

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

Industrial

Note

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

Frame size

DN40

Switching principle

Flow measuring principle: calorimetric

Protocol

IO-Link

Analog

Nominal flow

7540 l/min

Nominal flow Q_n min., standard

38 l/min

Nominal flow Q_n max., standard

7540 l/min

Nominal flow Q_n min., extended

7540 l/min

Nominal flow Q_n max., extended

11300 l/min

Compressed air connection

R 1 1/2

Certificates

CE declaration of conformity

RoHS

UL (Underwriters Laboratories)

Min. working pressure

0 bar

Series AF2 flow rate sensor, IO-Link

AF2

R412028642

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
Display	OLED
Flow display unit	l/sec l/min m ³ /min m ³ /h ft ³ /s m ³ /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
Electrical connection 2, coding	A-coded
Output signal	PNP, NPN, push-pull, 1x IO-Link
Max. power consumption	12 W
Operational voltage	17-30 V DC
Response time	< 0.3 s
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	2.3 kg

Material

Housing material	Polyamide Polycarbonate
Pipe material	Stainless Steel 1.4301
Seal material	Fluorocautchouc
Part No.	R412028642

Technical information

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

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

Precision - Standard measurement range: $\pm 6\%$ of measured value, + 0.6% of final value- Extended measurement range: $\pm 8\%$ of measured value, + 0.8% of final value

Standard measurement range for flow measurement: compressed air 0.5 ... 100 m/s, extended measurement range: compressed air >100 ... 150 m/s, in accordance with ISO 8778

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>).

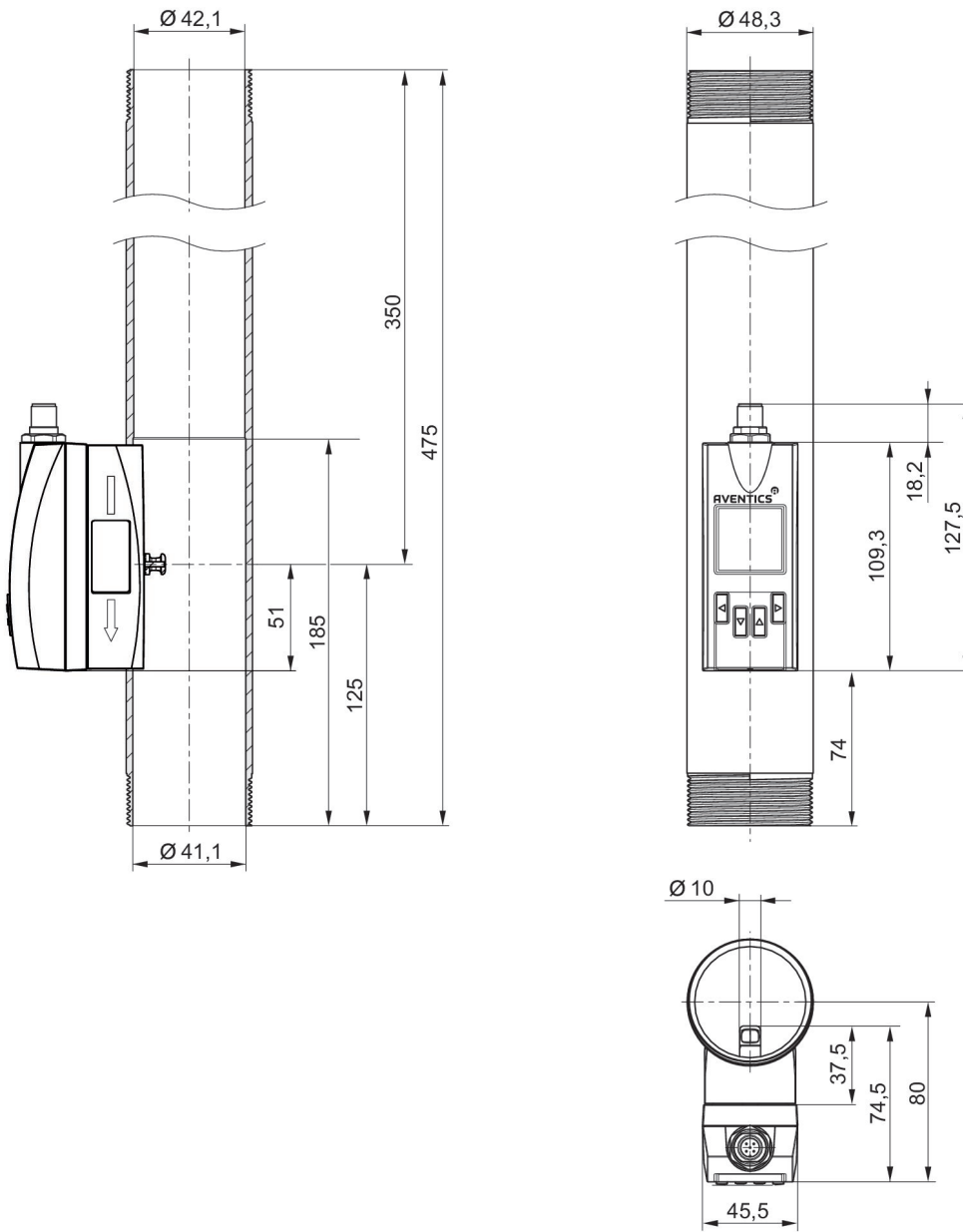
Series AF2 flow rate sensor, IO-Link

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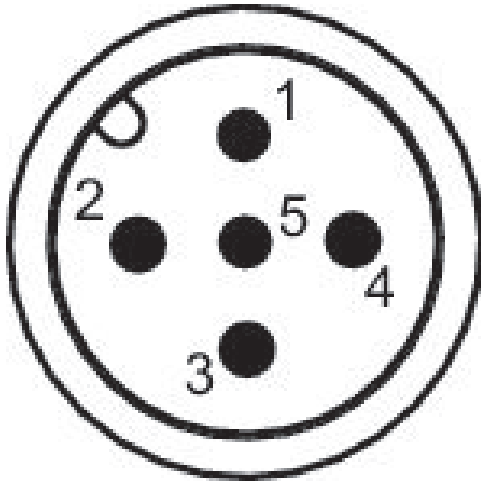
AF2

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Dimensions in mm



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