



## Flow Monitor RVM/U-1

Flow monitor operating on the float measuring principle for liquids



- Thread G 1" ( $\frac{3}{4}$ ")
- Compact mounting form
- High pressure resistance
- Universal orientation
- EX-version to ATEX available

D-EN-RVMU1-20200602



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### Features

- Universal orientation
- High reliability
- High switch accuracy
- Infinitely variable switchpoint adjustment by user
- EX-version to ATEX available
- High pressure resistance
- Threaded connection, special threads on request

### Application

- Machine construction
- Medical technology
- Pharmaceutical industry
- Chemical industry
- Research and development
- Cooling systems and cooling circuits

### Installation Information

- The operating instructions for RVM/U must be observed
- Download: [www.schmidt-messtechnik.de](http://www.schmidt-messtechnik.de)

| Operating Data                                                                                                                                                                                                                                                                                      |                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Maximum operating pressure.                                                                                                                                                                                                                                                                         | 250 bar (Brass)<br>300 bar (Stainless Steel) |
| Pressure drop                                                                                                                                                                                                                                                                                       | 0,02 – 0,4 bar                               |
| Maximum liquid temperature                                                                                                                                                                                                                                                                          | 100°C (optional 160°C)                       |
| Accuracy                                                                                                                                                                                                                                                                                            | ±10 % of full scale                          |
| <p>Changed operating data apply to the device in explosion-proof design according to ATEX directive. Refer to the Operating Instructions for RVM/U-1 Module ATEX.</p> <p>For UL Recognized devices, changed operating data apply. Refer to the Operating Instructions for RVM/U-1 Module BASICS</p> |                                              |



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| Measuring Ranges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                              |               |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------|-------------|
| Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Flow ranges for H <sub>2</sub> O at 20°C (1) |               |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [l/min]                                      | [gph]         | [gpm]       |
| RVM/U-1/30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10 – 30                                      | 160,0 – 480,0 |             |
| RVM/U-1/45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 15 - 45                                      | 240,0 – 710,0 |             |
| RVM/U-1/60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20 - 60                                      | 320,0 – 950,0 |             |
| RVM/U-1/90                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 30 - 90                                      |               | 8,0 – 24,0  |
| RVM/U-1/150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 60 - 150                                     |               | 16,0 – 40,0 |
| <p>(1) The specified measuring ranges / switch ranges are valid for water having a density of 1.00 kg/dm<sup>3</sup>, vertical installation of the device and flow direction from bottom to top.<br/>           Other installation positions or deviation from the operating densities will increase the measurement error specified in the data-sheet.<br/>           Operating density for water at 20 °C and 1.013 bar (absolute value): 1.00 kg/dm<sup>3</sup>.<br/>           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.<br/>           The specified switch values are switch-off points, i.e. switch values by decreasing flow.<br/>           Other measuring ranges / switch ranges are available on request.</p> |                                              |               |             |

| Material                                                                                      |                              |                              |
|-----------------------------------------------------------------------------------------------|------------------------------|------------------------------|
|                                                                                               | Brass version                | Stainless steel version      |
| Spring:                                                                                       | 1.4571                       | 1.4571                       |
| Gaskets (2):                                                                                  | NBR (optional FKM, EPDM) (3) | FKM (optional NBR, EPDM) (3) |
| Magnets:                                                                                      | Hard ferrite                 | Hard ferrite                 |
| Housing:                                                                                      | Brass nickel-plated          | 1.4571                       |
| All other wetted parts:                                                                       | Brass                        | 1.4571                       |
| <p>(2) Only with process connections<br/>           (3) Other gasket materials on request</p> |                              |                              |



