

# Flow sensor

## DF110



### Materials

The following materials are available:

- Flow sensor body: E-CTFE (Halar)
- Rotor: E-CTFE (HALAR) as standard
- Rotor shaft and bearings: Sapphire
- Seal (O-ring): FPM (Viton), Kalrez, EPDM

Fittings are available in PFA, PVDF and PPN and in various internal diameters.

Other materials are available on request.

### Description

A miniature flow sensor based on the paddle wheel principle, suitable for fluids measurements in hoses or pipes with an internal diameter of DN3 to DN18.

The sensor's external diameter is 13 mm. The sensor's body is made of E-CTFE (Halar), a material which is extremely resistant to chemicals. The rotor (rotating part) is made as standard of E-CTFE (Halar).

The rotating mechanism (bearings) is made of sapphire and the shaft around which the rotor rotates is made of Halar.

The sensor works using a rotor, which consists of five open blades which are rotated by the flowing medium. A magnet is encased in each of the rotor's blades. When passing the body, these magnets send a signal to the integrated electronics, which in turn convert this signal into a hard pulse (frequency output).

The value of the outgoing pulse is equal to the sensor's supply voltage (5-24 VDC). The signal transmitted by the sensor is proportional to the flow rate. The frequency signal can bridge a distance of approximately 100 metres without additional amplification.

The sensor can be used with flow rates of 0.5-10 m/s. The frequency generated depends on the pipe's internal diameter.

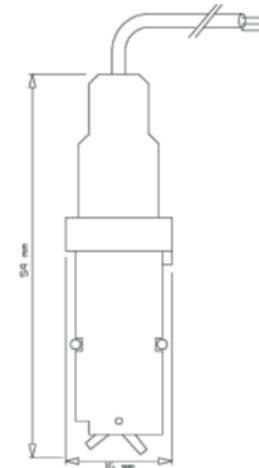
Thanks to the chemical resistance and the way in which the signal is generated, the sensor has a wide variety of applications.

This flow sensor can even be used in the semiconductor industry, where many fluid measurements cannot be taken because the industry uses pure water. The flow sensor can also be used for chemical, medical, process-manufacturing, horticultural and swimming-pool applications.

## Technical specifications

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<b>Supply voltage:</b>	5-24 V(DC)
<b>Maximum current consumption:</b>	35 mA
<b>Electrical connection:</b>	3-wire cable, Length: 1.5 m
<b>Ingress protection:</b>	IP65 according to IEC529 and DIN 40050
<b>Weight:</b>	Approx. 10 g
<b>Maximum cable length:</b>	100 m
<b>Measurement range:</b>	0.5-10 m/s
<b>Output frequency:</b>	Approx. 100 Hz/m/s (depending on the model)
<b>Output signal:</b>	5-24 V square wave NPN (Pull down, open collector)
<b>Measurement accuracy:</b>	+/- 1% of the measurement range end value
<b>Linearity:</b>	+/- 1% across the entire measurement range
<b>Reproducibility:</b>	+/- 0.5% across the entire measurement range
<b>Medium viscosity:</b>	0.5-20 cSt.



## Electrical connection:

