

## Series AF2

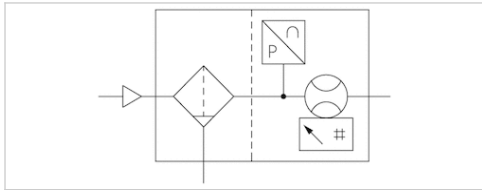


AVENTICS™ Series AF2



# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.005 Cv
- Qn max. 1.62 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.  
Ambient temperature min./max.  
Medium temperature min./max.  
Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium,  
Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

2.71 lbs

Current consumption without load The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026834	AS2	G 3/8	0.005 Cv	1.07 Cv	1.08 Cv

Part No.	Nominal flow Qn
	Max., extended
R412026834	1.62 Cv

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, Flow display range: 0 ... 3.18 Cv

## Technical information

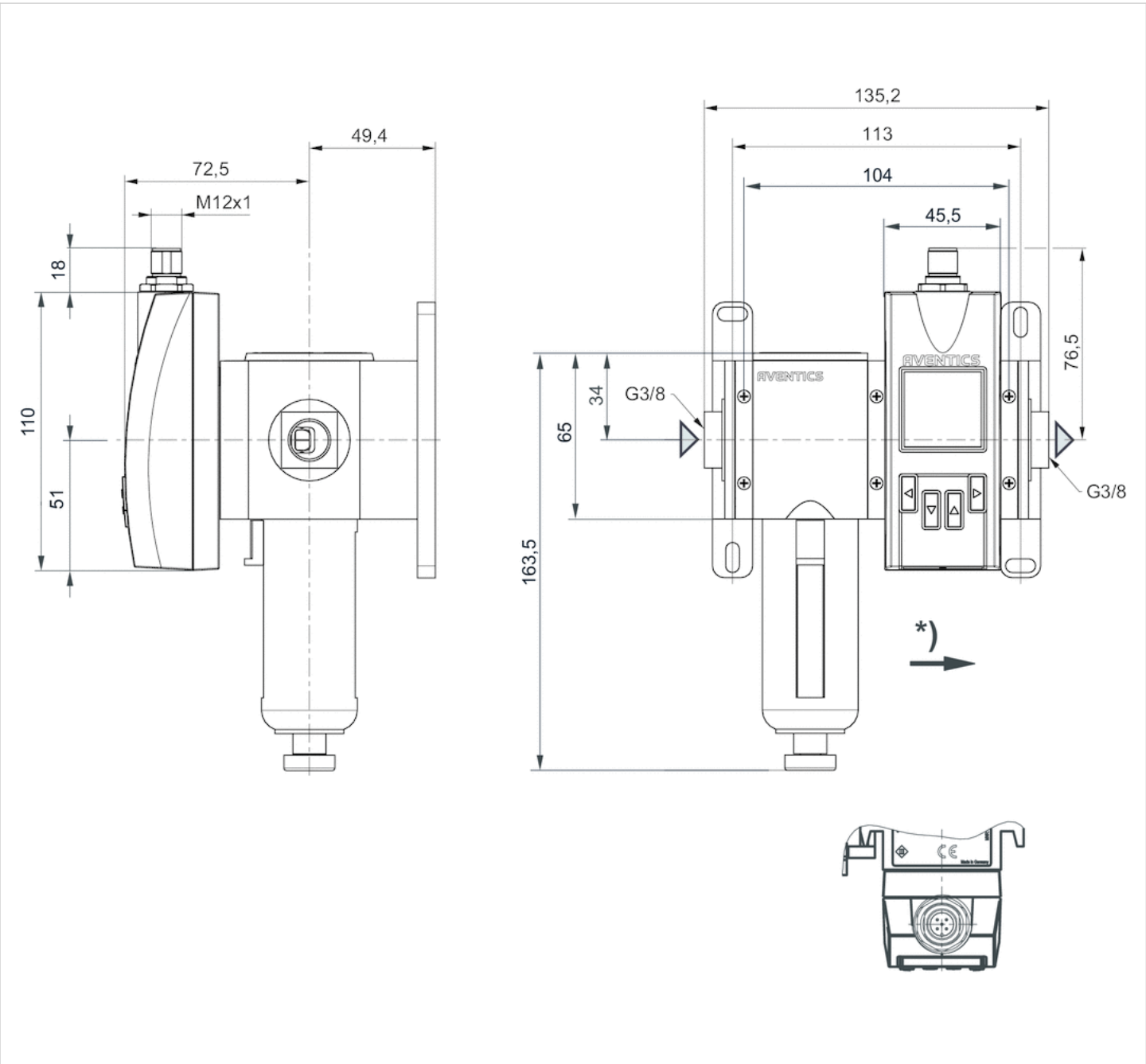
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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.

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

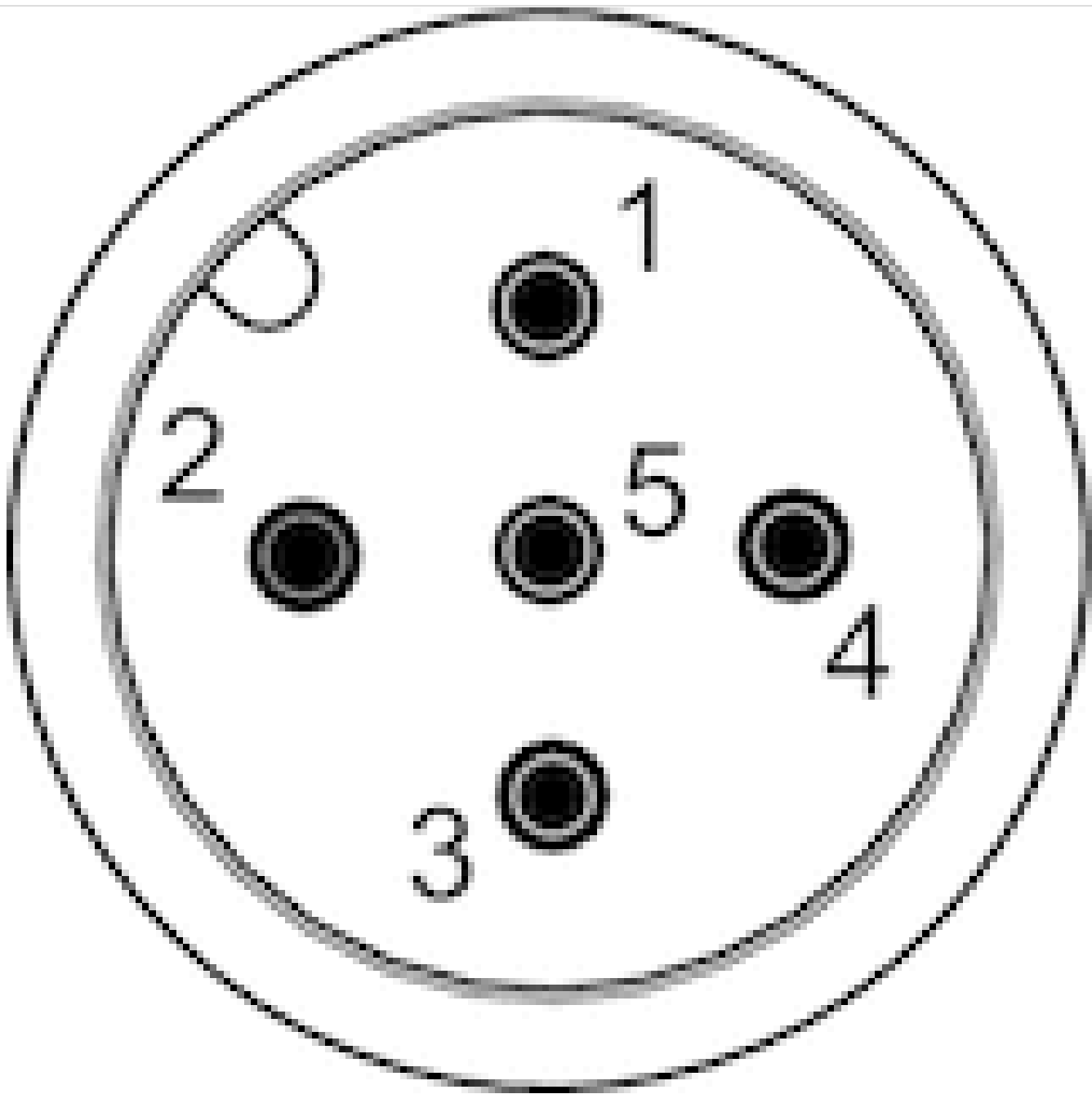
Dimensions

Dimensions in mm



Pin assignments

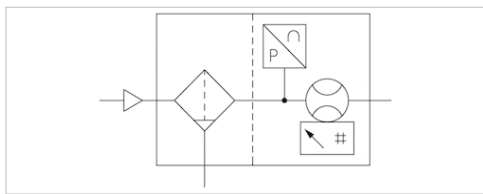
Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.005 Cv
- Electrical connection Plug, M12x1, 8-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Power consumption max.

Response time

Protection class

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

36 V DC

57 V DC

5 W

10 ms

IP65, IP67 according to IEC 60529

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

2.71 lbs

The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026837	AS2	G 3/8	0.005 Cv	1.07 Cv	1.08 Cv

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, Flow display range: 0 ... 3.18 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

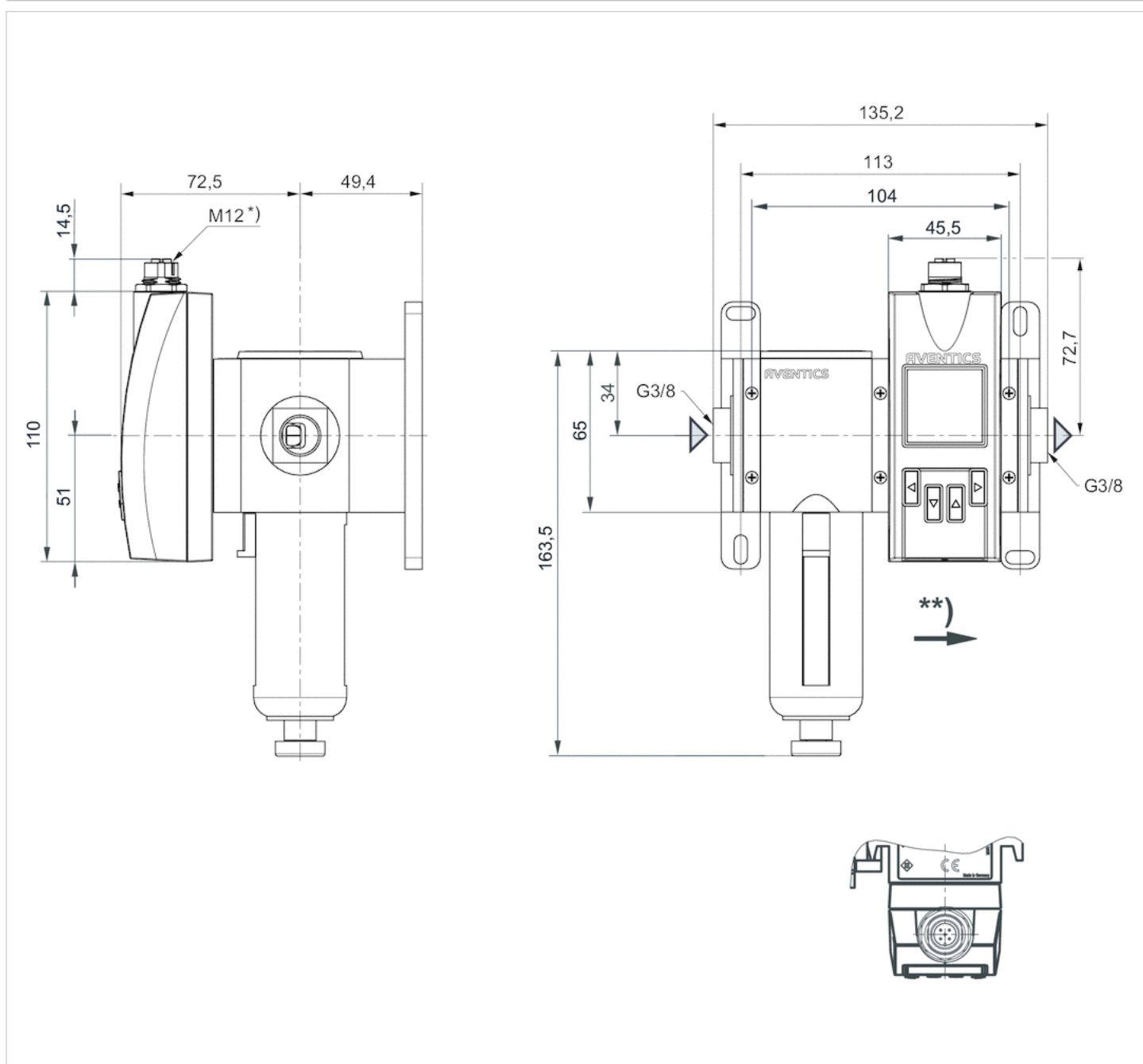
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

### Dimensions in mm

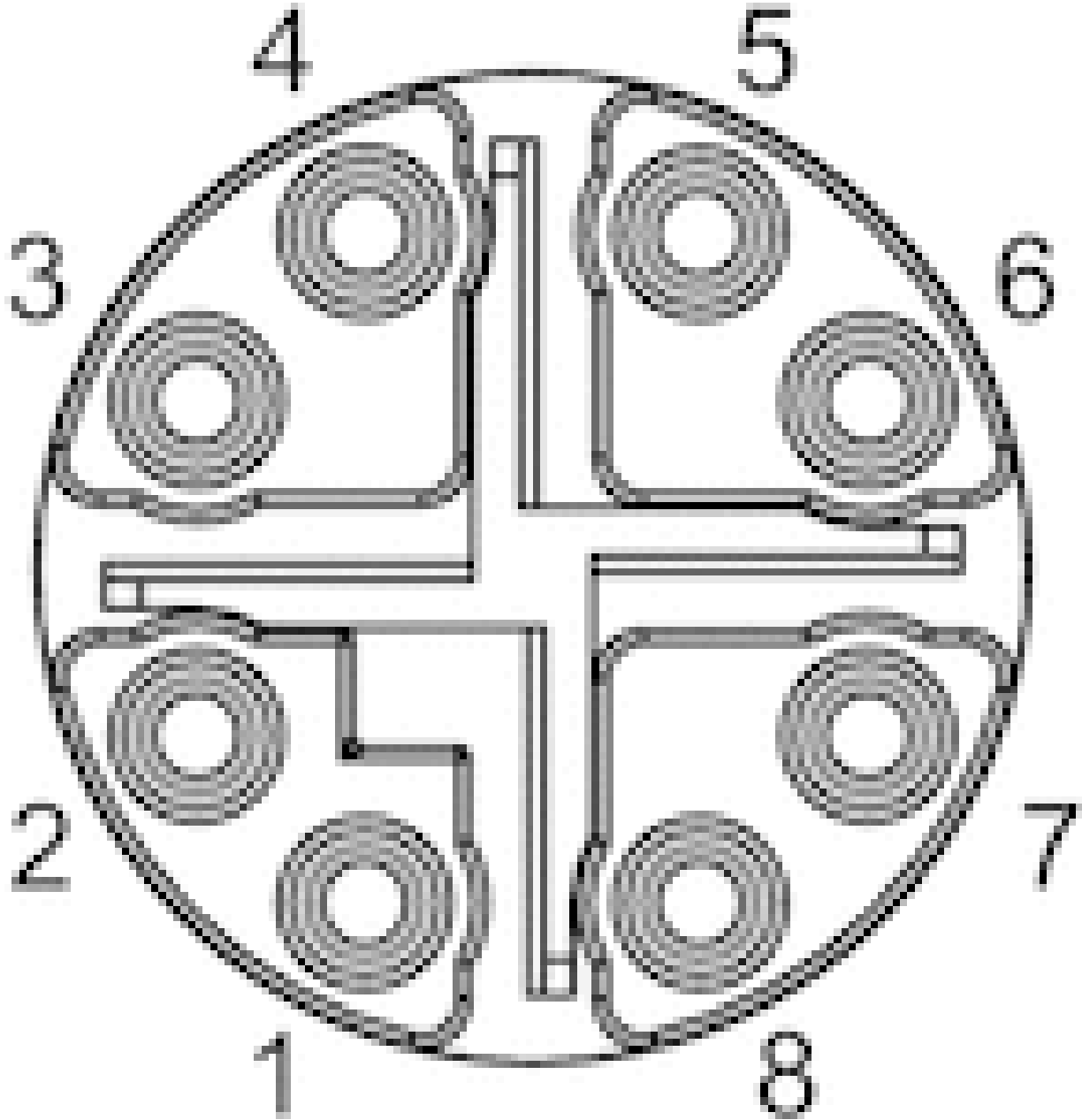


\* Internal thread

\*\* Flow direction

Pin assignments

Pin assignments, M12, X-coded

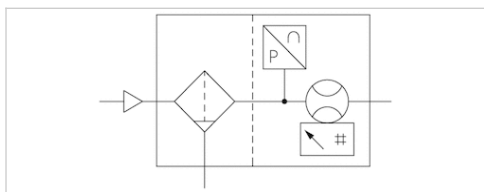


Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							



# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, Without mounting
- Flow measuring principle: calorimetric
- Qn min. 0.005 Cv
- Qn max. 1.62 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

