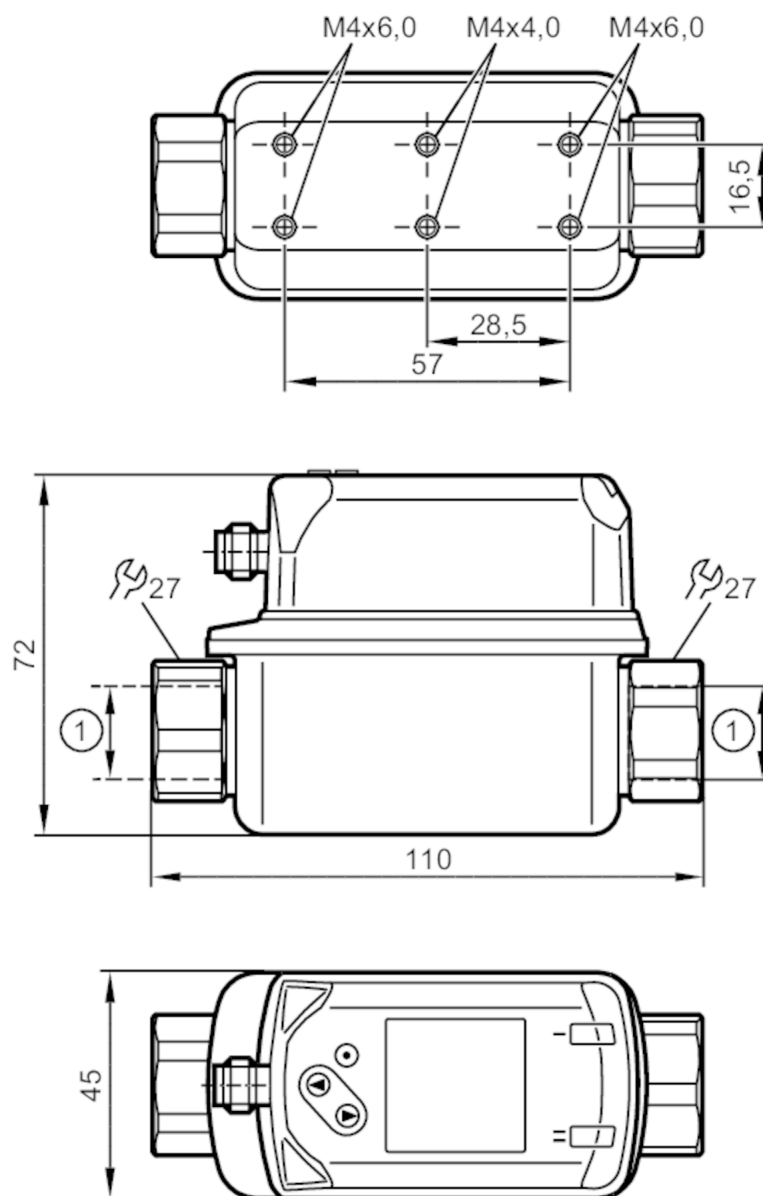


## Vortex flow meter with display

SVK12XXXIRKG/US-100



1 Rc 1/2  
DN 8



## Product characteristics

|                              |                                                |                 |
|------------------------------|------------------------------------------------|-----------------|
| Number of inputs and outputs | Number of digital outputs: 2                   |                 |
| Measuring range              | 1...20 l/min                                   | 0.06...1.2 m³/h |
| Process connection           | threaded connection Rc 1/2 internal thread DN8 |                 |

## Application

|                         |                                   |  |
|-------------------------|-----------------------------------|--|
| Special feature         | Gold-plated contacts              |  |
| Application             | for industrial applications       |  |
| Media                   | water; glycol solutions; coolants |  |
| Medium temperature [°C] | -10...90                          |  |



## Vortex flow meter with display

SVK12XXXIRKG/US-100

|                                                 |                                                             |                  |
|-------------------------------------------------|-------------------------------------------------------------|------------------|
| Pressure rating                                 | 12 bar                                                      | 1.2 MPa          |
| Note on pressure rating                         | up to 40 °C                                                 |                  |
| 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              |
| Measuring principle                             |                                                             | Vortex           |
| 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]                                                         | 2.5              |
| Permanent current rating of switching output DC | [mA]                                                        | 100              |
| Short-circuit protection                        |                                                             | yes              |
| Overload protection                             |                                                             | yes              |
| Measuring/setting range                         |                                                             |                  |
| Measuring range                                 | 1...20 l/min                                                | 0.06...1.2 m³/h  |
| Display range                                   | 0...24 l/min                                                | 0...1.44 m³/h    |
| Resolution                                      | 0.1 l/min                                                   | 0.005 m³/h       |
| Set point SP                                    | 1.2...20 l/min                                              | 0.07...1.2 m³/h  |
| Reset point rP                                  | 1...19.8 l/min                                              | 0.06...1.19 m³/h |
| Frequency end point, FEP                        | 4...20 l/min                                                | 0.24...1.2 m³/h  |
| In steps of                                     | 0.1 l/min                                                   | 0.005 m³/h       |
| Frequency at the end point FRP                  | [Hz]                                                        | 100...1000       |
| Measuring dynamics                              |                                                             | 1:20             |
| Temperature monitoring                          |                                                             |                  |
| Measuring range                                 | [°C]                                                        | -10...90         |
| Display range                                   | [°C]                                                        | -30...110        |
| Resolution                                      | [°C]                                                        | 0.5              |
| Set point SP                                    | [°C]                                                        | -9...90          |
| Reset point rP                                  | [°C]                                                        | -10...89         |
| In steps of                                     | [°C]                                                        | 0.5              |
| Frequency start point, FSP                      | [°C]                                                        | -10...70         |
| Frequency end point, FEP                        | [°C]                                                        | 10...90          |
| Frequency at the end point FRP                  | [Hz]                                                        | 100...1000       |



