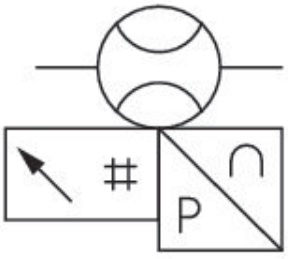
Series AF2 flow rate sensor, IO-Link

8653AV006JA0000

General series information
Series AF2

- The pressure dew point must be at least 15 °C below the ambient and medium temperatures and must not exceed 3 °C. The protection class is only ensured when the plug is mounted properly. See the operating instructions for further information. Liquid oil or water must be separated via pre-filtration. If not separated sufficiently, drifting may result. Precision: Standard measurement range: ±3 % of measured value, + 0.3 % of final value. Extended measurement range: ±8 % of measured value, + 1 % of final value.



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	DN25
Switching principle	Flow measuring principle: calorimetric
Protocol	IO-Link Analog
Nominal flow	2945 l/min
Nominal flow Qn min., standard	14.7 l/min
Nominal flow Qn max., standard	2945 l/min

Nominal flow Qn min., extended	2945 l/min
Nominal flow Qn max., extended	4417 l/min
Compressed air connection	1 NPT
Certificates	CE declaration of conformity RoHS UL (Underwriters Laboratories)
Working pressure min.	0 bar
Working pressure max	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 Helium Carbon dioxide
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
Electrical connection 2, coding	A-coded
Output signal	PNP, NPN, push-pull, 1x IO-Link
Output signal digital	PNP, NPN, push-pull, 1x IO-Link
Output signal analog	4 ... 20 mA
Power consumption max.	5 W
Operational voltage	17-30 V DC
Operating voltage DC, min.	17 V DC
Operating voltage DC, max.	30 V DC
Response time	< 0.3 s
Short circuit resistance	short circuit resistant
Shock resistance max.	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	0.685 kg

Material

Housing material	Polyamide Polycarbonate Aluminum
Pipe material	Stainless Steel 1.4301
Seal material sensor	Fluorocarbon caoutchouc
Part No.	8653AV006JA0000

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: ±3% of measured value, + 0.3% of final value
- Extended measurement range: ±8% of measured value, + 1% of final value

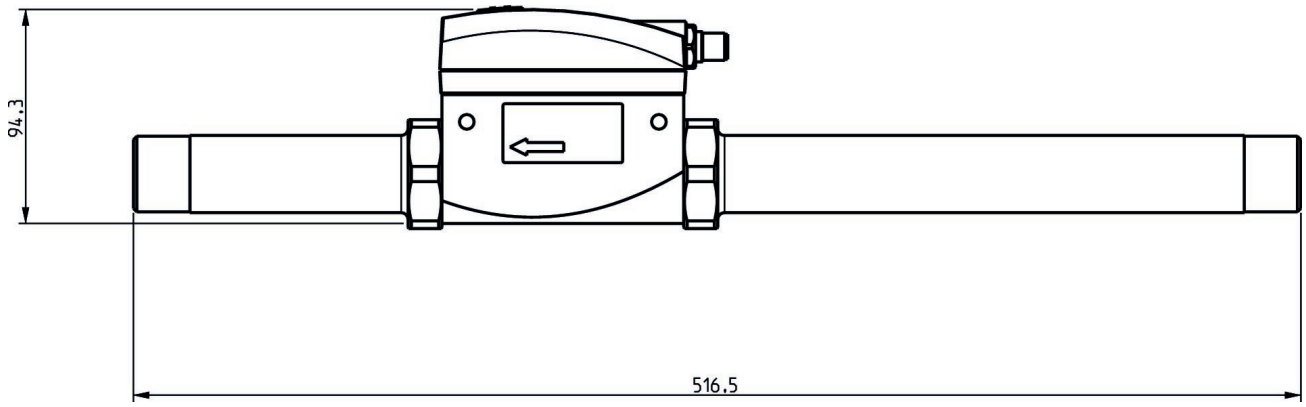
The IO-Link device description (IODD) for the AF2 flow rate sensor is available for download in the Media Center.

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

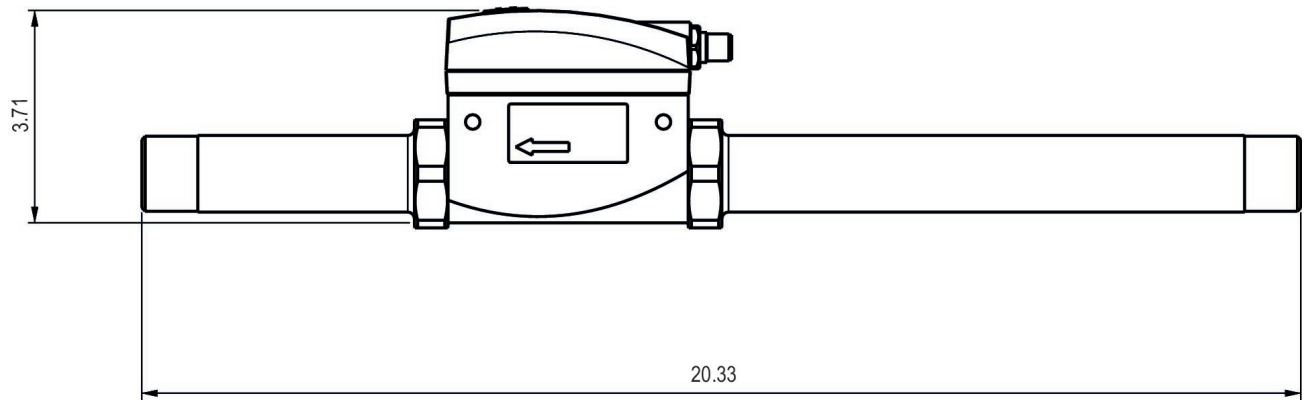
The oil content of compressed air must remain constant during the life cycle.

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).

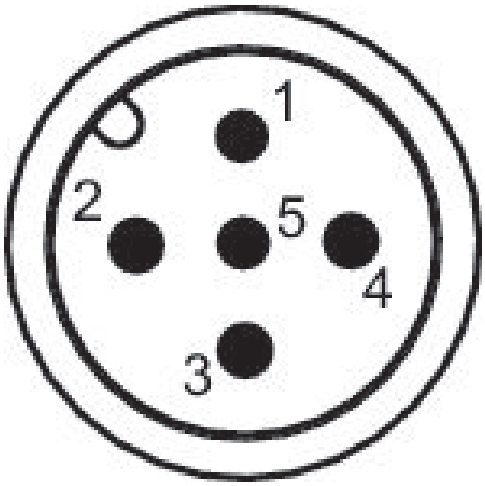
Dimensions in mm



Dimensions in inches



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