1.87 lbs

Current consumption without load The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027176	AS2	G 3/8	0.005 Cv	1.07 Cv	1.08 Cv

Part No.	Nominal flow Qn
	Max., extended
R412027176	1.62 Cv

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, Flow display range: 0 ... 3.18 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

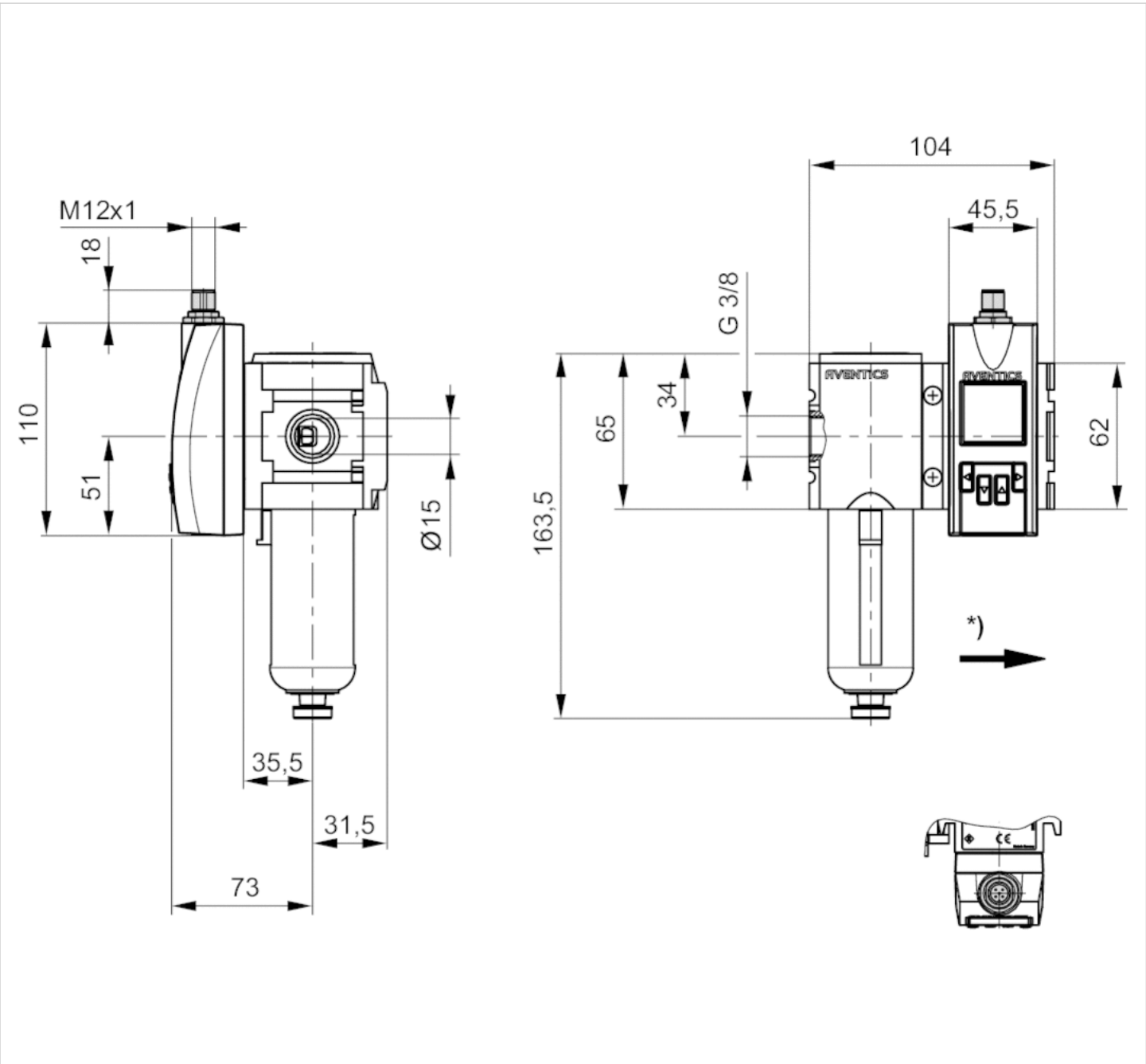
The IO-Link device description (IODD) for the AF2 flow rate sensor is available for download in the Media Center.

Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

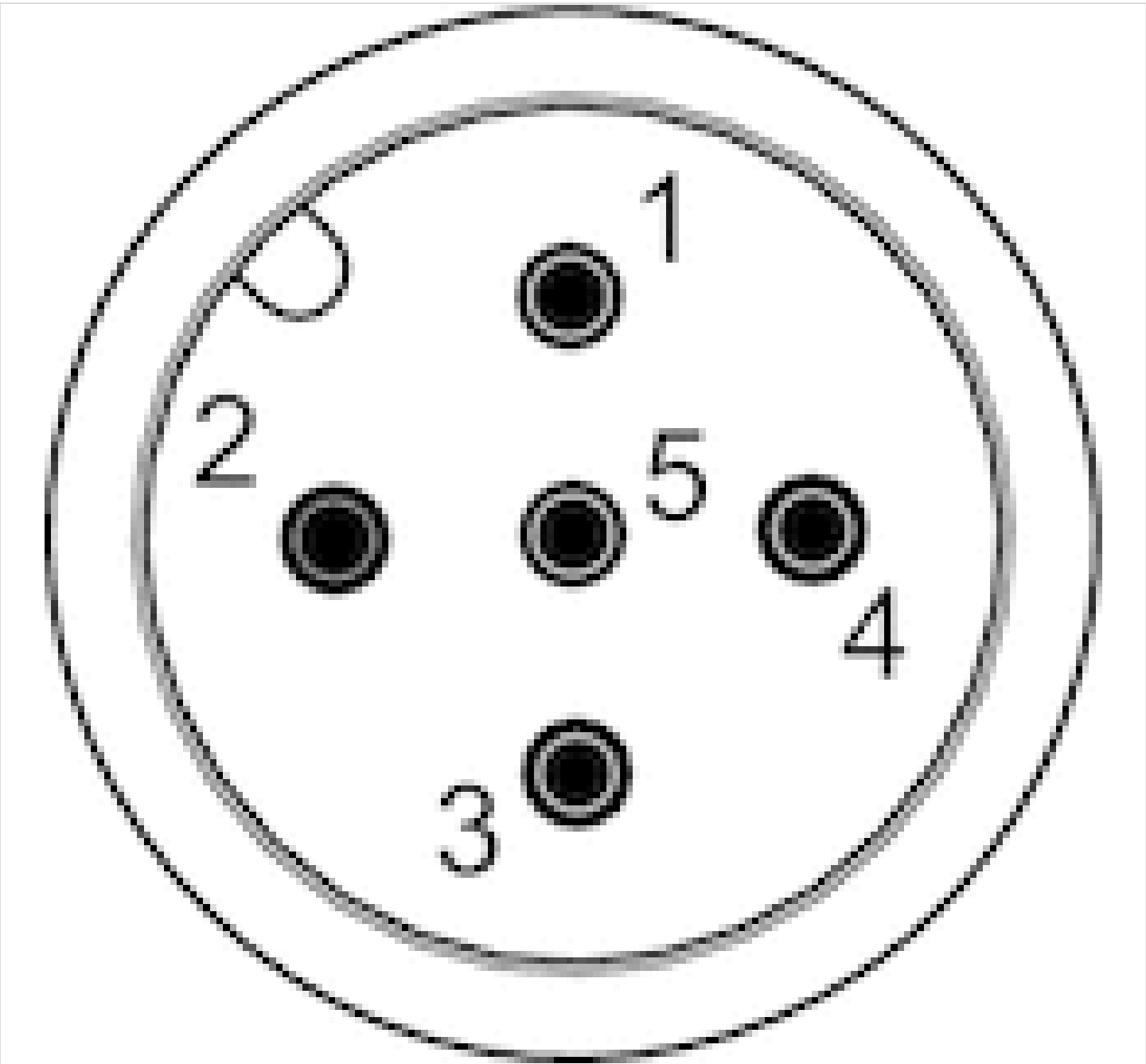
Dimensions in mm



\* Flow direction

Pin assignments

Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, Without mounting
- Flow measuring principle: calorimetric
- Electrical connection Plug, M12x1, 8-pin



Certificates	CE declaration of conformity, RoHS
Working pressure min./max.	0 ... 232 psi
Ambient temperature min./max.	-4 ... 140 °F
Medium temperature min./max.	-4 ... 140 °F
Medium	Compressed air, Argon, Nitrogen, Helium, 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
DC operating voltage min.	36 V DC
DC operating voltage max.	57 V DC
Power consumption max.	5 W
Response time	10 ms
Protection class	IP65, IP67 according to IEC 60529
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
Weight	0.375 lbs
*)	The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection
R412027179	AS2	G 3/8

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, Flow display range: 0 ... 3.18 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

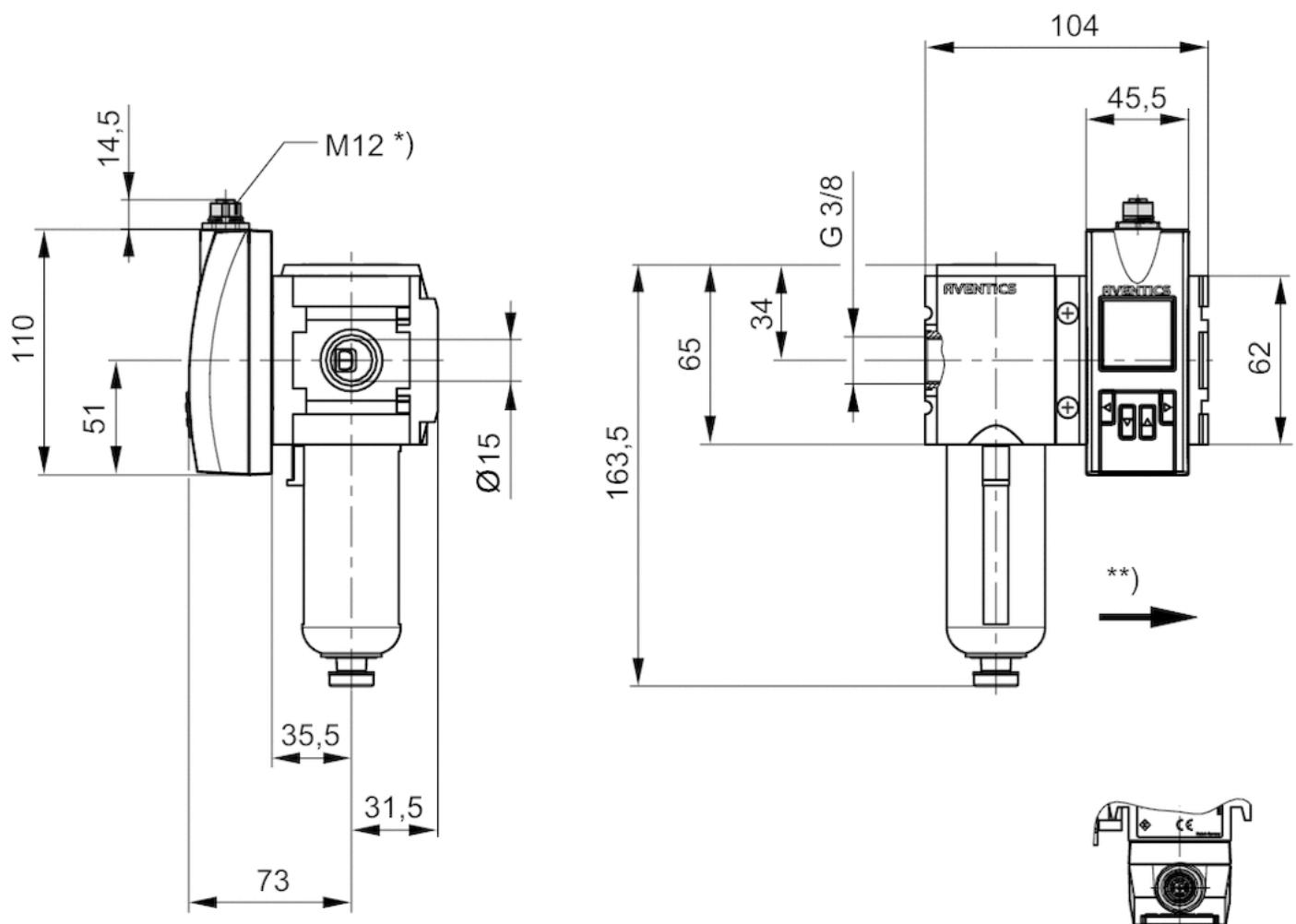
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

