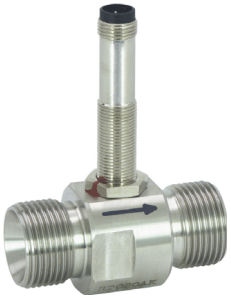
Flow Transmitter RT-...AK



- **High precision**
- **No magnetic components in the flow space**
- **High pressure resistance**

Characteristics

A turbine acts as the primary sensor; its rotational speed is proportional to the flow rate. The rotational speed is detected by means of a biased Hall sensors, i.e. there are no magnets in the flow space.

Technical data

Sensor	biased Hall sensor	
Nominal width	DN 15..50	
Process connection	male thread G $^1/_2$ A...G 2 A	
Metering ranges	1.8..1133 l/min for details, see table "Ranges"	
Measurement accuracy	±1 % of full scale value in the specified metering range, including linearity and repeatability	
Medium temperature	-20..+85 °C optionally -20..+150 °C (for 8 bar min.)	
Ambient temperature	-20..+70 °C	
Storage temperature	-20..+80 °C	
Materials medium-contact	Housing Turbine Bearing	stainless steel 315 stainless steel 430 tungsten carbide
Material electronics housing	CW614N nickelled	
Max. particle size	0.5 mm	
Pressure loss	0.3 bar at $Q_{max.}$	
Pressure resistance	PN 250 bar	
Supply voltage	10..30 V DC	
Signal output	transistor output "push-pull" (resistant to short circuits and polarity reversal) I_{out} = 100 mA max.	
Current consumption	20 mA without load	
Max. load current	100 mA	
Electrical connection	for round plug connector M12x1, 4-pole	

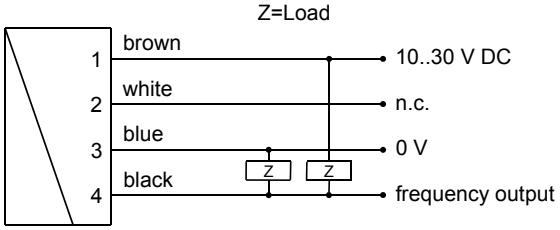
Ingress protection	IP 67
Weight	see table "Dimensions"
Conformity	CE

Ranges

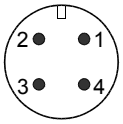
Types	Metering range (1..5 mm²/s)		Pulses / litre
	l/min	m³/h	±10 %
RT-015AK001.	1.8.. 18	0.11.. 1.1	2900
RT-020AK002.	3.7.. 37	0.22.. 2.2	1700
RT-020AK004.	6.7.. 67	0.40.. 4.0	1100
RT-020AK008.	13.3.. 133	0.80.. 8.0	400
RT-025AK016.	26.7.. 267	1.60.. 16.0	190
RT-040AK034.	56.7.. 567	3.40.. 34.0	60
RT-050AK068.	113.3..1133	6.80.. 68.0	24

Wiring

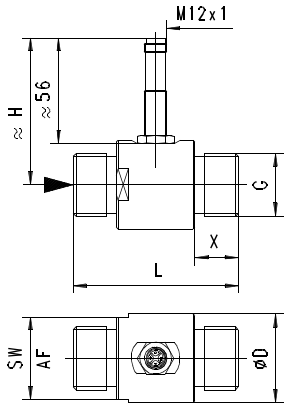
Push-pull output, can be connected to PNP or NPN inputs.



Connection example: PNP NPN



Dimensions



DN	G	ØD	SW / AF	H	L	X	Range m³/h at 1-5 mm² /s	Weight kg
15	1/2	38	35	71	64	19	0.11 – 1.1	0.30
20	3/4	38	35	72	64	19	0.22 – 2.2	0.40
20	3/4	38	35	72	64	19	0.40 – 4.0	0.40
20	3/4	40	38	75	83	22	0.80 – 8.0	0.40
25	1	47	44	78	88	23	1.60 – 16.0	0.60
40	1 1/2	60	52	84	114	28	3.40 – 34.0	1.40
50	2	70	64	89	132	29	6.80 – 68.0	1.90

Handling and Operation

Installation

As with all flow meters, if possible the turbine should be installed ahead of a valve (on the pressure side). Good degassing should be ensured. 10 x D calming sections are recommended before and after the turbine in order to maintain the specified accuracies. The turbine should be filled with fluid at all times.
The electronics housing does not project into the flow space.

Ordering code

	1.	2.	3.	4.	5.	6.
RT-		A	K		T	

❍=Option

1.	**Nominal width**		
	015	DN 15 - G 1/2 A	
	020	DN 20 - G 3/4 A	
	025	DN 25 - G 1 A	
	040	DN 40 - G 1 1/2 A	
	050	DN 50 - G 2 A	
2.	**Mechanical connection**		
	A	male thread	
3.	**Housing material**		
	K	stainless steel	
4.	**Metering range**		
	001	0.11.. 1.1 m³/h	●
	002	0.22.. 2.2 m³/h	●
	004	0.40.. 4.0 m³/h	●
	008	0.80.. 8.0 m³/h	●
	016	1.60..16.0 m³/h	●
	034	3.40..34.0 m³/h	●
	068	6.80..68.0 m³/h	●
5.	**Signal output**		
	T	electronics	
6.	**Option**		
	H ❍	high temperature model	

Options

- Flanged model,
- max. temperature 150 °C
- DN 80-300 PN 16
- model for air / gas
- range from 0.05 m³/h

Accessories

- Cable/round plug connector (KB...)
  see additional information “Accessories”
- OMNI-TA