

Flow Monitor & Flow Indicator

RVO/U-L4



OVERVIEW

Operation

- Float measuring principle

Application

- Cooling systems and cooling circuits
- Mechanical engineering
- Medical engineering
- Pharmaceutical industry
- Chemical industry
- Research & Development

Features

- Universal orientation
- High reliability
- High switch accuracy
- Infinitely variable switch point adjustment by operator
- EX-version according to ATEX directive available
- Scales are burned onto the sight glass
- Threaded connection, special thread on request

Installation information

- The operating instructions for RVO/U-L4 Module BASICS / ...ATEX must be observed!
- **Download: www.meister-flow.com**

OPERATING DATA

| | |
|---------------------------------|--------------------------|
| Operating pressure, max. | 16 bar |
| Pressure drop | 0,02 – 0,2 bar |
| Temperature, max. | 100 °C (optional 160 °C) |
| Measuring accuracy | ±10 % of full scale |

Changed operating data apply to the device in explosion-proof design according to ATEX directive. Refer to the Operating Instructions for RVO/U-L4 Module ATEX.

Download: www.meister-flow.com

MEASURING RANGES

| Type | Switch range for air at 1 bar abs. & 20 °C ⁽¹⁾ | | |
|--------------|--|-------------|------|
| | NI/min | SCFH | SCFM |
| RVO/U-L40001 | 0,2 – 1,3 | 0,4 – 2,75 | |
| RVO/U-L40002 | 0,5 – 2 | 1,05 – 4,25 | |
| RVO/U-L40003 | 0,8 – 3 | 1,7 – 6,4 | |
| RVO/U-L40005 | 1,5 – 5 | 3,5 – 10,5 | |
| RVO/U-L40008 | 2 – 8 | 4,5 – 17 | |
| RVO/U-L40012 | 3 – 12 | 6,5 – 25 | |
| RVO/U-L40014 | 3,5 – 14 | 7,5 – 29,5 | |
| RVO/U-L40020 | 5,5 – 20 | 12 – 42 | |
| RVO/U-L40024 | 7 – 24 | 15 – 50 | |
| RVO/U-L40035 | 10 – 35 | 21 – 74 | |
| RVO/U-L40042 | 10 – 42 | 21 – 89 | |

⁽¹⁾ The specified measuring- / switch ranges are valid for air having a density of 1.205 kg/m³, vertical installation of the device and flow direction from bottom to top.

Other installation positions or deviation from the operating densities will increase the measurement error specified in the data sheet.

Operating density for air at 20 °C and 1.013 bar (absolute value): 1.205 kg/m³

Standard density for air (at 0 °C and 1.013 bar (absolute value): 1.293 kg/m³

Upon request, special scales for deviating media, different operating conditions and installation positions (only for devices which can be installed in any position) are available.

The specified switch values are switch-off points, i.e. switch values by decreasing flow.

Other measuring- /switch ranges are available upon request.

MATERIALS

Brass version, wetted parts

| | |
|-------------------------|---|
| Spring: | 1.4571 |
| Sight glass: | DURAN® 50 |
| Gaskets: | NBR (optional FKM, EPDM) ⁽²⁾ |
| Magnets: | Hard ferrite |
| all other wetted parts: | Brass, nickel-plated |

Brass version, non-wetted parts

| | |
|-----------------|---------------------|
| Device housing: | Aluminium, anodized |
|-----------------|---------------------|

Stainless steel version, wetted parts

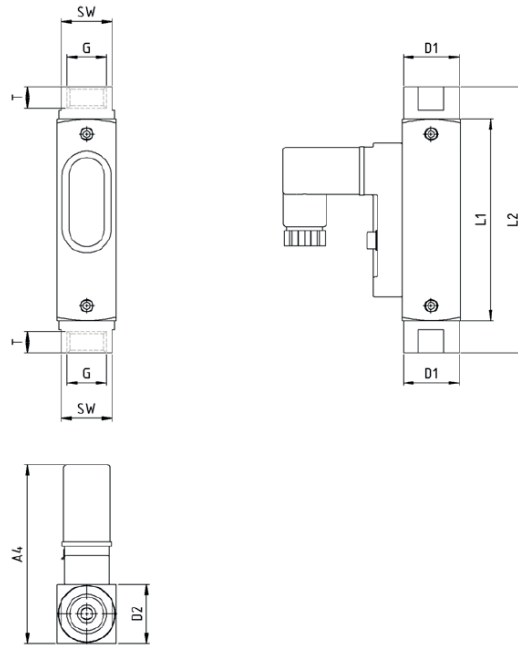
| | |
|-------------------------|---|
| Spring: | 1.4571 |
| Sight glass: | DURAN® 50 |
| Gaskets: | FKM (optional NBR, EPDM) ⁽²⁾ |
| Magnets: | Hard ferrite |
| all other wetted parts: | 1.4571 |