Dimensions in mm

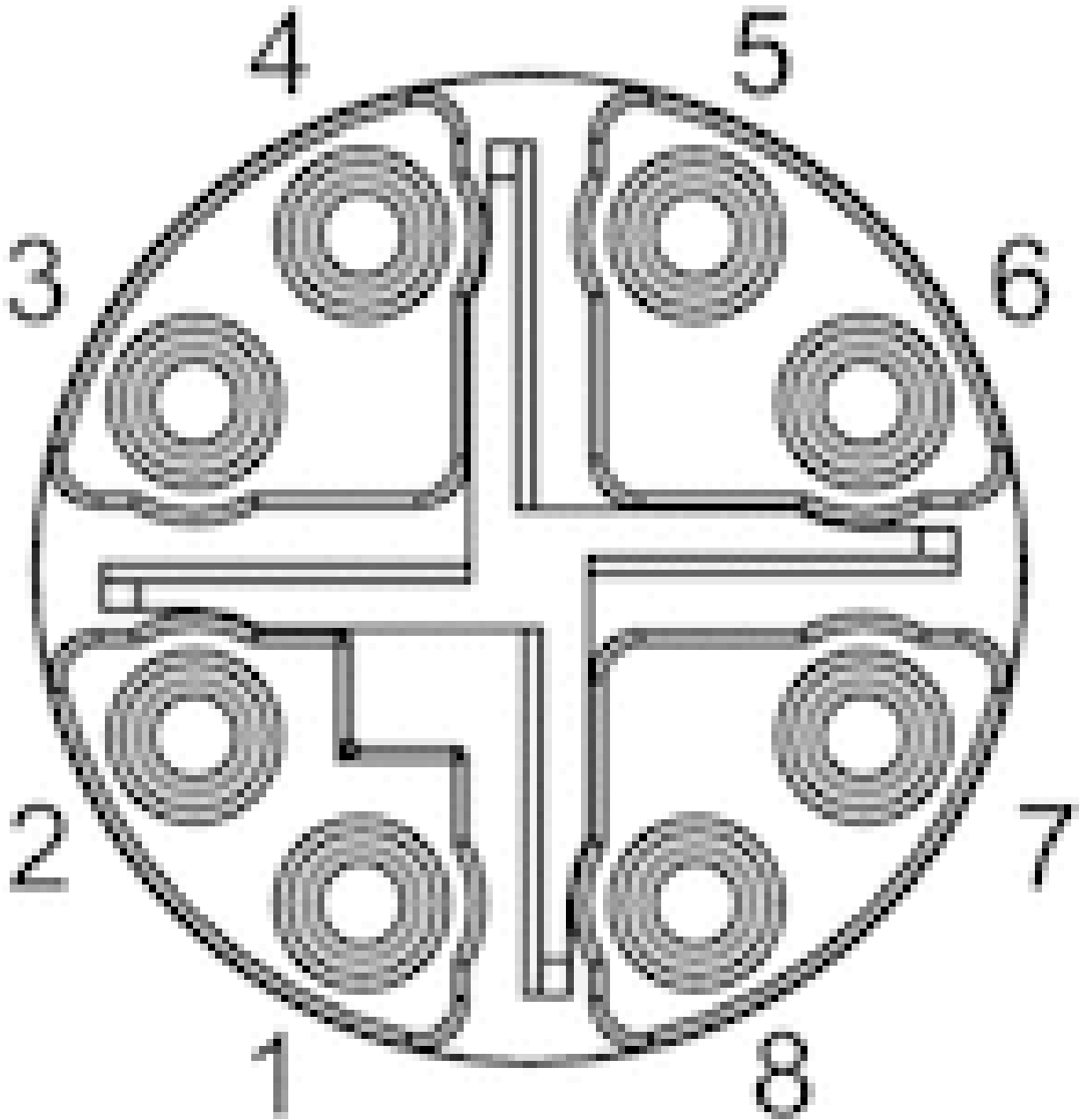


\* Internal thread

\*\* Flow direction

Pin assignments

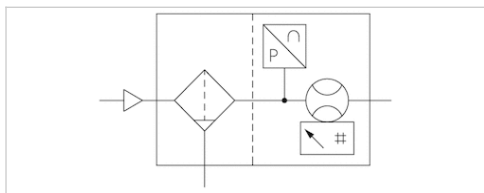
Pin assignments, M12, X-coded



Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							

# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.008 Cv
- Qn max. 2.48 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

4.33 lbs

Current consumption without load

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026835	AS3	G 1/2	0.008 Cv	1.65 Cv	1.66 Cv

Part No.	Nominal flow Qn
	Max., extended
R412026835	2.48 Cv

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, Flow display range: 0 ... 4.89 Cv

## Technical information



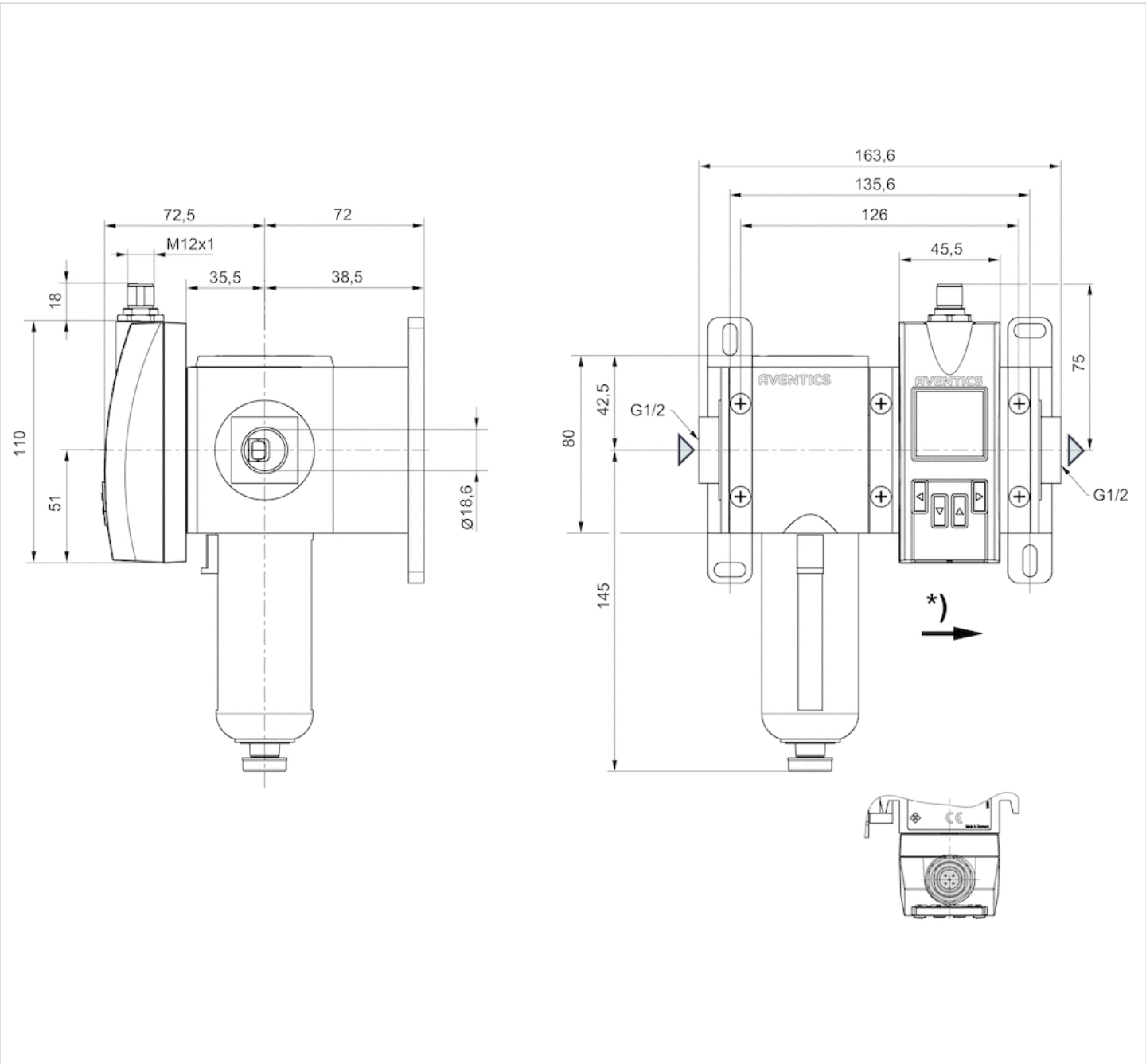
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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.

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

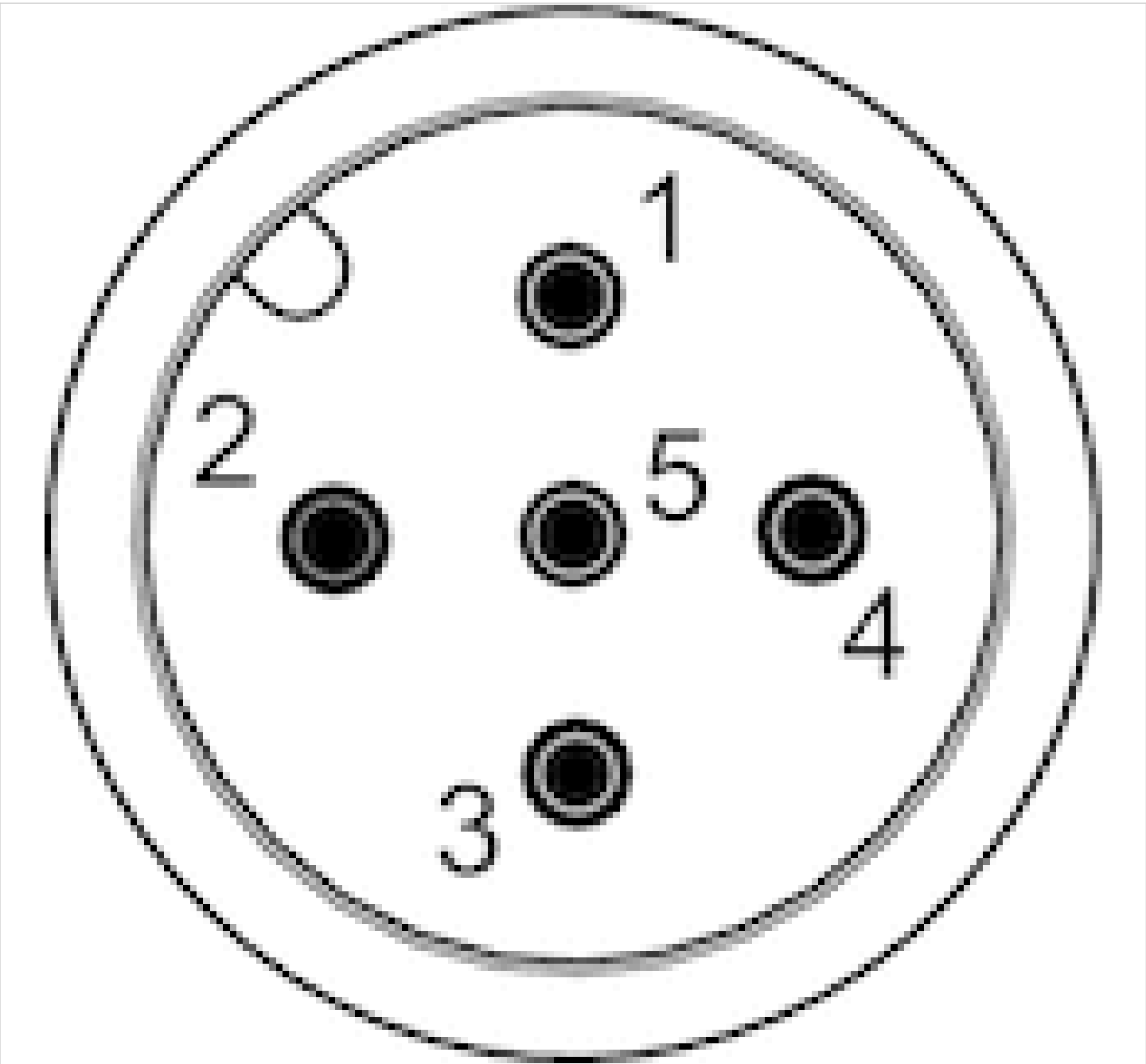
Dimensions in mm



\* Flow direction

Pin assignments

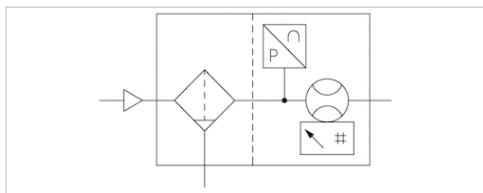
Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.008 Cv
- Qn max. 2.48 Cv
- Electrical connection Plug, M12x1, 8-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Power consumption max.

Response time

Protection class

Shock resistance max.

Vibration resistance

Reproducibility

Weight

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

36 V DC

57 V DC

5 W

10 ms

IP65, IP67 according to IEC 60529

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

4.33 lbs

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026838	AS3	G 1/2	0.008 Cv	1.65 Cv	1.66 Cv

Part No.	Nominal flow Qn
	Max., extended
R412026838	2.48 Cv

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, Flow display range: 0 ... 4.89 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

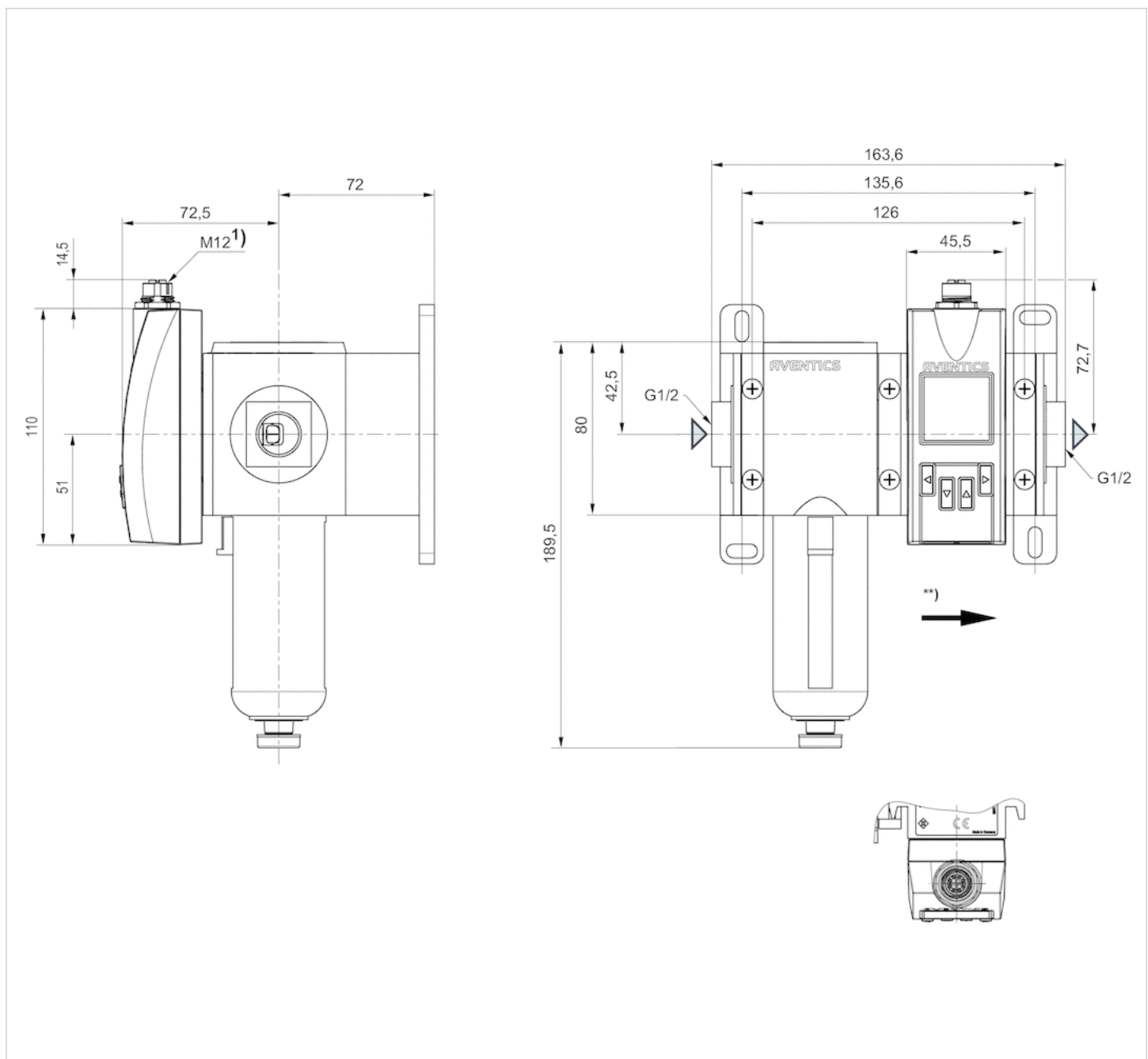
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

### Dimensions in mm

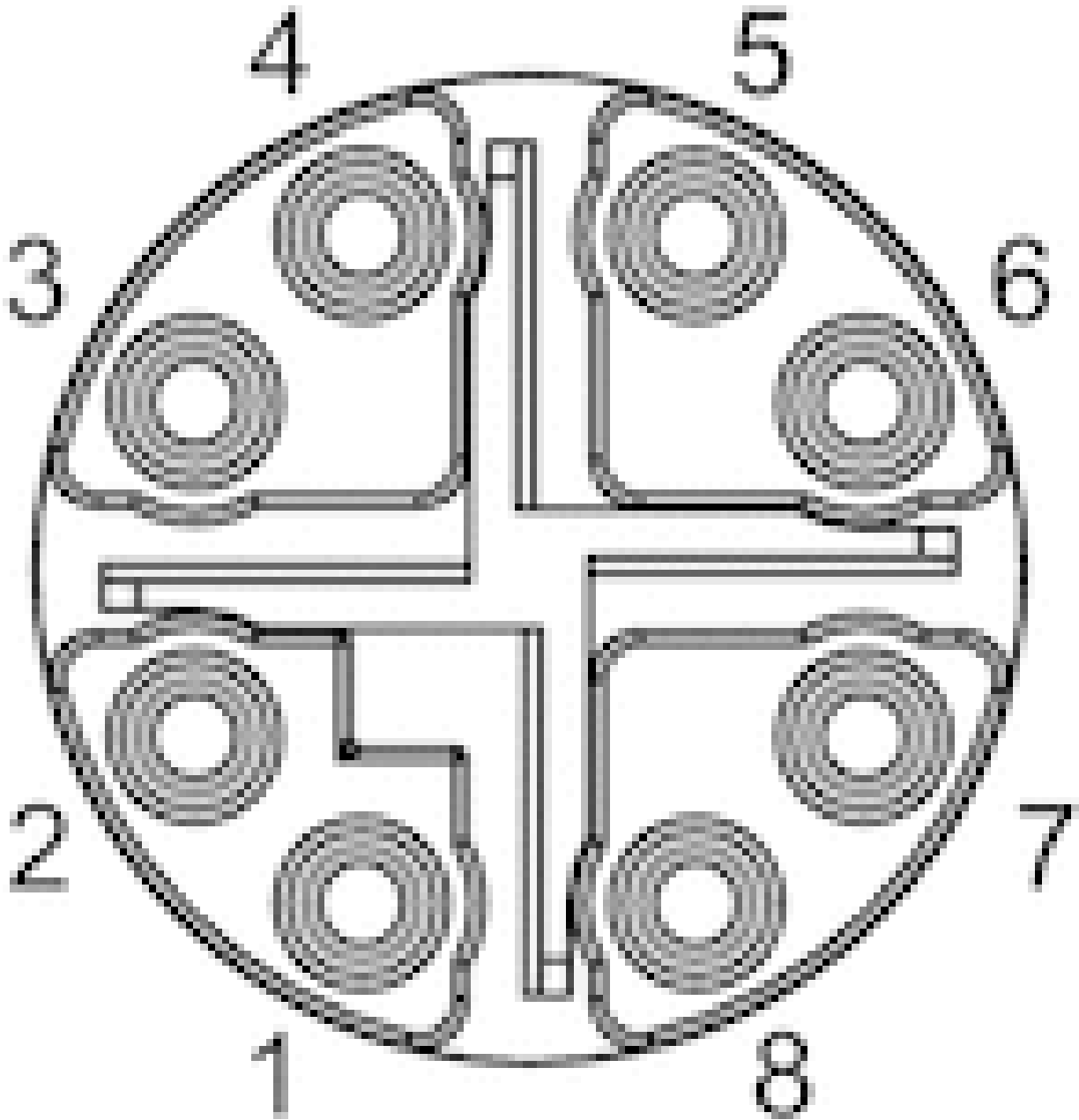


\* Internal thread

\*\* Flow direction

Pin assignments

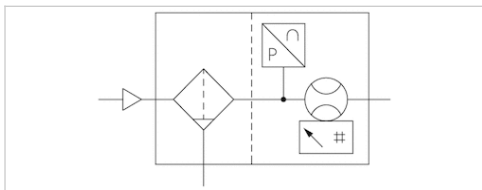
Pin assignments, M12, X-coded



Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							

# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, Without mounting
- Flow measuring principle: calorimetric
- Qn min. 0.008 Cv
- Qn max. 2.48 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

2.76 lbs

Current consumption without load

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027177	AS3	G 1/2	0.008 Cv	1.65 Cv	1.66 Cv

Part No.	Nominal flow Qn
	Max., extended
R412027177	2.48 Cv

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, Flow display range: 0 ... 4.89 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
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.

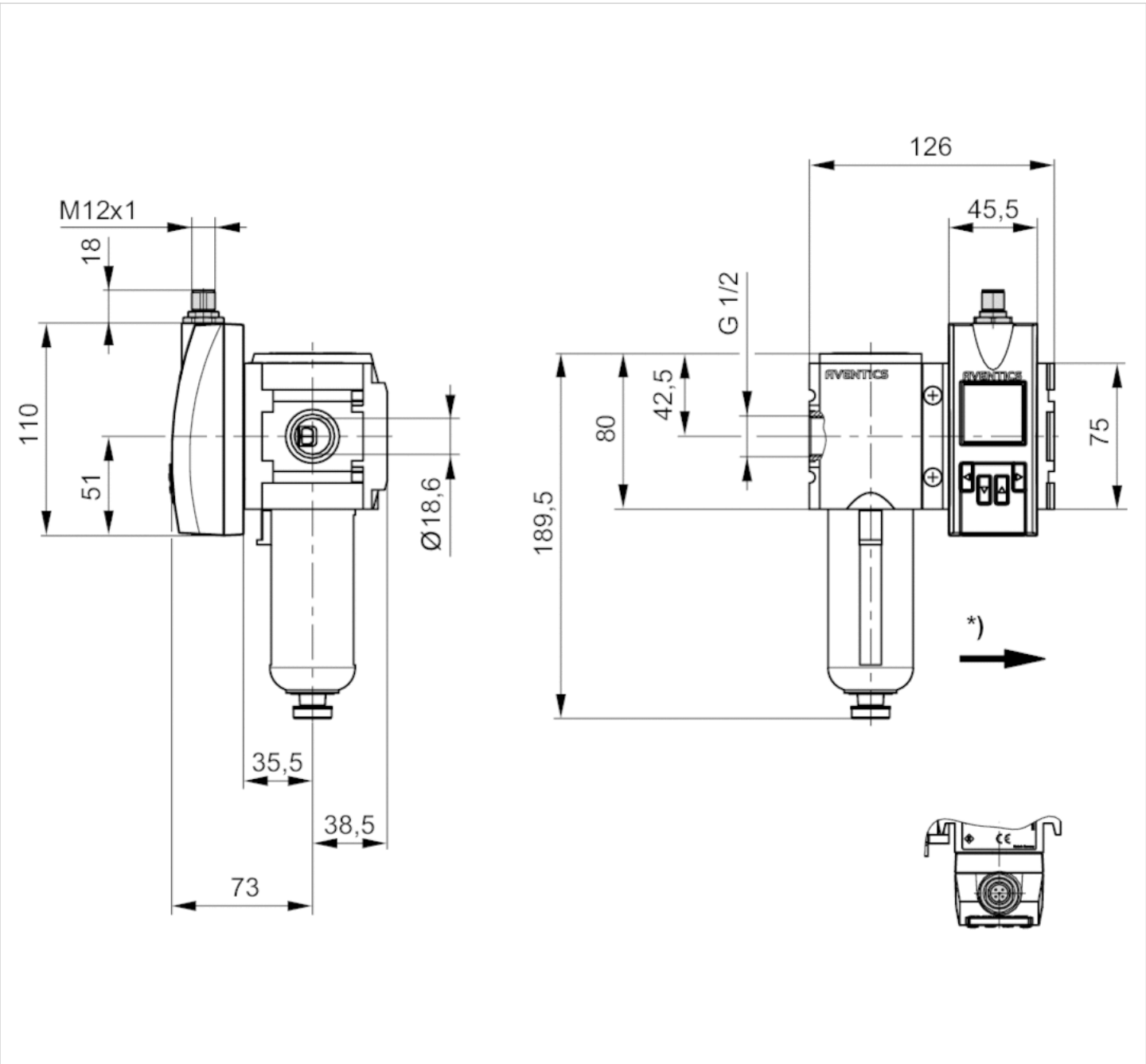
## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc



Dimensions

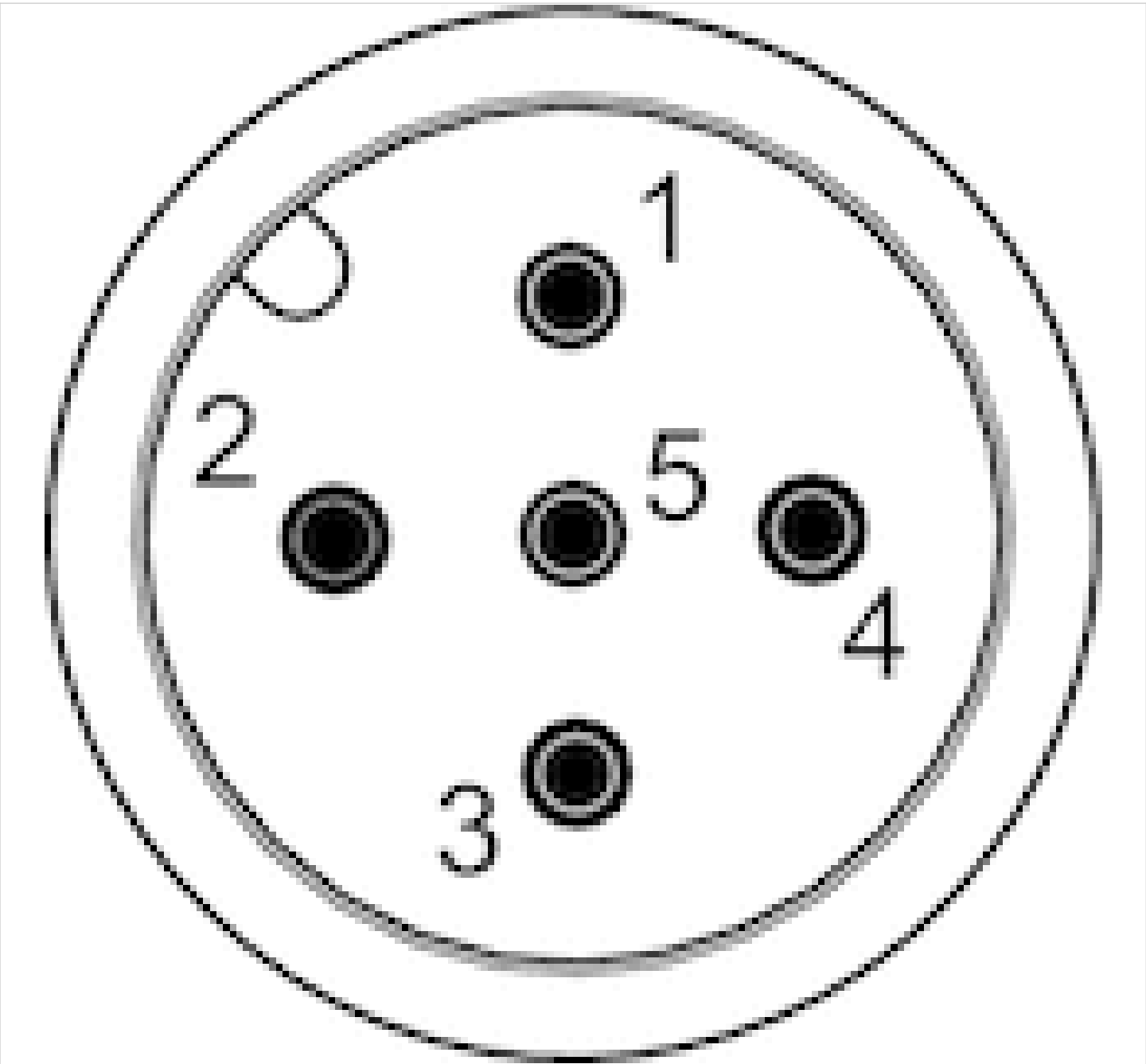
Dimensions in mm



\* Flow direction

Pin assignments

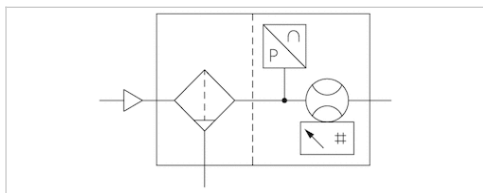
Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, Without mounting
- Flow measuring principle: calorimetric
- Qn min. 0.008 Cv
- Qn max. 2.48 Cv
- Electrical connection Plug, M12x1, 8-pin



Certificates	CE declaration of conformity, RoHS
Working pressure min./max.	0 ... 232 psi
Ambient temperature min./max.	-4 ... 140 °F
Medium temperature min./max.	-4 ... 140 °F
Medium	Compressed air, Argon, Nitrogen, Helium, 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
DC operating voltage min.	36 V DC
DC operating voltage max.	57 V DC
Power consumption max.	5 W
Response time	10 ms
Protection class	IP65, IP67 according to IEC 60529
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
Weight	2.76 lbs

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027180	AS3	G 1/2	0.008 Cv	1.65 Cv	1.66 Cv

Part No.	Nominal flow Qn
	Max., extended
R412027180	2.48 Cv

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, Flow display range: 0 ... 4.89 Cv

## Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

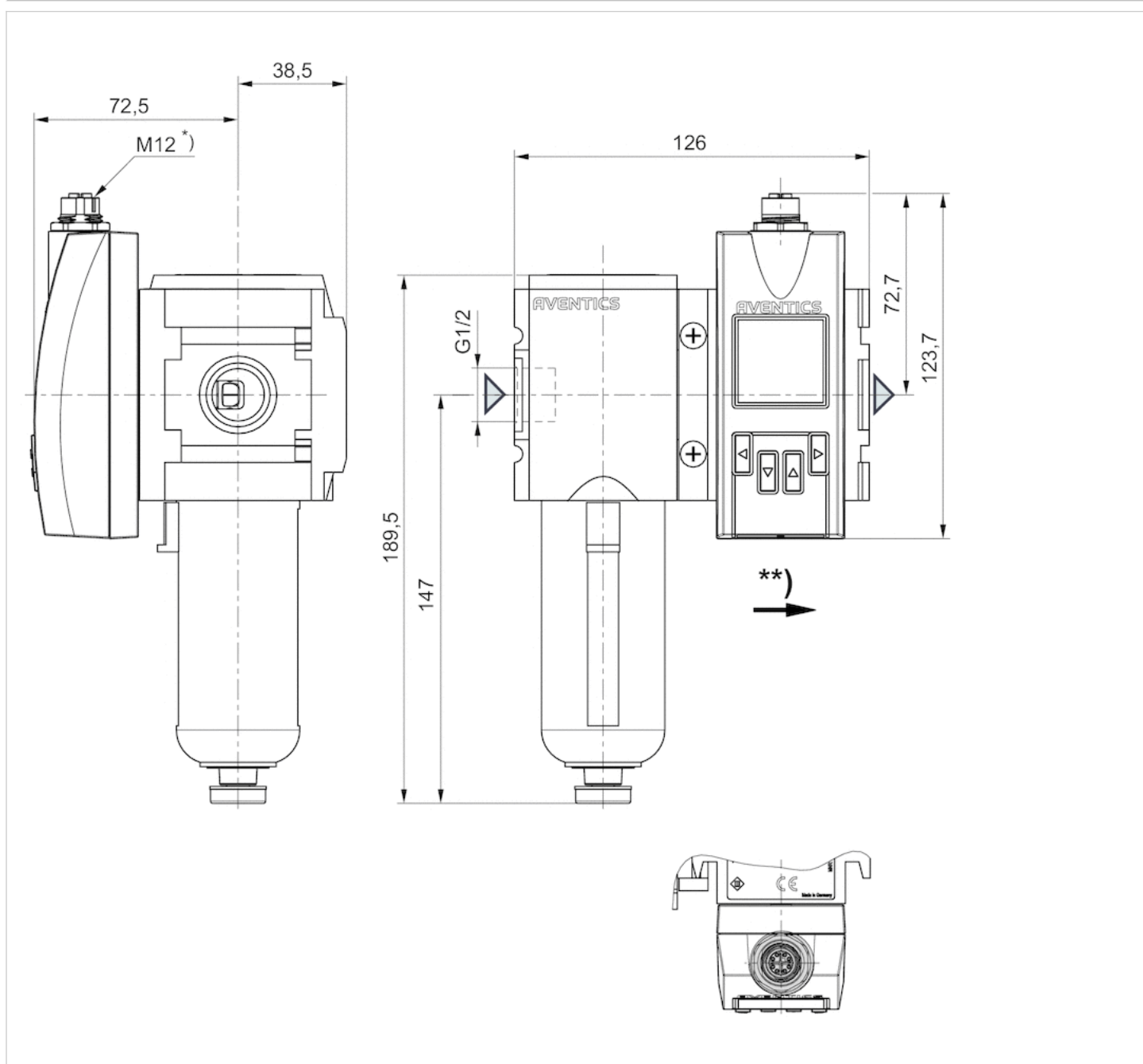
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

### Dimensions in mm

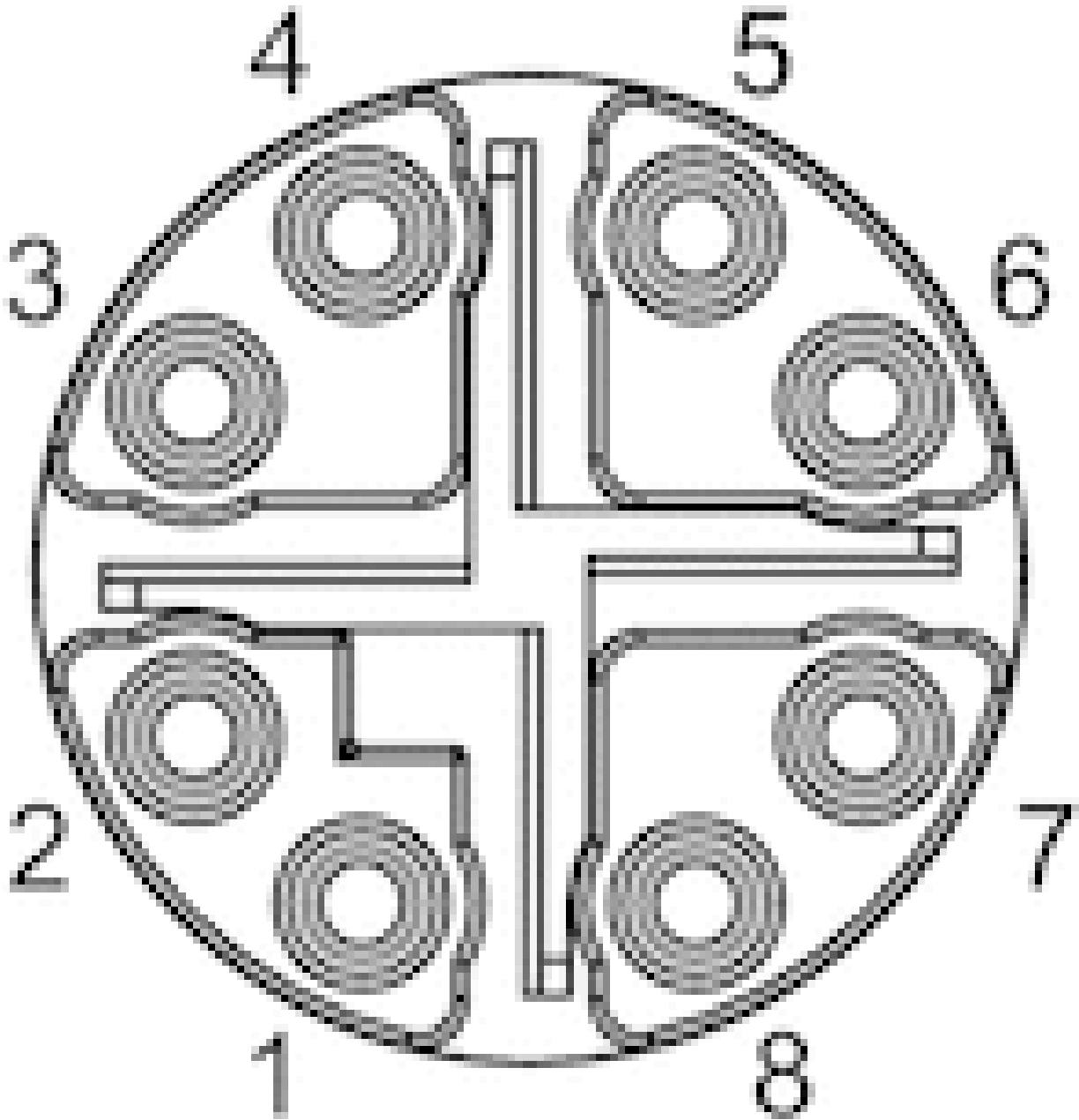


\* Internal thread

\*\* Flow direction

Pin assignments

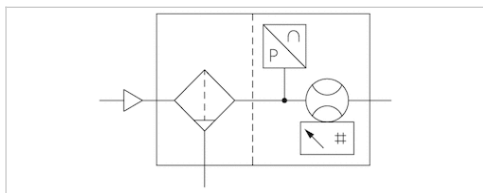
Pin assignments, M12, X-coded



Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							

# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.022 Cv
- Qn max. 6.6 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

6.21 lbs

Current consumption without load The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026836	AS5	G 1	0.022 Cv	4.39 Cv	4.4 Cv

Part No.	Nominal flow Qn
	Max., extended
R412026836	6.6 Cv

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, Flow display range: 0 ... 12.98 Cv

## Technical information

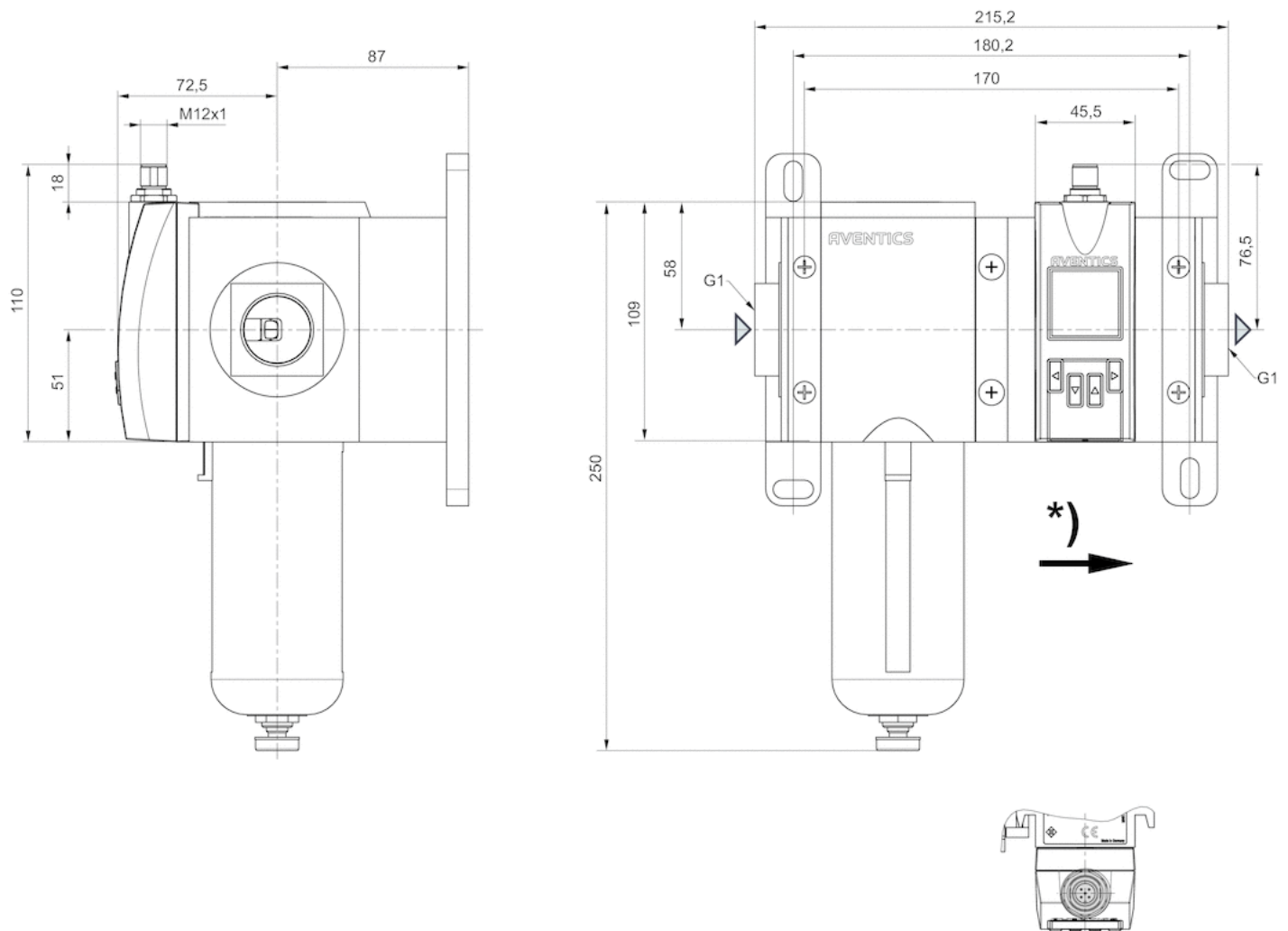
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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.

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

### Dimensions in mm

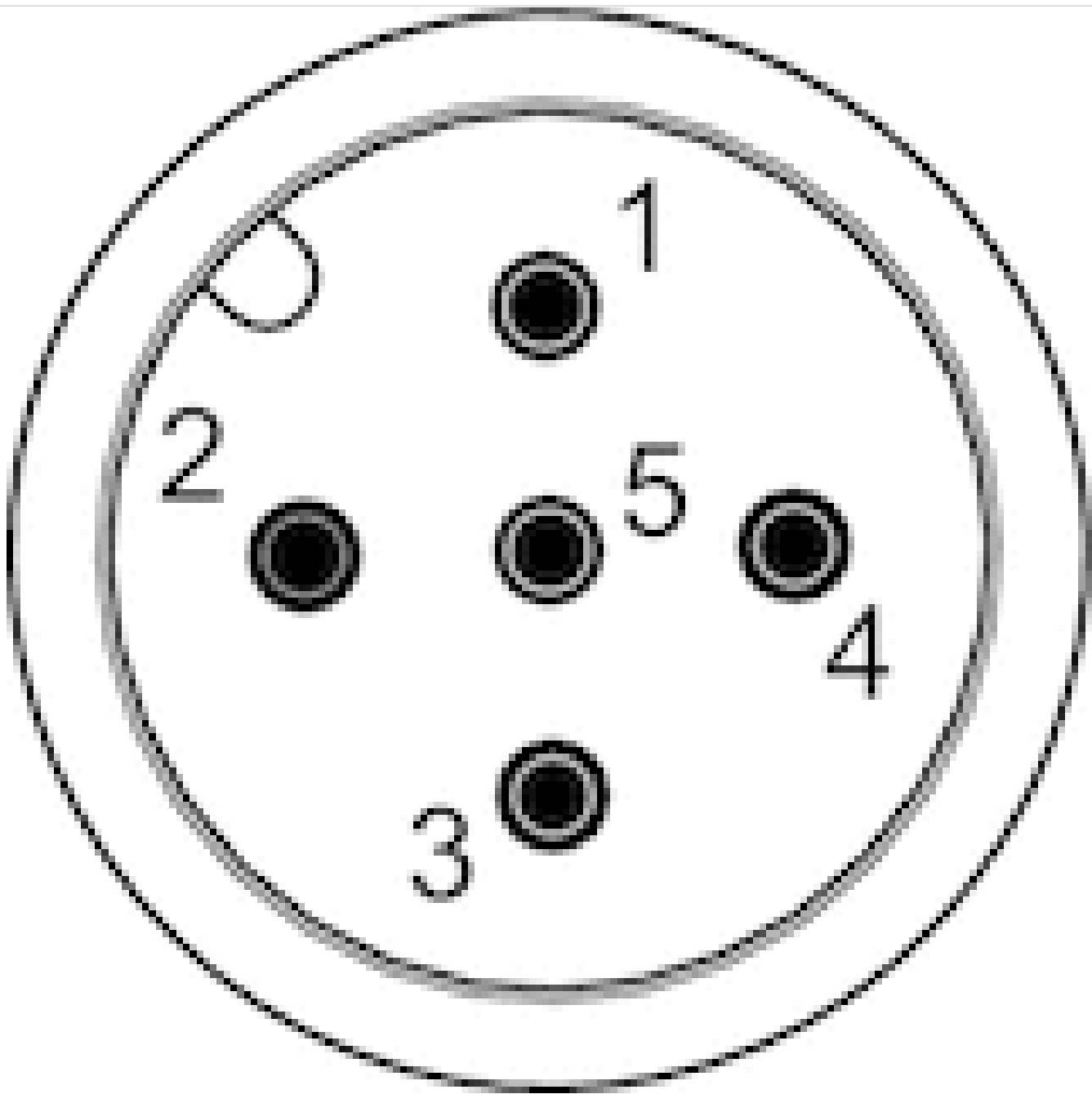


\* Flow direction



Pin assignments

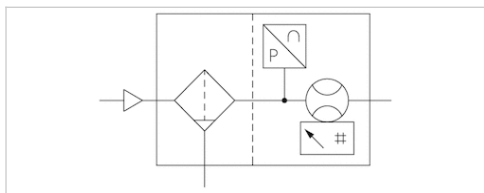
Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, With mounting
- Flow measuring principle: calorimetric
- Qn min. 0.022 Cv
- Qn max. 6.6 Cv
- Electrical connection Plug, M12x1, 8-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Power consumption max.

Response time

Protection class

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

36 V DC

57 V DC

5 W

10 ms

IP65, IP67 according to IEC 60529

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

6.21 lbs

The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026839	AS5	G 1	0.022 Cv	4.39 Cv	4.4 Cv

Part No.	Nominal flow Qn
	Max., extended
R412026839	6.6 Cv

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, Flow display range: 0 ... 12.98 Cv

## Technical information

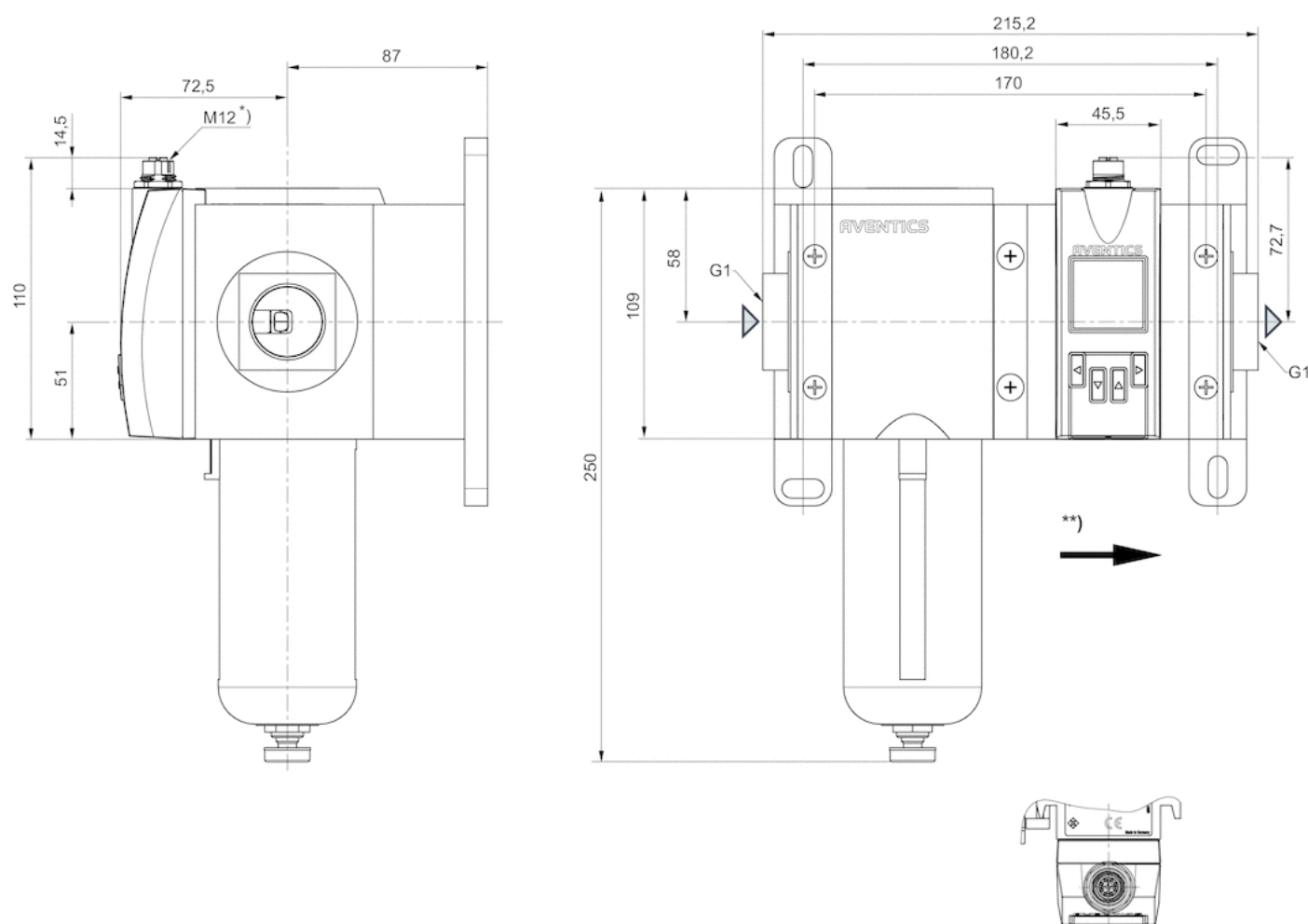
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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  
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

Dimensions in mm

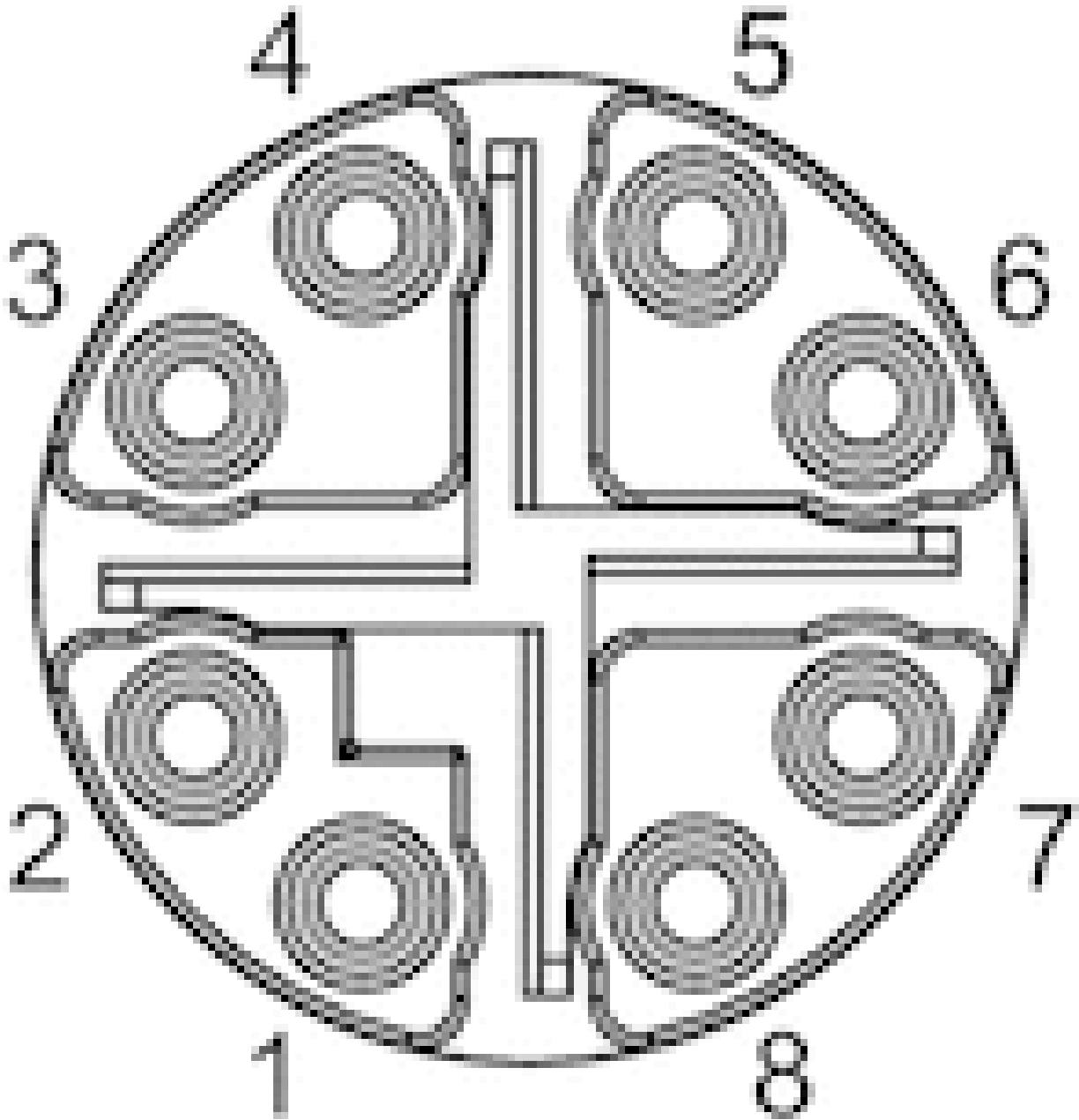


\* Internal thread

\*\* Flow direction

Pin assignments

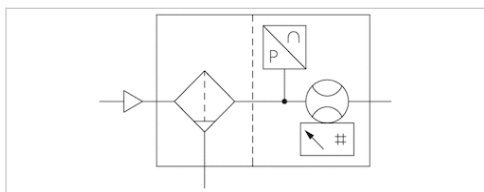
Pin assignments, M12, X-coded



Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							

# Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, Without mounting
- Flow measuring principle: calorimetric
- Qn min. 0.022 Cv
- Qn max. 6.6 Cv
- Electrical connection Plug, M12x1, 5-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Max. power consumption \*)

Response time

Protection class

Short circuit resistance

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

17 V DC

30 V DC

175 mA

10 ms

IP65, IP67 according to IEC 60529

short circuit resistant

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

5.07 lbs

Current consumption without load The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027178	AS5	G 1	0.022 Cv	4.39 Cv	4.4 Cv

Part No.	Nominal flow Qn
	Max., extended
R412027178	6.6 Cv

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, Flow display range: 0 ... 12.98 Cv

## Technical information

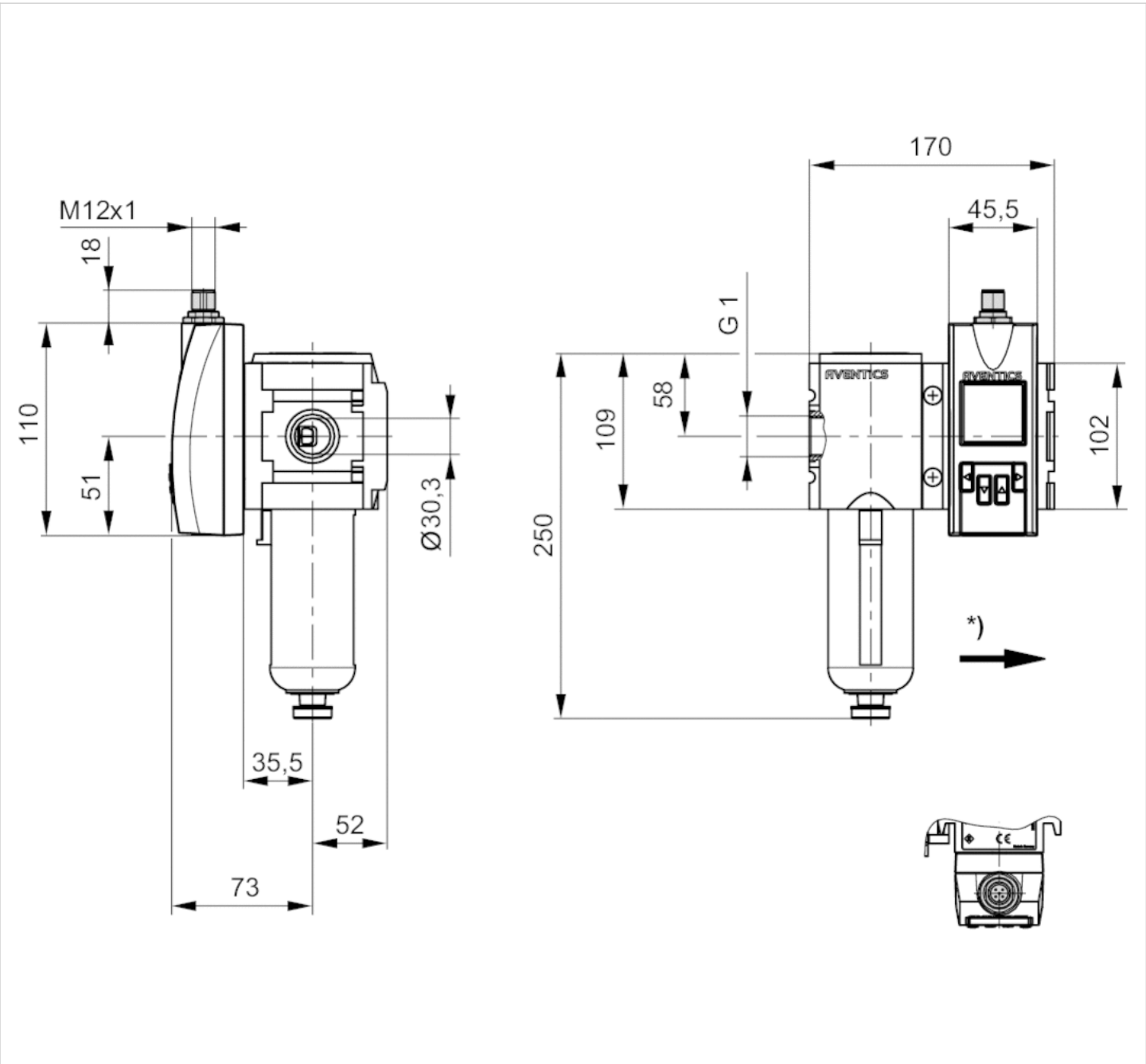
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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.

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

Dimensions in mm

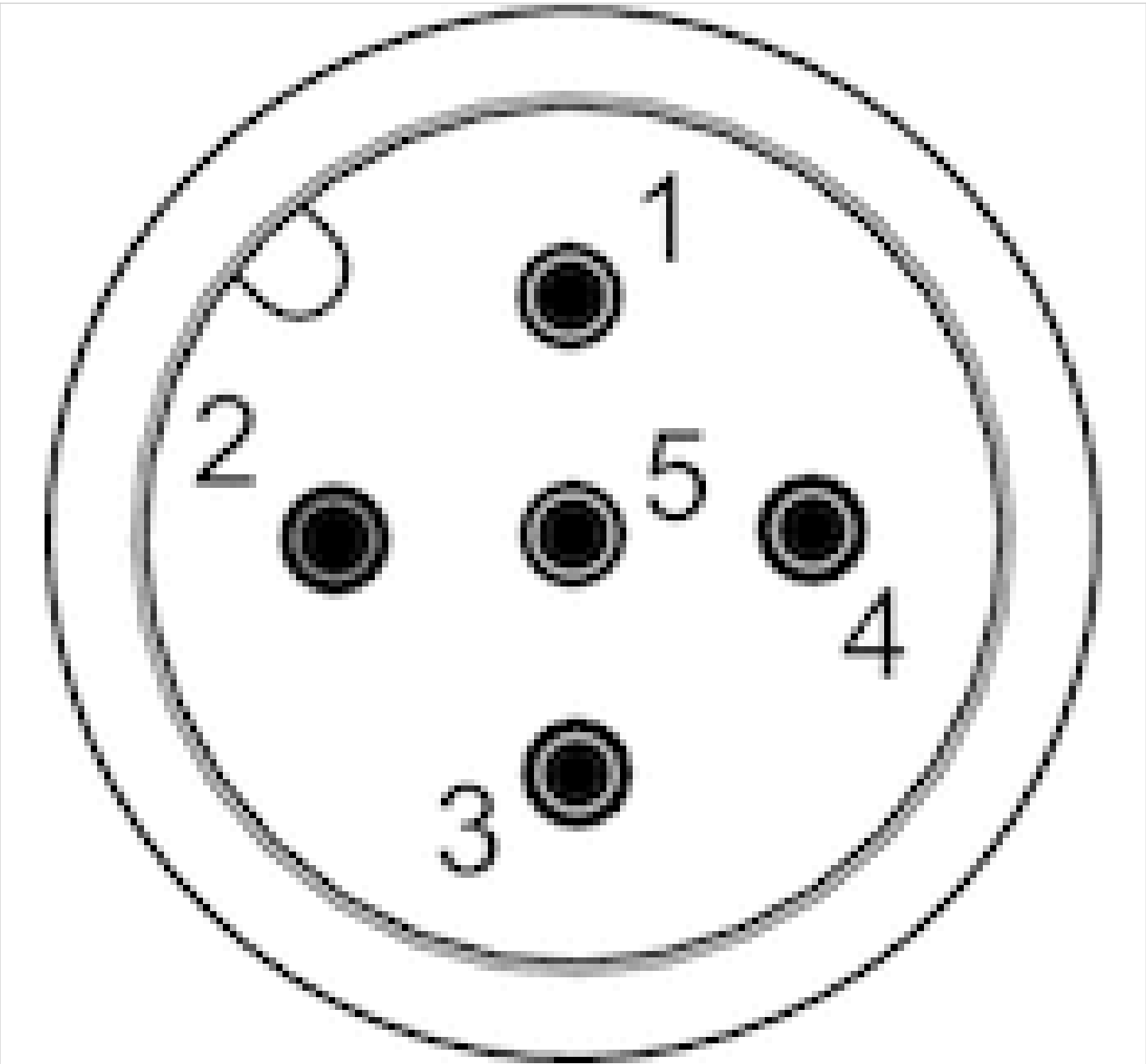


\* Flow direction



Pin assignments

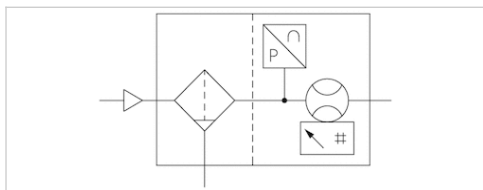
Pin assignments, M12x1, 5-pin



Pin	1	2	3
Allocation	L+	QA (output 4 ... 20 mA)	m = mass
4		5	
C/Q1 (IO-Link/switch output)		Analog output 4 ... 20 mA	

# Flow sensor, Ethernet, Series AF2

- Ethernet, Without mounting
- Flow measuring principle: calorimetric
- Qn min. 0.022 Cv
- Qn max. 6.6 Cv
- Electrical connection Plug, M12x1, 8-pin



## Certificates

Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

filter porosity

Display

Flow display unit

Pressure display unit

Temperature display unit

DC operating voltage min.

