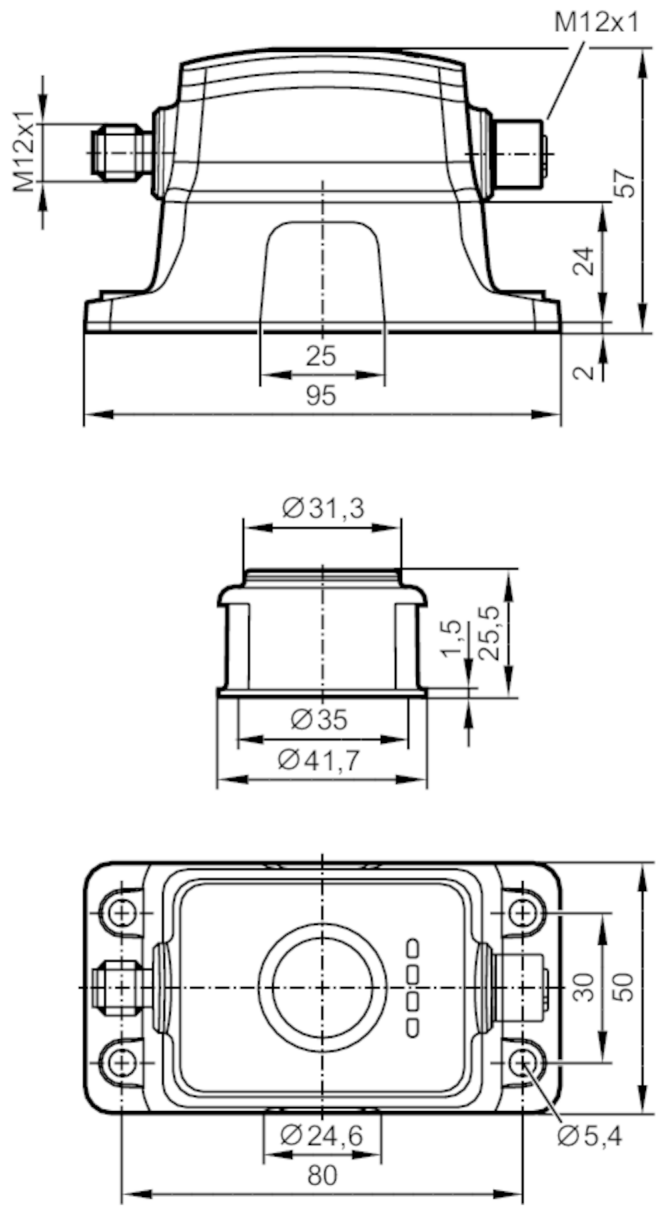


# MVQ201



## Position sensor for valve actuators

SVS SOLENOID OUT



| Product characteristics               |                                                   |
|---------------------------------------|---------------------------------------------------|
| Communication interface               | IO-Link                                           |
| Housing                               | rectangular                                       |
| Dimensions [mm]                       | 95 x 50 x 57                                      |
| Switching outputs                     |                                                   |
| Electrical design                     | PNP                                               |
| Output function                       | 2 x normally open / normally closed; (selectable) |
| Solenoid valve connection (SV1 / SV2) |                                                   |
| Output function                       | 2 x normally open                                 |



## Position sensor for valve actuators

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| Application                           |       |                                                           |
|---------------------------------------|-------|-----------------------------------------------------------|
| Operating principle                   |       | magnetic                                                  |
| Application                           |       | angle of rotation detection absolute; actuator control    |
| Electrical data                       |       |                                                           |
| Operating voltage                     | [V]   | 10...30 DC                                                |
| Current consumption                   | [mA]  | < 40                                                      |
| Protection class                      |       | III                                                       |
| Reverse polarity protection           |       | yes                                                       |
| Max. power-on delay time              | [ms]  | 300                                                       |
| Inputs / outputs                      |       |                                                           |
| Number of inputs and outputs          |       | Number of digital inputs: 1; Number of digital outputs: 2 |
| Inputs                                |       |                                                           |
| Number of digital inputs              |       | 1                                                         |
| Outputs                               |       |                                                           |
| Number of digital outputs             |       | 2                                                         |
| Switching outputs                     |       |                                                           |
| Electrical design                     |       | PNP                                                       |
| Output function                       |       | 2 x normally open / normally closed; (selectable)         |
| Max. voltage drop switching output DC | [V]   | 2.5                                                       |
| Max. current load per output          | [mA]  | 100                                                       |
| Short-circuit protection              |       | yes                                                       |
| Overload protection                   |       | yes                                                       |
| Solenoid valve connection (SV1 / SV2) |       |                                                           |
| Output function                       |       | 2 x normally open                                         |
| Max. current load per output          | [mA]  | 200                                                       |
| Short-circuit protection              |       | yes                                                       |
| Overload protection                   |       | yes                                                       |
| Detection zone                        |       |                                                           |
| Detection zone                        | [°]   | 360                                                       |
| Accuracy / deviations                 |       |                                                           |
| Rotational angle detection            |       |                                                           |
| Accuracy                              | [°]   | ± 1                                                       |
| Resolution                            | [°]   | 0.1                                                       |
| Temperature drift                     | [°/K] | 0,02                                                      |
| Repeatability                         | [°]   | 0,1                                                       |
| Switch point indication               |       |                                                           |
| Tolerance                             | [°]   | 0.1...15; (Factory setting 10)                            |
| Hysteresis                            | [°]   | 0.1...5; (Factory setting 3)                              |
| Interfaces                            |       |                                                           |
| Communication interface               |       | IO-Link                                                   |
| Transmission type                     |       | COM2 (38,4 kBaud)                                         |



