



Flow meter / flow monitor RVO/U-L4

Flow meter / flow monitor according to the float principle for monitoring air



- Universal orientation
- High reliability
- High switch accuracy
- Infinitely variable switch point adjustment by operator
- EX-version according to ATEX directive available

D-EN-RVOU-L4-20200526



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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

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-L2 Module ATEX.	

Installation information

- The operating instructions for RVO/U-L4 Module BASICS / ...ATEX must be observed!
- Download: www.schmidt-messtechnik.de

Materials	Brass version	Stainless steel version
Sight glass:	Duran® 50	Duran® 50
Spring:	1.4571	1.4571
Gaskets ⁽²⁾ :	NBR (optional FKM, EPDM) ⁽²⁾	FKM (optimal NBR, EPDM) ⁽²⁾
Magnets:	Hard ferrite	Hard ferrite
All other wetted parts:	Brass, nickel-plated	1.4571
Non-wetted parts: Device housing	Aluminium, anodized	Aluminium, anodized

⁽²⁾ Other gasket materials on request



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Measuring ranges			
Type	Switch range for air at 1 bar abs. and 20 °C (1)		
	[Nlmin]	[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	1,70 – 6,40	
RVO/U-L40005	1,5 – 5	3,5 – 10,5	
RVO/U-L40008	2 – 8	4,5 – 17,0	
RVO/U-L40012	3 – 12	6,5 – 25,0	
RVO/U-L40014	3,5 – 14	7,5 – 29,5	
RVO/U-L40020	5,5 – 20	12,0 – 42,0	
RVO/U-L40024	7 – 24	15,0 – 50,0	
RVO/U-L40035	10 – 35	21,0 – 74,0	
RVO/U-L40042	10 - 42	21,0 – 89,0	

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.

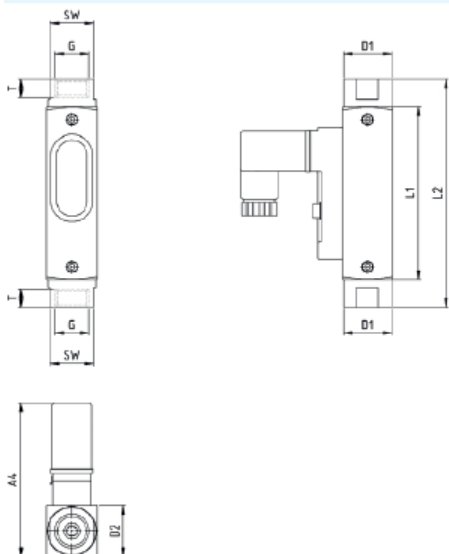
Other measuring- /switch ranges are available upon request.



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Technical drawing



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

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Electrical data	
Change over (COC)	250 V AC/DC • 1 A • 50 VA (5)
Normally open (NOC)	140 V AC/DC • 0,7 A • 20 VA 200V DC • 1A • 20 VA
Change over M 12x1	125 V AC/DC • 1 A • 20 VA (6)
Normally open M 12x1	125 V AC/DC • 0,7 A • 20 VA (6) 125 DC • 1A • 20 VA
(5) Available with connector only (6) -20 °C – 85 °C	

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	Li	Pi	Ui	Li	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	0,25 A	0,75 W
<30 V	0,101 A	0,76 W	<30 V	0,25 A	0,75 W

Operating temperature

$-5\text{ °C} < T_{\text{Service}} < 45\text{ °C}$

Marking

⊕ II 2G Ex ib IIC

⊕ II 2D Ex ib IIIC

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Electrical connection for devices with switch contact 15x50

- 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



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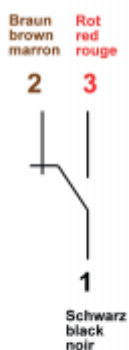
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Connection diagram

Connector in compliance with EN 175301-803 and cable

M12x1

Change over (COC)



Change over (COC)



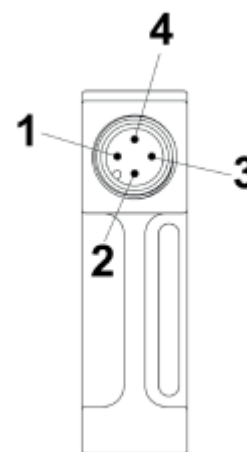
Normally open (NOC)



Normally open (NOC)



Pin-assignment



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.