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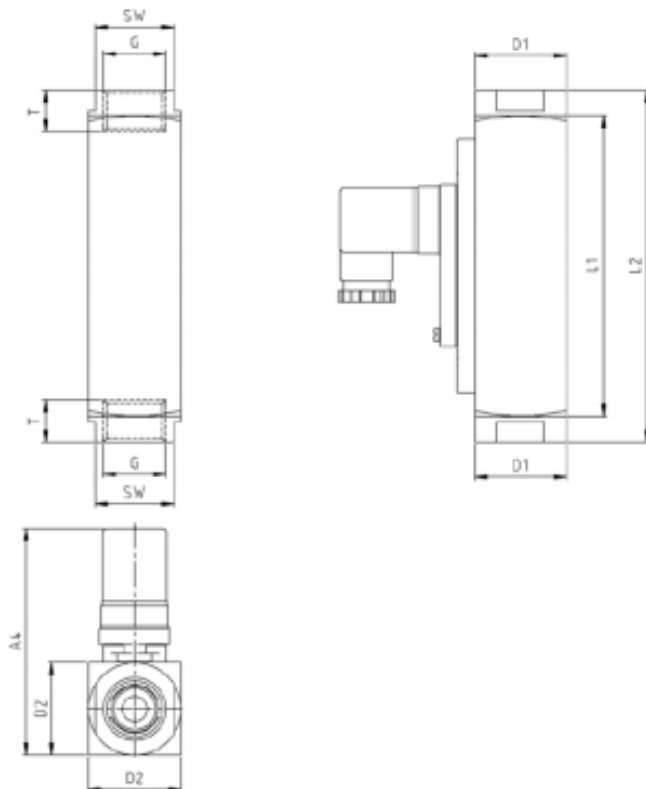
| Summary of Types |                         |    |    |     |     |    |    |    |    |    |    |     |                    |
|------------------|-------------------------|----|----|-----|-----|----|----|----|----|----|----|-----|--------------------|
| Type             | Overall dimensions (mm) |    |    |     |     |    |    |    |    |    |    |     | Weight (approx. g) |
|                  | G                       | DN | SW | L1  | L2  | T  | D1 | D2 | A1 | A2 | A3 | A4  |                    |
| RVM/U-1/30       | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | -  | -  | -  | ~98 | 1320               |
|                  | 1"                      | 25 | 40 | 130 | -   | 17 | -  | 40 | -  | -  | -  | ~98 | 1130               |
| RVM/U-1/45       | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | -  | -  | -  | ~98 | 1320               |
|                  | 1"                      | 25 | 40 | 130 | -   | 17 | -  | 40 | -  | -  | -  | ~98 | 1130               |
| RVM/U-1/60       | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | -  | -  | -  | ~98 | 1320               |
|                  | 1"                      | 25 | 40 | 130 | -   | 17 | -  | 40 | -  | -  | -  | ~98 | 1130               |
| RVM/U-1/90       | 3/4"                    | 20 | 34 | 130 | 152 | 15 | 40 | 40 | -  | -  | -  | ~98 | 1320               |
|                  | 1"                      | 25 | 40 | 130 | -   | 17 | -  | 40 | -  | -  | -  | ~98 | 1130               |
| RVM/U-1/150      | 1"                      | 25 | 40 | 130 | -   | 17 | -  | 40 | -  | -  | -  | ~98 | 1130               |



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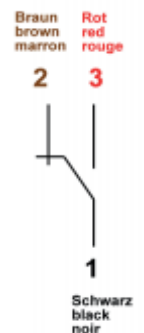
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### Technical drawing



### Connector in compliance with EN 175301-803 Form A and cable

Change over (COC)

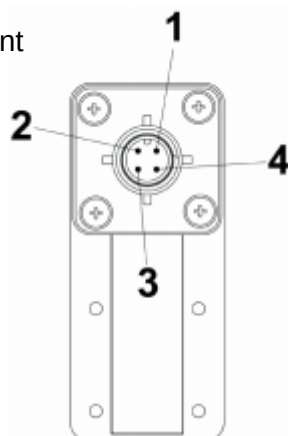


Normally open (NOC)



### M12x1

Pin assignment



Change over (COC)



Normally open (NOC)





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| Electrical Data                                                |                                     |
|----------------------------------------------------------------|-------------------------------------|
| Change over (COC)                                              | 250 V • 1,5A • 50 VA <sup>(4)</sup> |
| Normally open (NOC)                                            | 250 V • 3A • 100 VA                 |
| Change over M 12x1 (-20 °C – 85 °C)                            | 250 V • 1,5A • 50 VA <sup>(4)</sup> |
| Normally open M 12x1 (-20 °C – 85 °C)                          | 250 V • 3A • 100 VA                 |
| EX-version in compliance with ATEX directive                   |                                     |
| ATEX II 2G Ex mb IIC T6 Gb & ATEX II 2 D Ex tb IIIC T80 °C Db  |                                     |
| ATEX II 2G Ex mb IIC T5 Gb & ATEX II 2 D Ex tb IIIC T100 °C Db |                                     |
| Change over                                                    | 250 V • 1A • 30 VA                  |
| Normally open                                                  | 250 V • 2A • 60 VA                  |
| UL recognized switch contacts                                  |                                     |
| Change over                                                    | 240 V • 1,5A • 50 VA <sup>(4)</sup> |
| Normally open                                                  | 250 V • 3A • 100 VA                 |
| (4) Minimum load 3 VA                                          |                                     |



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|                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Electrical connection</b>                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Connector in compliance with EN 175301-803, Form A (DIN 43650, Form A)</li> <li>• Connector M12x1</li> <li>• Cable (1 m)</li> </ul> |
| <b>EX-version in compliance with ATEX directive</b>                                                                                                                          |
| <ul style="list-style-type: none"> <li>• Cable (2 m)</li> </ul>                                                                                                              |
| <b>UL recognized switch contacts</b>                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Connector in compliance with EN 175301-803, Form A</li> <li>• Cable (1 m)</li> </ul>                                                |
| <b>Ingress protection:</b>                                                                                                                                                   |
| IP65: Connector in compliance with EN 175301-803, Form A                                                                                                                     |
| IP67: cable or connector M12x1                                                                                                                                               |
| <b>Output signal</b>                                                                                                                                                         |
| The contact opens / changes when the flow decreases below the set point.                                                                                                     |
| <b>Power supply</b>                                                                                                                                                          |
| Not required (potential-free reed contacts)                                                                                                                                  |
| <b>Plug types</b>                                                                                                                                                            |
| Other connector types or cable lengths on request                                                                                                                            |

### Important instructions!

Technical changes and errors reserved.

Pictures can be similar.

The operating instructions belonging to this device must be observed! Download at [www.schmidt-messtechnik.com](http://www.schmidt-messtechnik.com).