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|                              |                          |                                                |
|------------------------------|--------------------------|------------------------------------------------|
| IO-Link revision             | 1.1                      |                                                |
| SDCI standard                | IEC 61131-9 CDV          |                                                |
| Profiles                     | <b>Function class</b>    | <b>Designation</b>                             |
|                              | 0x0030                   | BLOB transfer                                  |
|                              | 0x4000                   | Identification and Diagnosis                   |
|                              | 0x8001                   | Multi-channel, two setpoint switching sensor   |
|                              | 0x8004                   | Teach Channel                                  |
|                              | 0x800A                   | Measurement Data Channel (standard resolution) |
| SIO mode                     | yes                      |                                                |
| Required master port type    | A                        |                                                |
| Min. process cycle time [ms] | 4                        |                                                |
| Supported DeviceIDs          | <b>Type of operation</b> | <b>DeviceID</b>                                |
|                              | default                  | 1190                                           |

## Operating conditions

|                          |                                                 |  |
|--------------------------|-------------------------------------------------|--|
| Ambient temperature [°C] | -25...70                                        |  |
| Protection               | IP 65; IP 67; (Target puck area dust-protected) |  |

## Tests / approvals

|                            |                  |                                                                                        |
|----------------------------|------------------|----------------------------------------------------------------------------------------|
| EMC                        | EN 61000-4-2     | 4 kV CD / 8 kV AD                                                                      |
|                            | EN 61000-4-3     | 10 V/m                                                                                 |
|                            | EN 61000-4-4     | 2 kV                                                                                   |
|                            | EN 61000-4-6     | 10 V                                                                                   |
|                            | EN 55011         | class B                                                                                |
| Vibration resistance       | EN 60068-2-6 Fc  | 1 mm (10...55 Hz) / 1 octave per minute in 3 axes                                      |
| Shock resistance           | EN 60068-2-27 Ea | 30 g 11 ms half sine; 6 shocks each in every direction along the three coordinate axes |
| MTTF [years]               | 363              |                                                                                        |
| Embedded software included | yes              |                                                                                        |
| UL approval                | UL Approval no.  | S002                                                                                   |

## Mechanical data

|                        |                                                                        |  |
|------------------------|------------------------------------------------------------------------|--|
| Weight [g]             | 192                                                                    |  |
| Housing                | rectangular                                                            |  |
| Dimensions [mm]        | 95 x 50 x 57                                                           |  |
| Materials              | housing, target puck: PA; plug: stainless steel (316L / 1.4404)        |  |
| Tightening torque [Nm] | target puck: 1,2; housing: 3,0; housing on plastic mounting plate: 1,5 |  |

## Displays / operating elements

|         |                  |                |
|---------|------------------|----------------|
| Display | operation        | 1 x LED, green |
|         | switching status | 2 x LED, white |
|         | switching status | 1 x LED, RGB   |

## Accessories

|                |                                                  |
|----------------|--------------------------------------------------|
| Items supplied | socket head screws: 4 x M5 x 16, stainless steel |
|----------------|--------------------------------------------------|

## Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

# MVQ201

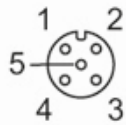


## Position sensor for valve actuators

SVS SOLENOID OUT

### Electrical connection - solenoid valve

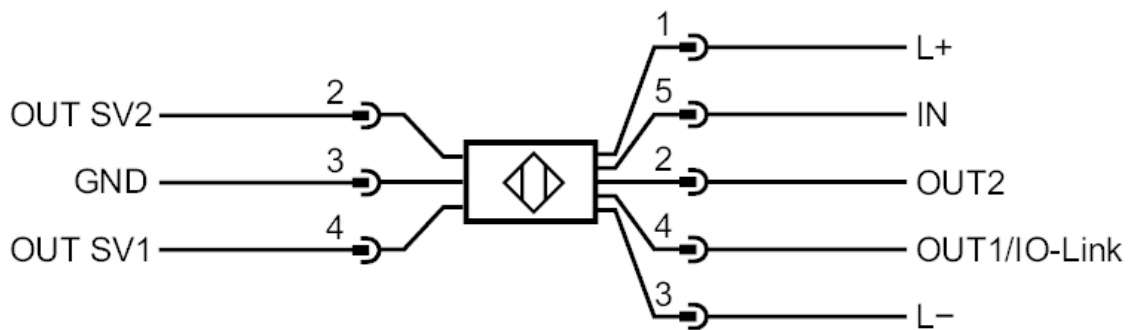
Connector: 1 x M12; coding: A; Moulded body: stainless steel



|   |         |
|---|---------|
| 2 | Out SV2 |
| 3 | GND     |
| 4 | Out SV1 |

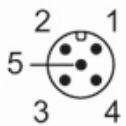
### Electrical connection

#### Connection



### Electrical connection - Process connection

Connector: 1 x M12; coding: A; Moulded body: stainless steel



|   |              |
|---|--------------|
| 1 | Ub           |
| 2 | Out2         |
| 3 | GND          |
| 4 | Out1 IO-Link |
| 5 | In1          |

### Other data

#### Inputs

|                      |          |           |
|----------------------|----------|-----------|
| Operating mode       | 12 V     | 24 V      |
| switching level high | 6...30 V | 15...30 V |
| switching level low  | 0...2 V  | 0...5 V   |