## Vortex flow meter with display

SVK12XXXIRKG/US-100

| Accuracy / deviations             |                                                                                                                                            |                    |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Flow monitoring                   |                                                                                                                                            |                    |
| Accuracy (in the measuring range) |                                                                                                                                            | ± 2 % MEW; (water) |
| Repeatability                     |                                                                                                                                            | ± 0,5 % MEW        |
| Temperature monitoring            |                                                                                                                                            |                    |
| Accuracy                          | [K]                                                                                                                                        | ± 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               | Type of operation                                                                                                                          | DeviceID           |
|                                   | default                                                                                                                                    | 484                |
| Operating conditions              |                                                                                                                                            |                    |
| Ambient temperature               | [°C]                                                                                                                                       | 0...60             |
| Note on ambient temperature       | medium temperature < 80 °C                                                                                                                 |                    |
|                                   | medium temperature < 90 °C: 0...50 °C                                                                                                      |                    |
| Storage temperature               | [°C]                                                                                                                                       | -20...80           |
| Protection                        | IP 65; IP 67                                                                                                                               |                    |
| Tests / approvals                 |                                                                                                                                            |                    |
| EMC                               | DIN EN 61000-6-2                                                                                                                           |                    |
|                                   | DIN EN 61000-6-3                                                                                                                           |                    |
| CPA approval                      | model number                                                                                                                               | 001VO              |
|                                   | accuracy class                                                                                                                             | -                  |
|                                   | maximum allowable error                                                                                                                    | ± 2 % FS           |
|                                   | Q (min)                                                                                                                                    | 0,09 m³/h          |
|                                   | Q (t)                                                                                                                                      | 0,24 m³/h          |
|                                   | Q (max)                                                                                                                                    | 1,2 m³/h           |
| Shock resistance                  | DIN EN 60068-2-27                                                                                                                          | 5 g (11 ms)        |

# SV4500



## Vortex flow meter with display

SVK12XXXIRKG/US-100

|                              |                                                                                       |                               |
|------------------------------|---------------------------------------------------------------------------------------|-------------------------------|
| Vibration resistance         | DIN EN 60068-2-6                                                                      | with water / 10...50 Hz 1 mm  |
|                              |                                                                                       | with water / 50...2000 Hz 2 g |
| MTTF [years]                 |                                                                                       | 342                           |
| UL approval                  | UL Approval no.                                                                       | I001                          |
| Pressure Equipment Directive | Sound engineering practice; can be used for group 2 fluids; group 1 fluids on request |                               |

### Mechanical data

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| Weight [g]               | 442                                                        |
| Housing                  | rectangular                                                |
| Dimensions [mm]          | 110 x 45 x 72                                              |
| Materials                | stainless steel (316L/1.4404); PC; PBT+PC-GF30; PPS; TPE-U |
| Materials (wetted parts) | stainless steel (316L/1.4404); ETFE; PA 6T; PPS; FKM       |
| Tightening torque [Nm]   | 30                                                         |
| Process connection       | threaded connection Rc 1/2 internal thread DN8             |

### 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 |
| Pack quantity | 1 pcs.                                   |

### Electrical connection

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



## Vortex flow meter with display

SVK12XXXIRKG/US-100

## Connection

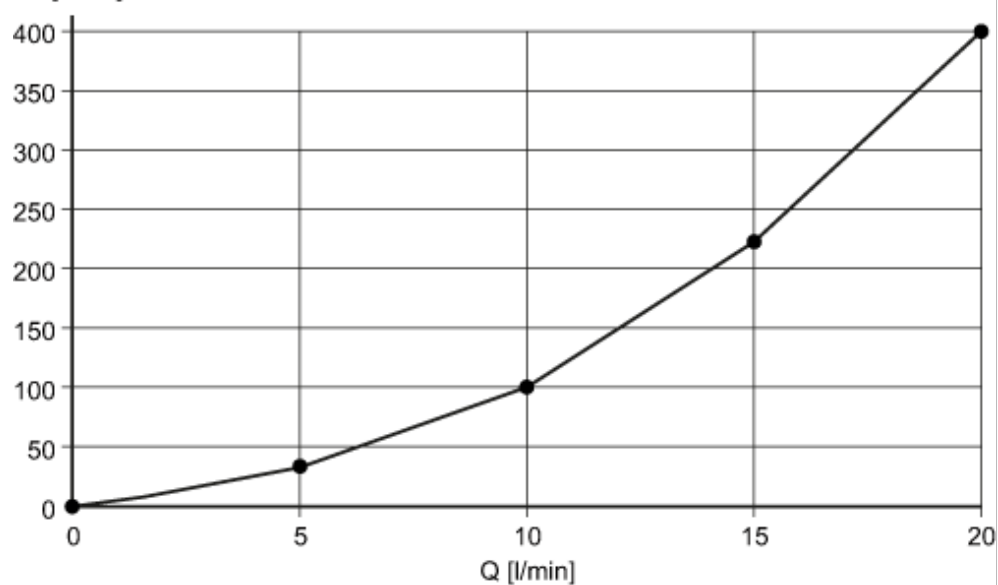


|       |                                            |
|-------|--------------------------------------------|
| OUT1: | Flow monitoring                            |
| -     | switching output                           |
| -     | frequency output                           |
| -     | IO-Link                                    |
| 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                                      |

## Diagrams and graphs

Pressure loss

dP [mbar] DN8



dP Pressure loss

Q volumetric flow quantity

# SV4500



## Vortex flow meter with display

SVK12XXXIRKG/US-100

pressure rating (bar)