DC operating voltage max.

Power consumption max.

Response time

Protection class

Shock resistance max.

Vibration resistance

Reproducibility

Weight

\*)

CE declaration of conformity, RoHS

0 ... 232 psi

-4 ... 140 °F

-4 ... 140 °F

Compressed air, Argon, Nitrogen, Helium, Carbon dioxide

5 µm

OLED

l/sec, l/min, m³/min, m³/h, ft³/s, m³/min

bar, psi

°C, °F

36 V DC

57 V DC

5 W

10 ms

IP65, IP67 according to IEC 60529

30 g, 11 ms

1 g (10 - 2000 Hz) IEC 60068 - 2-6

± 1.5% of the measured value

5.07 lbs

The delivered product may vary from that in the illustration.

## Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn	Nominal flow Qn	Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027181	AS5	G 1	0.022 Cv	4.39 Cv	4.4 Cv

Part No.	Nominal flow Qn
	Max., extended
R412027181	6.6 Cv

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, Flow display range: 0 ... 12.98 Cv

## Technical information

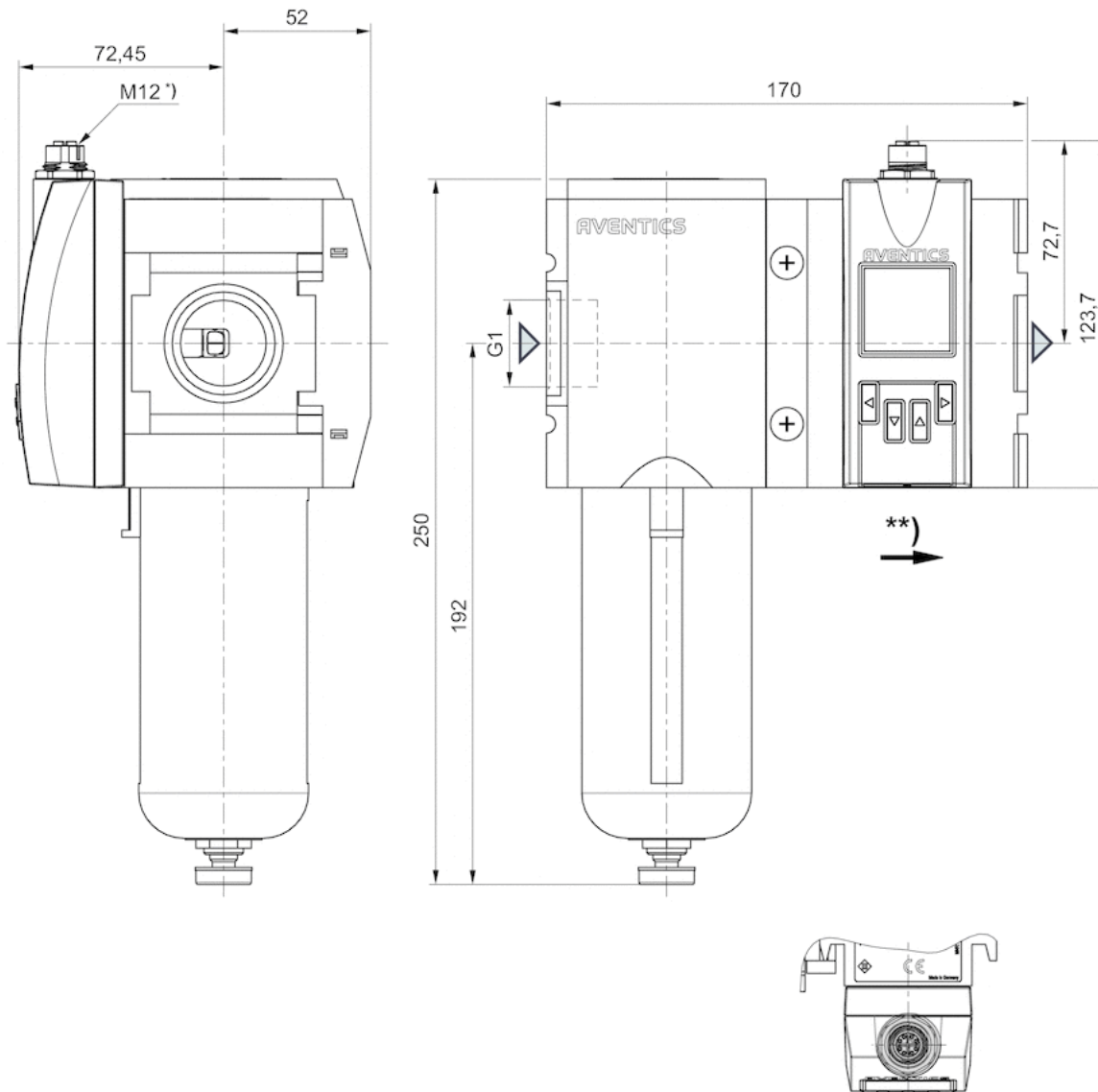
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .  
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.  
The device is designed to be installed in AS series air preparation 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  
Operating voltage via PoE (in accordance with IEEE 802.3af)

## Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

## Dimensions

### Dimensions in mm

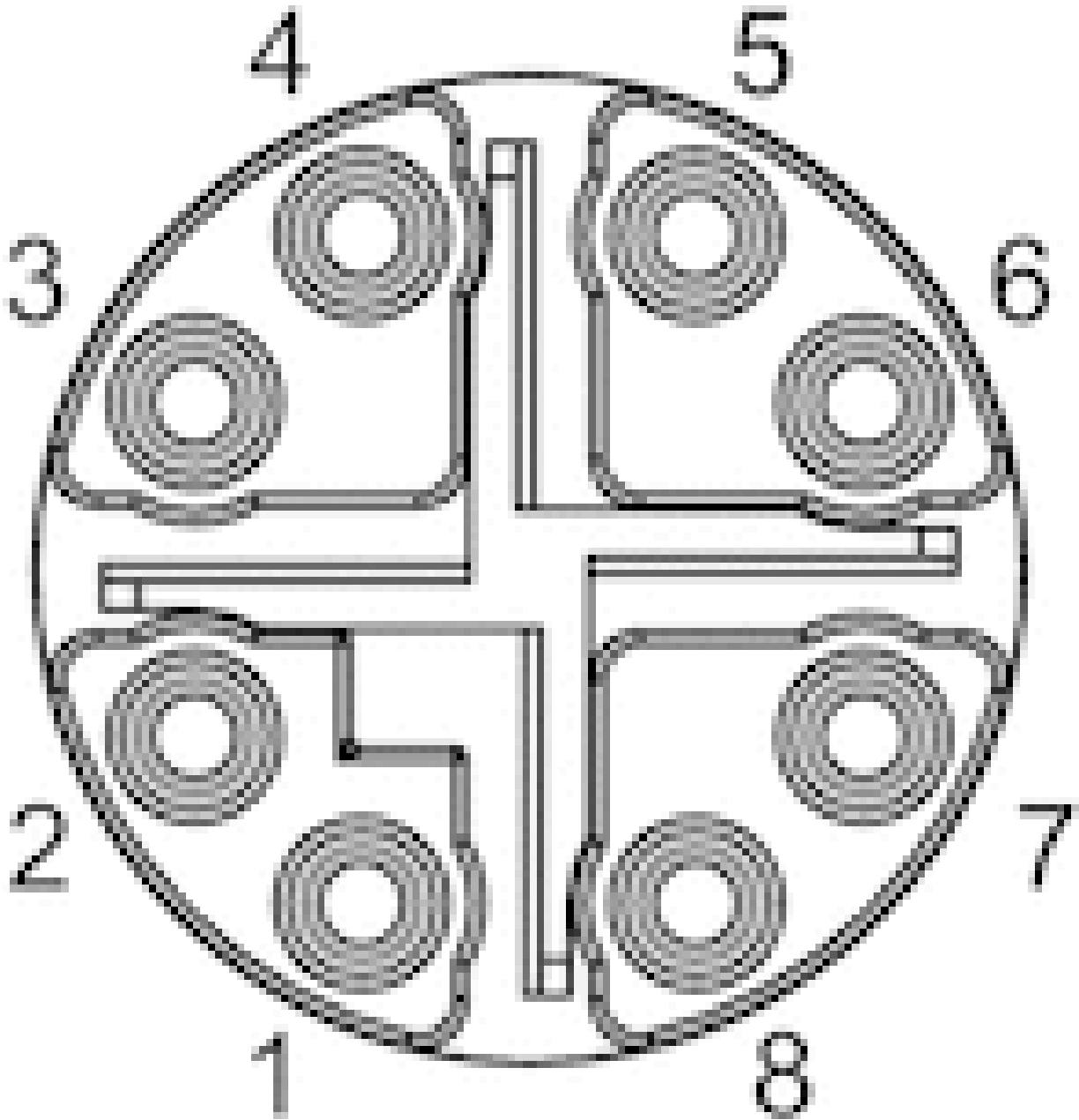


\* Internal thread

\*\* Flow direction

Pin assignments

Pin assignments, M12, X-coded



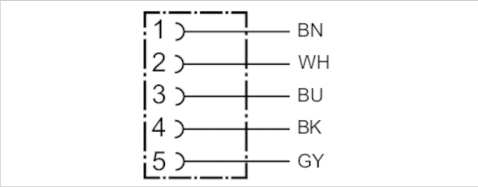
Pin	1	2	3	4	7	8	5
Color	WH / OG	OG	WH / GN	GN	WH / BU	BU	WH / BN
Function	TX(+) + POE	TX(-) + POE	RX(+) - POE	RX(-) - POE	POE+	POE+	POE-
6							
BN							
POE-							

# Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded angled 90°
- open cable ends
- with cable
- shielded



Ambient temperature min./max.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0 in²
Weight	See table below



## Technical data

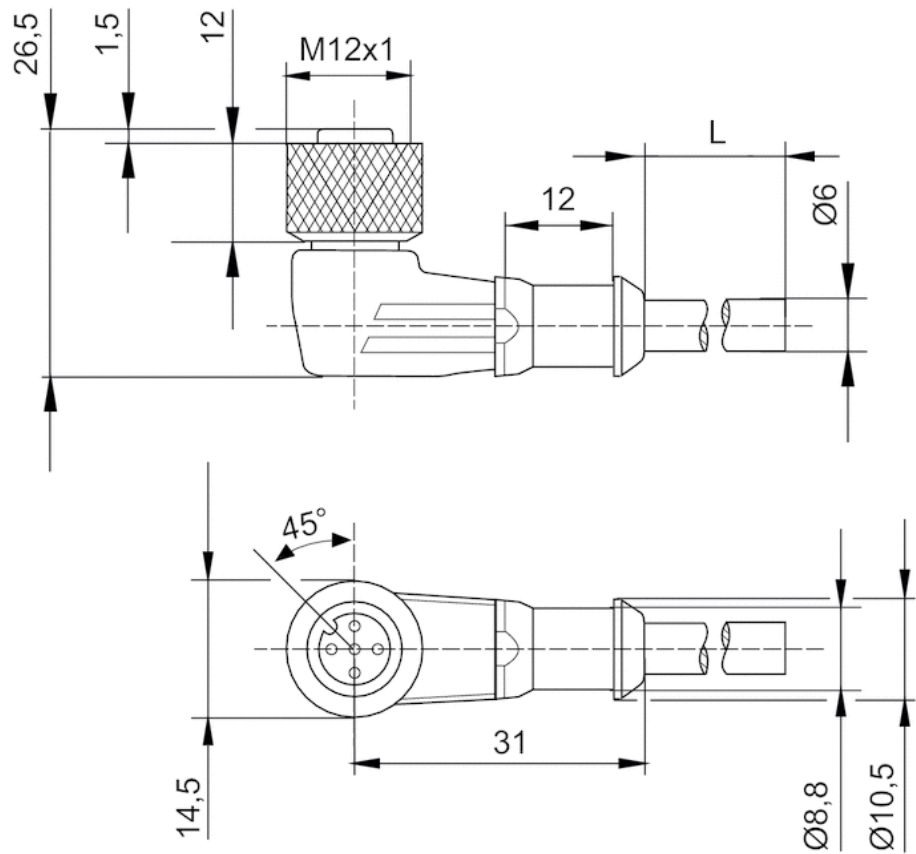
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	0.24 inch	8.2 ft.	0.337 lbs
R419800110	4 A	5	0.24 inch	16.4 ft.	0.628 lbs
R419800546	4 A	5	0.24 inch	32.81 ft.	1.19 lbs

## Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

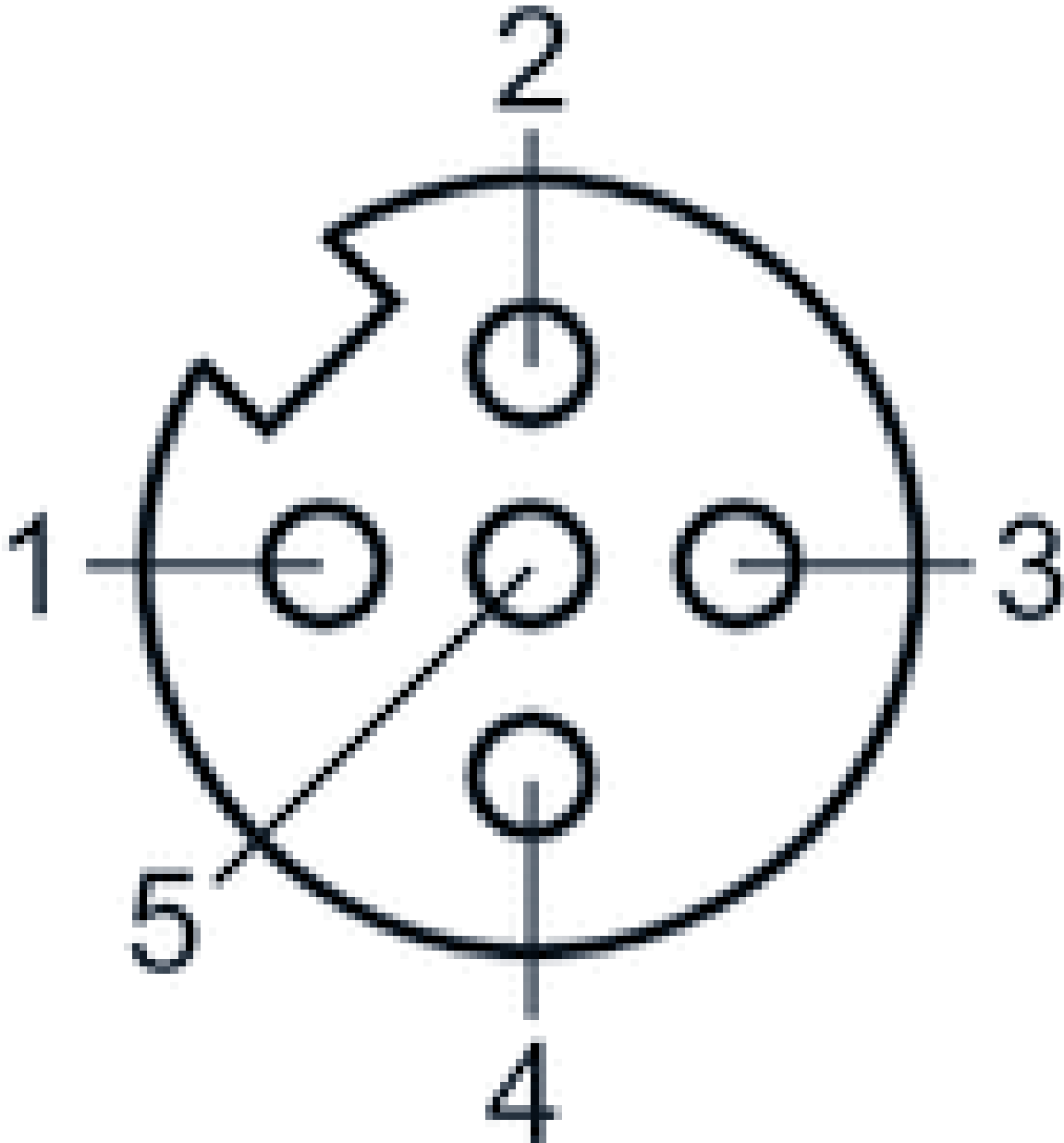
Dimensions



L = length

## Pin assignments

### Pin assignment, socket



- (1) BN=brown
- (2) WH=white
- 3) BU=blue
- (4) BK=black
- (5) GY=grey

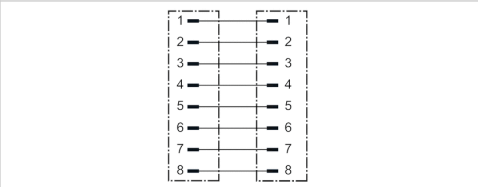


# Round plug connectors with cable, Series CON-RD

- Plug M12x1 8-pin X-coded angled 90°
- Plug RJ45 8-pin X-coded straight
- shielded



Ambient temperature min./max.	-13 ... 185 °F
Protection class	IP66K
Wire cross-section	0 in²



## Technical data

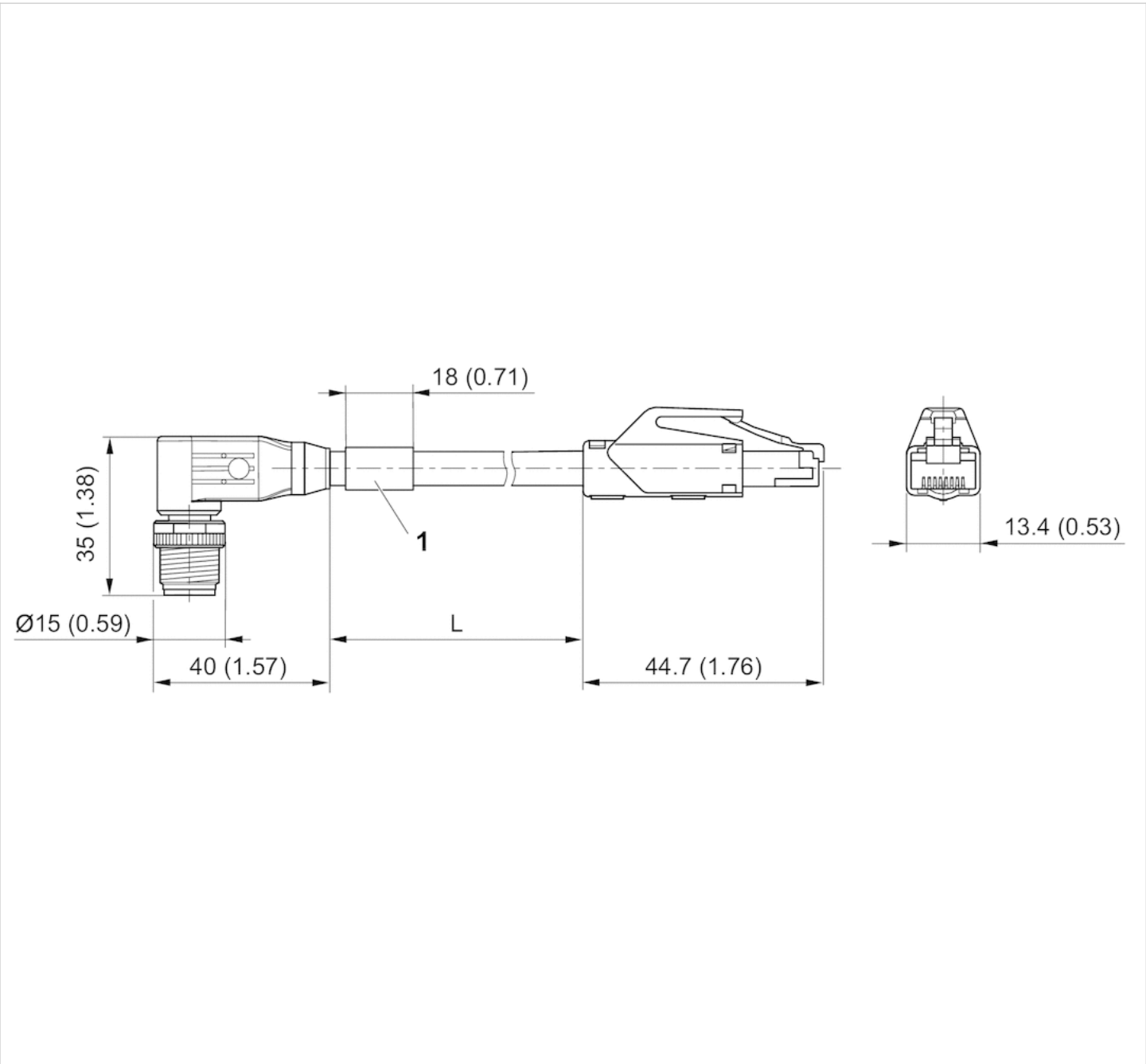
Part No.	Max. current	Cable length
R412027647	0.5 A	16.4 ft.

## Technical information

Material	
Cable sheath	Polyurethane

Dimensions

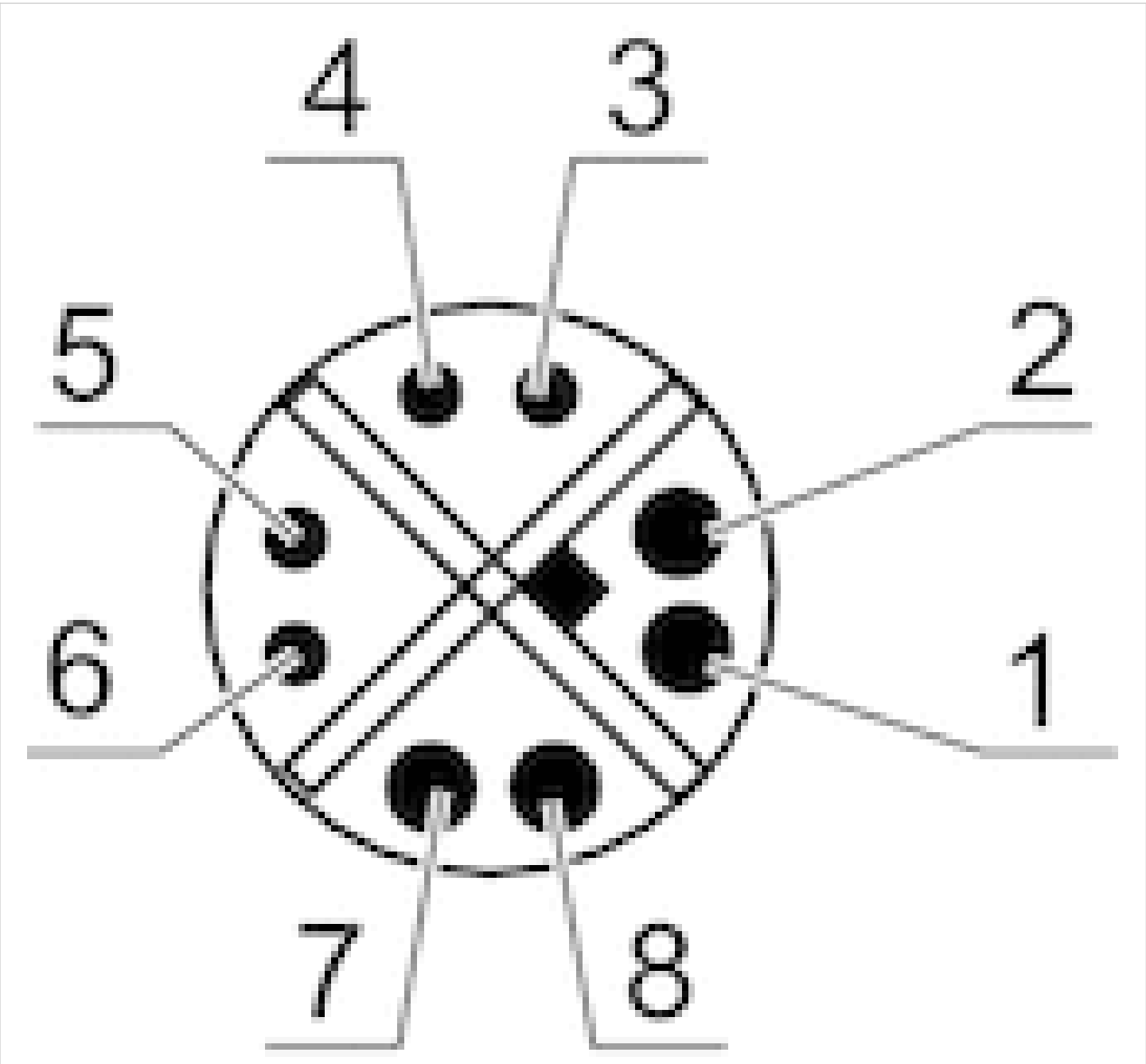
Dimensions



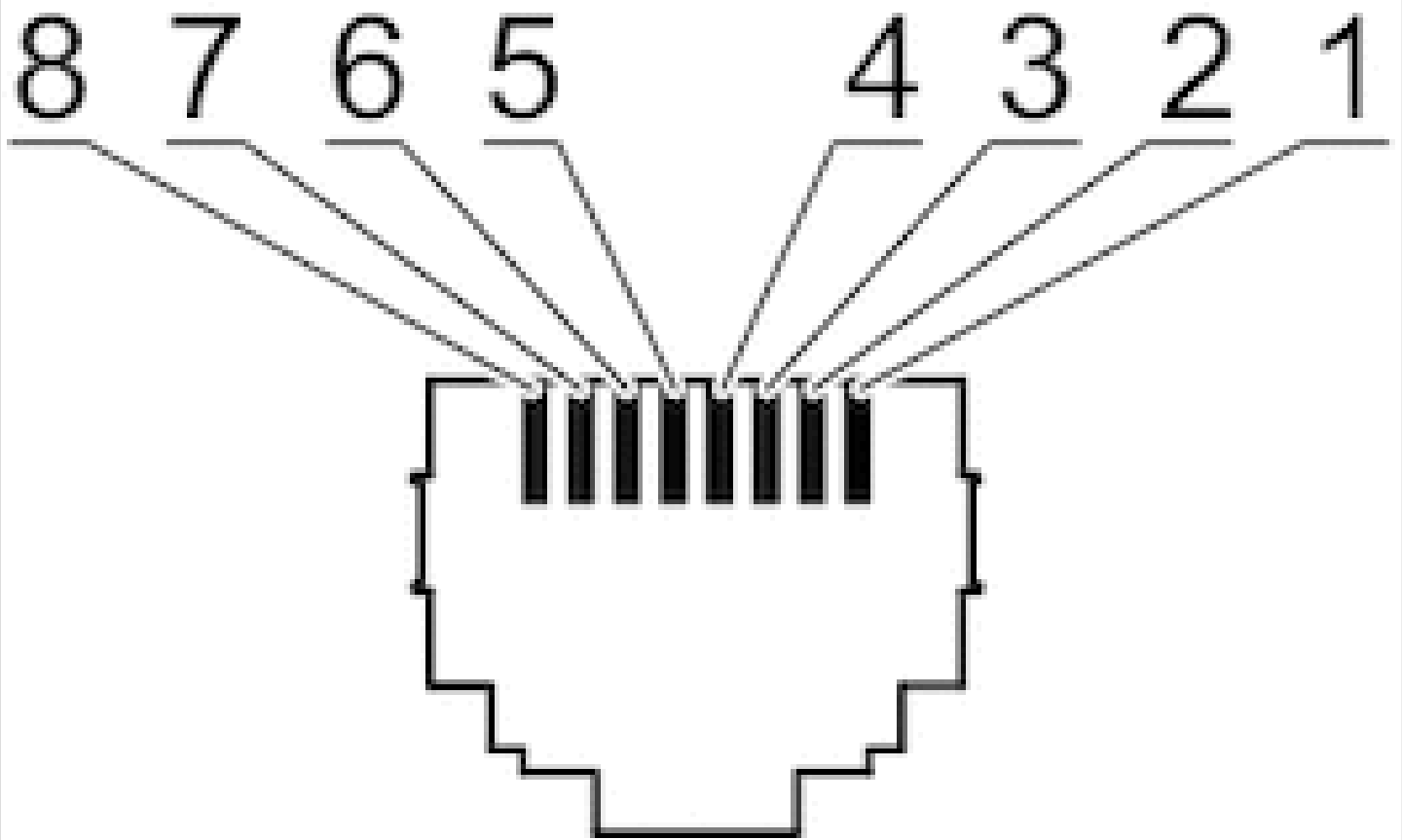
1) Name plate

Pin assignments

Plug pin assignment



Plug pin assignment



# Efficient pneumatic solutions, our program: cylinders and drives, valves and valve systems, air supply management



Visit us: [Emerson.com/Aventics](https://www.emerson.com/Aventics)

Your local contact: [Emerson.com/contactus](https://www.emerson.com/contactus)



[Emerson.com](https://www.emerson.com)



[Facebook.com/EmersonAutomationSolutions](https://www.facebook.com/EmersonAutomationSolutions)



[LinkedIn.com/company/Emerson-Automation-Solutions](https://www.linkedin.com/company/Emerson-Automation-Solutions)



[Twitter.com/EMR\\_Automation](https://twitter.com/EMR_Automation)

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. This Document, as well as the data, specifications and other information set forth in it, are the exclusive property of AVENTICS GmbH. It may not be reproduced or given to third parties without its consent. Only use the AVENTICS products shown in industrial applications. Read the product documentation completely and carefully before using the product. Observe the applicable regulations and laws of the respective country. When integrating the product into applications, note the system manufacturer's specifications for safe use of the product. The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgement and verification. It must be remembered that the products are subject to a natural process of wear and aging.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2020 Emerson Electric Co. All rights reserved.  
2020-12



## CONSIDER IT SOLVED™