

Product Information

RT-...AK

**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 chamber.

Technical data

| | | |
|-------------------------------------|--|---------------------|
| Sensor | biased Hall sensor | |
| Nominal width | DN 15..50 | |
| Process connection | Parallel male thread to DIN/ISO 228 Tolerance class B; G 1/2 B...G 2 B | |
| 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 | stainless steel 315 |
| | Turbine | stainless steel 430 |
| | Bearing | 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 | |

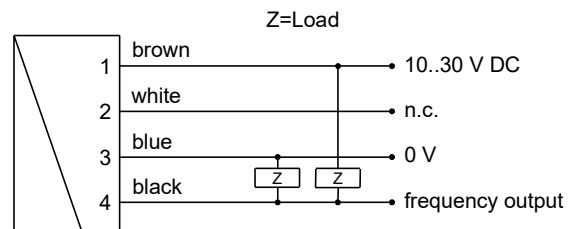
| | |
|---------------------------|------------------------|
| Ingress protection | IP 67 |
| Weight | see table "Dimensions" |
| Conformity | CE |

Ranges

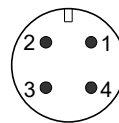
| Types | Metering range (1..5 mm ² /s) | | Pulses / litre ±10 % |
|--------------|---|-------------------|----------------------------|
| | l/min | m ³ /h | |
| RT-015AK001. | 1.8.. 18 | 0.11.. 1.1 | 2900 |
| RT-020AK002. | 3.7.. 37 | 0.22.. 2.2 | 1700 |
| RT-020AK004. | 6.7.. 67 | 0.40.. 4.0 | 1100 |
| 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.

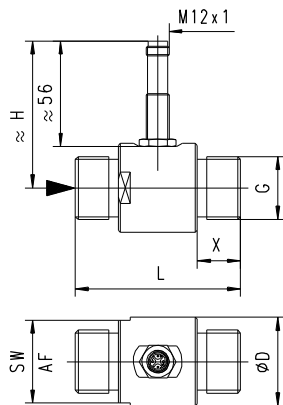


Connection example: PNP NPN



Product Information

Dimensions



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

○=Option

| 1. Nominal width | |
|--------------------------|---------------------------------------|
| 015 | DN 15 - G 1/2 B |
| 020 | DN 20 - G 3/4 B |
| 025 | DN 25 - G 1 B |
| 040 | DN 40 - G 1 1/2 B |
| 050 | DN 50 - G 2 B |
| 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 | Push-Pull (compatible to NPN and PNP) |
| 6. Option | |
| H | ○ high temperature model |

Options

- Flanged model,
- max. temperature 150 °C
- DN 80-300 PN 16

Accessories

- Cable/round plug connector (K04PU...; KB...) see additional information "Accessories"