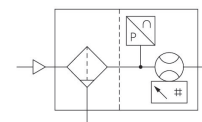


AVENTICS Series AF2 Sensors

The AVENTICS Series AF2 are flow sensors that monitor air consumption in pneumatic systems, enabling rapid intervention in the event of leakage. The Series AF2 helps to optimize energy consumption, prevent machine downtime and cut costs.



Technical data

Industry

Note

Frame size

Switching principle

Protocol

Nominal flow

Nominal flow Q_n min., standard

Nominal flow Q_n max., standard

Nominal flow Q_n min., extended

Nominal flow Q_n max., extended

Compressed air connection

Certificates

Min. working pressure

Industrial

Output signal: 1 analog output 4 mA ... 20 mA
+ 1 digital/analog output (PNP, NPN, push-pull,
4 mA ... 20 mA/switchable) + 1 digital output
(PNP, NPN, push-pull, switchable), IO-Link V1.1
(COM3/230K4 baud)

Without mounting

AS3

Flow measuring principle: calorimetric

IO-Link

Analog

1630 l/min

8 l/min

1630 l/min

1630 l/min

2445 l/min

G 1/2

CE declaration of conformity

RoHS

UL (Underwriters Laboratories)

0 bar

Series AF2 flow rate sensor, IO-Link

AF2

R412027177

2024-03-04

Max. working pressure	16 bar
Min. ambient temperature	-20 °C
Max. ambient temperature	60 °C
Min. medium temperature	-20 °C
Max. medium temperature	60 °C
Medium	Compressed air Argon Nitrogen Carbon dioxide
Filter porosity	5 µm
Display	OLED
Flow display unit	l/sec l/min m³/min m³/h ft³/s m³/min
Pressure display unit	bar psi
Temperature display unit	°C °F
Electrical connection 2, type	Plug
Electrical connection 2, thread size	M12x1
Electrical connection 2, number of poles	5-pin
Output signal	PNP, NPN, push-pull, 1x IO-Link
Operational voltage	17-30 V DC
Min. operating voltage DC	17 V DC
Max. operating voltage DC	30 V DC
Max. current consumption	175 mA
Response time	< 10 ms
Short circuit resistance	short circuit resistant
Max. shock resistance	30 g, 11 ms
Vibration resistance	1 g (10 - 2000 Hz) IEC 60068 - 2-6
Reproducibility	± 1.5% of the measured value
Protection class	IP65 IP67 according to IEC 60529
Weight	1.25 kg

Material

Housing material	Polyamide Polycarbonate
Seal material	Fluorocautchouc
Part No.	R412027177

Technical information

The pressure dew point must be at least 15 °C less than ambient and medium temperature and may not exceed 3 °C.

The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

The device is designed to be installed in AS series air preparation units or to be fitted as a stand-alone device using a W05 block assembly kit.

Liquid oil or water must be separated via prefiltering. If it is not separated sufficiently, drifting may result.

Precision

- Standard measurement range: $\pm 3\%$ of measured value, + 0.3% of final value
- Extended measurement range: $\pm 8\%$ of measured value, + 1% of final value

The IO-Link device description (IODD) for the AF2 flow rate sensor is available for download in the Media Center.

The pressure dew point must be at least 15 °C less than ambient and medium temperature and may not exceed 3 °C.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

