

Flow meter SF-800-3/8

Flow velocity: 0.5 ... 20 litre per minute*
Temperature: -20 ... +90 °C
Operating pressure: 16 bar
Max. pressure: 40 bar
Process connections: 3/8" BSP



HM 1211

Size: L=52mm, Ø27,5mm, 3/8" BSP

Working Principle

The patented Swissflow technology is the basis for these high-graded flow meters. The geometry of the rotorhousing (causing a radial flow in) in combination with the light-weight Vectra rotor (0,04 grams) makes the rotor float in the medium. Because the rotor floats there is the measurement process is nearly resistance-free, guaranteeing **high accuracy, durability and linearity**.

An integrated PCB emits an infrared signal, which is interrupted by the three blades of the rotor. SMD components transform the interrupted signal into a pulse. Because of the construction of the rotorhousing, the Swissflow flow sensors are practically **insensible to high pressure**.

The materials used (PVDF and Vectra) are to a great extent **chemical-resistant and temperature-durable**. Contrary to many other fluid flow measurement systems, the Swissflow sensors **do not have to be calibrated**. The limited number of parts and intelligent design results in product with infinite application possibilities and an **excellent price-performance ratio**.

Technical information SF-800-3/8	
Exitation:	5 to 24 VDC, 12 to 24 mA
Power consumption:	12 – 36 mA/s
Material:	PVDF, Vectra (rotor), Viton or EPDM
Output:	Frequency, open collector
Output frequency:	100 to 2000 Hz (depending on the flow velocity)
K-factor:	5600 pulse/litre
Length cable:	15 cm (others on request)
Cable/Connector:	3-wire flat cable sealed in housing, molex female-connector 51090-0300 on the other end***.
Reliability	
Interchangeability**:	+/- 2.25 %
Accuracy:	+/- 1.00 %
Reproducibility:	+/- 0.30 %

* Other ranges available upon request

** Upon request, interchangeability can be less then 1%

*** We do not marketing mating connector. If you can not use Molex, please remove the connector.

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Resistors and supply voltage

Resistors are not enclosed with the delivery. Use resistors suitable for your supply voltage. We recommend power supply of 5 VDC, in this case the resistor values are:

Rs: 0 Ohm (No resistor is needed)

RI: 2200 Ohm

For other power supply:

Rs: $50 \times (V-5)$ Ohm

RI: $440 \times V$

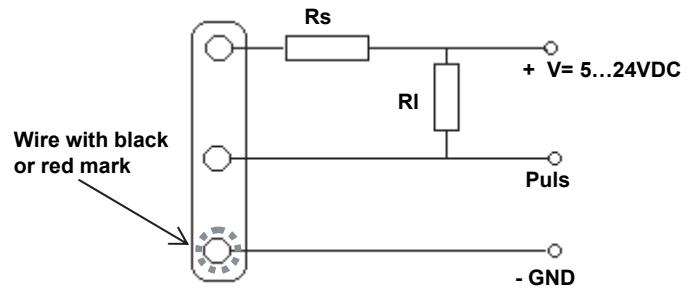
Example:

5V: Rs=0 Ohm, RI=2200 Ohm

12V: Rs=350 Ohm, RI=5280 Ohm

24V: Rs=950 Ohm, RI=10560 Ohm

Wiring



Power 5...24VDC, 12...36mA

Pulse output between "Puls" and "GND" with RI connected.

Instructions for installation and use

Before putting the flow-meter into operation, please note the following:

1. Hose discharges may not be subjected to pressure when the flow-meter is put into operation.
2. Medium-supply lines must be thoroughly cleaned before use.
3. Use of a 20Mμ (Micron) pre-filter is recommended.
4. Solid particles or contamination in the medium may damage the flow-meter and/or influence the measurement results.
5. **IMPORTANT: WATCH ARROW ON FLOW-METER TO INSTALL IT IN CORRECT FLOW DIRECTION.**
6. Once the flow-meter has been installed, the system should be filled slowly, to avoid air damaging the rotor.
7. Hook up electronic connector to the flow-meter. Make sure that the electrical connections have been hooked up as indicated on this diagram.
8. Make sure electronic connector is not coming into contact with liquids. This may influence measuring results negatively.
9. Remember to remain within the minimum and maximum flow-rate limits as indicated. Avoid any UNCONTROLLED AIR PRESSURE through the flow-meter. High bars at the beginning, which results in more than 38.000 rotations per second of rotor will DESTROY rotor blades.
10. The measurement principle is based on volume measurement; air in water, for example, is counted as a medium.
11. Once the flow-meter has been installed in accordance with these directions, a smooth operation is guaranteed.