Stainless steel version, non-wetted parts

| | |
|-----------------|---------------------|
| Device housing: | Aluminium, anodized |
|-----------------|---------------------|

⁽²⁾ Other gasket materials on request

TECHNICAL DRAWING



SUMMARY OF TYPES

| Type | Overall dimensions [mm] | | | | | | | | | | | | Weight approx. [g] ⁽⁴⁾ |
|--------------|-------------------------|----|----|----|----|----|----|----|----|----|----|-----|--------------------------------------|
| | G ⁽³⁾ | DN | SW | L1 | L2 | T | D1 | D2 | A1 | A2 | A3 | A4 | |
| RVO/U-L40001 | | | | | | | | | | | | | |
| RVO/U-L40002 | | | | | | | | | | | | | |
| RVO/U-L40003 | | | | | | | | | | | | | |
| RVO/U-L40005 | | | | | | | | | | | | | |
| RVO/U-L40008 | | | | | | | | | | | | | |
| RVO/U-L40012 | 1/4" | 8 | 17 | 68 | 90 | 10 | 19 | 20 | - | - | - | ~60 | 140 |
| RVO/U-L40014 | | | | | | | | | | | | | |
| RVO/U-L40020 | | | | | | | | | | | | | |
| RVO/U-L40024 | | | | | | | | | | | | | |
| RVO/U-L40035 | | | | | | | | | | | | | |
| RVO/U-L40042 | | | | | | | | | | | | | |

⁽³⁾ NPT thread on request

⁽⁴⁾ Connection cable weight, 2 m approx. 80 g

ELECTRICAL DATA

| | |
|---|------------------------|
| Change over (COC) ⁽⁶⁾ | 150V AC/DC · 1A · 20VA |
| Normally open (NOC) | 140V AC · 0,7A · 20VA |
| | 200V DC · 1A · 20VA |
| Change over M12x1 ⁽⁶⁾ | 125V AC/DC · 1A · 20VA |
| Normally open M12x1 ⁽⁶⁾ | 125V AC · 0,7A · 20VA |
| | 125V DC · 1A · 20VA |

EX-version in compliance with ATEX directive

EC-Type examination

EPS 13 ATEX 1 596 U

Connection to certified intrinsically safe circuits

Li = 0

Ci = 0

| Gas | | | Dust | | |
|----------|---------|--------|----------|--------|--------|
| Ui | Ii | Pi | Ui | Ii | Pi |
| < 12,1 V | 1,0 A | 3,0 W | < 12,1 V | 0,25 A | 0,75 W |
| < 20 V | 0,309 A | 1,55 W | < 20 V | 0,25 A | 0,75 W |
| < 25 V | 0,158 A | 0,99 W | < 25 V | 0,75 A | 0,75 W |
| < 30 V | 0,101 A | 0,76 W | < 30 V | 0,75 A | 0,75 W |

Operating temperature

-5 °C < T_{Service} < 45 °C

⁽⁶⁾ Available with connector only

⁽⁶⁾ -20 °C – 85 °C

Marking

⊕ II 2G Ex ib IIC
⊕ II 2D Ex ib IIIC

ELECTRICAL CONNECTION

- Connector in compliance with EN 175301-803, Form C (DIN 43650, Form C)
- Connector M12x1
- Cable (1 m) ⁽⁷⁾

EX-version in compliance with ATEX directive

- Connector in compliance with EN 175301-803, Form C (DIN 43650, Form C)
- Connector M12x1
- Cable (1 m) ⁽⁷⁾

Ingress Protection

IP65: Connector in compliance with EN 175301-803, Form C or Connector M12x1

IP67: Cable

Output signal

The contact opens / changes when the flow decreases below the set point.

Power supply

Not required (potential-free reed contacts)

Connector types

Other connector types or cable lengths on request

⁽⁷⁾ Available as Normally Open Contact (NOC) only

CONNECTION DIAGRAM