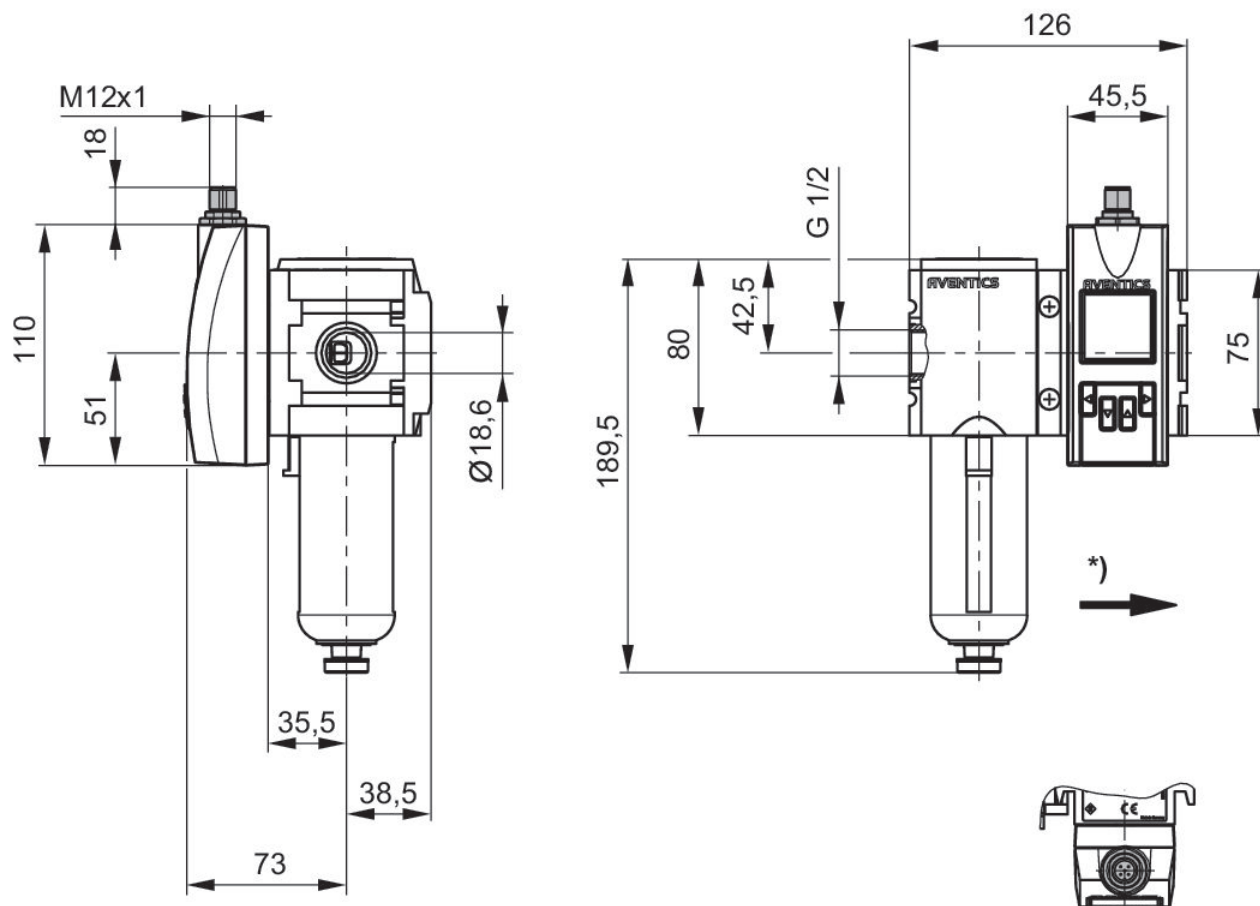
Series AF2 flow rate sensor, IO-Link

AF2

R412027177

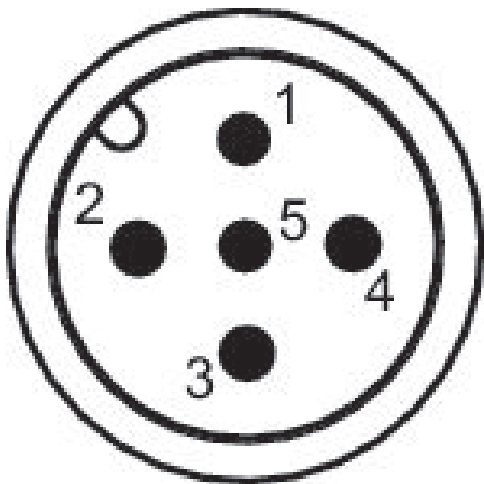
2024-03-04

Dimensions in mm



* Flow direction

Pin assignments



Pin assignments

Pin	Allocation	Wire color
1	L+ Supply Voltage	brown
2	QA (output 4 ... 20 mA)	white
3	m = mass	blue
4	C/Q1 (IO-Link/switch output)	black
5	Analog output 4 ... 20 mA	yellow