -     | switching output                           |
| -     | frequency output                           |
|       | colours to DIN EN 60947-5-2                |
|       | Core colours :                             |
| BK =  | black                                      |
| BN =  | brown                                      |
| BU =  | blue                                       |
| WH =  | white                                      |

# SV4610

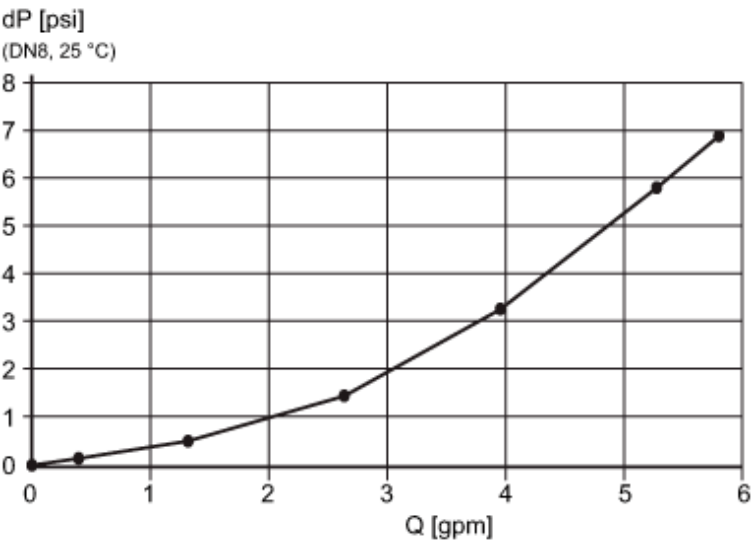


## Vortex flow meter with display

SVN12XXXIRKG/US-100

### Diagrams and graphs

Pressure loss



dP Pressure loss  
Q volumetric flow quantity

pressure rating (bar)

