

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

Integrated web server, 48 VDC connection via Power over Ethernet
Without mounting

Frame size

DN50

Switching principle

Flow measuring principle: calorimetric

Protocol

Ethernet
TCP/IP
OPC UA
MQTT

Nominal flow

11780 l/min

Nominal flow Qn min., standard

59 l/min

Nominal flow Qn max., standard

11780 l/min

Nominal flow Qn min., extended

11780 l/min

Nominal flow Qn max., extended

17600 l/min

Compressed air connection

R 2 NPT

Certificates

CE declaration of conformity
RoHS
UL (Underwriters Laboratories)

Min. working pressure

0 bar

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	8-pin
Electrical connection 2, coding	X-coded
Output signal	OPC UA, MQTT, Integrated web server
Max. power consumption	12 W
Operational voltage	24 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	2.8 kg

Material

Housing material	Polyamide Polycarbonate
Pipe material	Stainless Steel 1.4301
Seal material	Fluorocautchouc
Part No.	R412028649

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>).

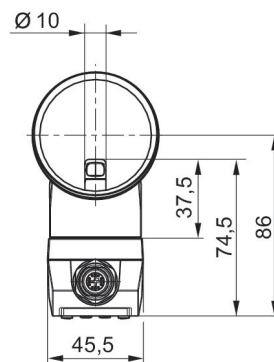
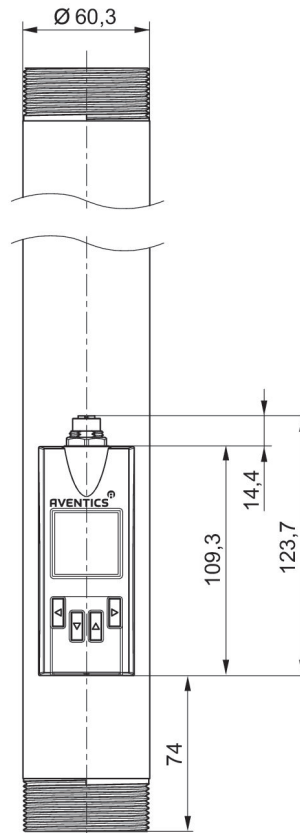
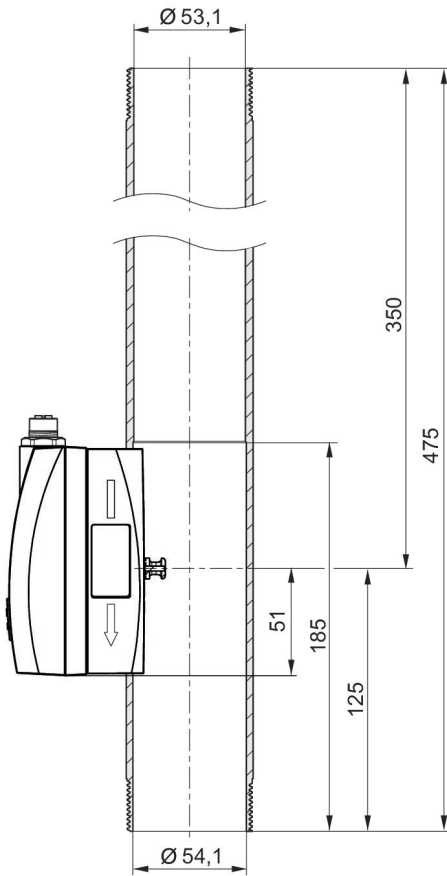
AF2 series flow rate sensor, Ethernet

R412028649

AF2

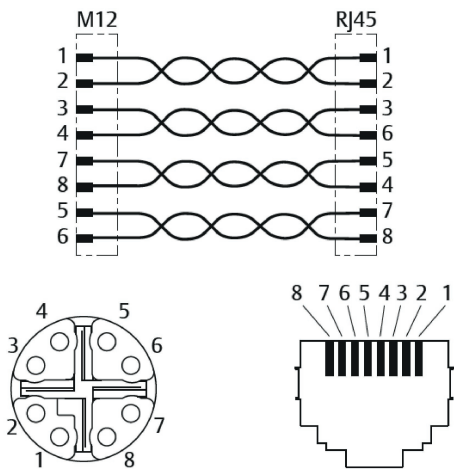
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Dimensions in mm



Pin assignments

M12x1 connection, 8-pin (X-coded) Ethernet



M12 x-coded	RJ45	Color	Function	10/100 Mbit
1	1	WH / OG	TX(+) + POE	TxData +
2	2	OG	TX(-) + POE	TxData -
3	3	WH / GN	RX(+) + POE	RxData +
4	4	GN	RX(-) + POE	RxData -
7	5	WH / BU	POE +	
8	6	BU	POE +	
5	7	WH / BN	POE -	
6	8	BN	POE -	