

Series AF2

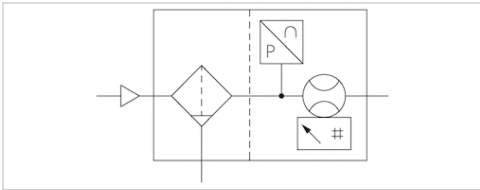


AVENTICS™ Series AF2



Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, With mounting
- Qn min. 5-22 l/min
- Qn max. 1590-6490 l/min
- 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, UL (Underwriters Laboratories)

0 ... 16 bar

-20 ... 60 °C

-20 ... 60 °C

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

See table below

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
R412026834	AS2	G 3/8	5 l/min	1060 l/min	1060 l/min
R412026835	AS3	G 1/2	8 l/min	1630 l/min	1630 l/min
R412026836	AS5	G 1	22 l/min	4326 l/min	4326 l/min

Part No.	Nominal flow Qn	Weight
	Max., extended	
R412026834	1590 l/min	1.23 kg 1)
R412026835	2445 l/min	1.97 kg 2)
R412026836	6490 l/min	2.82 kg 3)

1) 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 ... 3180 l/min

2) 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 ... 4890 l/min

3) 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 ... 12980 l/min

Technical information

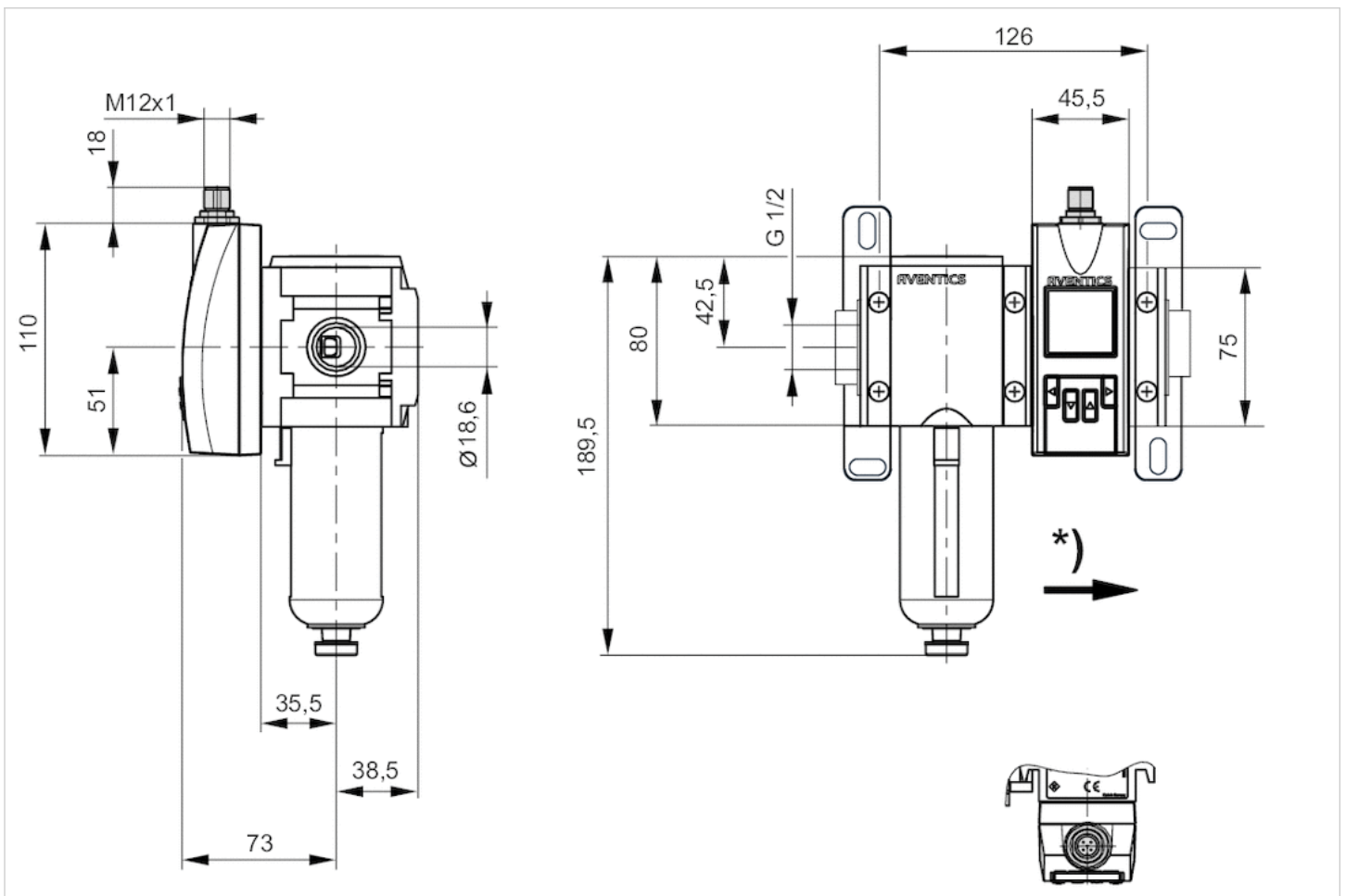
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.
 The device is designed to be installed in AS series air preparation 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.

Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

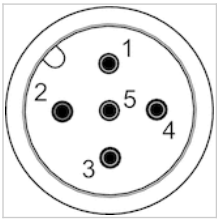
Dimensions in mm



* Flow direction

Pin assignments

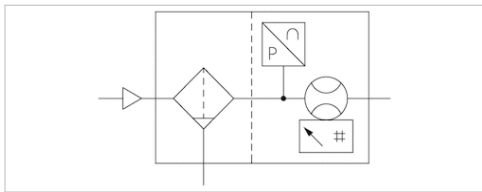
Pin assignments, M12x1, 5-pin



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
- Qn min. 5-22 l/min
- Qn max. 1590-6490 l/min
- Electrical connection Plug, M12x1, 8-pin



Certificates	CE declaration of conformity, RoHS, UL (Underwriters Laboratories)
Working pressure min./max.	0 ... 16 bar
Ambient temperature min./max.	-20 ... 60 °C
Medium temperature min./max.	-20 ... 60 °C
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 max.	45 V DC
Power consumption max.	12 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	See table below

Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn		Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412026837	AS2	G 3/8	5 l/min	1060 l/min	1060 l/min
R412026838	AS3	G 1/2	8 l/min	1630 l/min	1630 l/min
R412026839	AS5	G 1	22 l/min	4326 l/min	4326 l/min

Part No.	Nominal flow Qn		Weight	
	Min., standard	Max., extended		
R412026837	5 l/min	1590 l/min	1.23 kg	1)
R412026838	8 l/min	2445 l/min	1.97 kg	2)
R412026839	22 l/min	6490 l/min	2.82 kg	3)

- 1) 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 ... 3180 l/min
- 2) 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 ... 4890 l/min
- 3) 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 ... 12980 l/min

Technical information

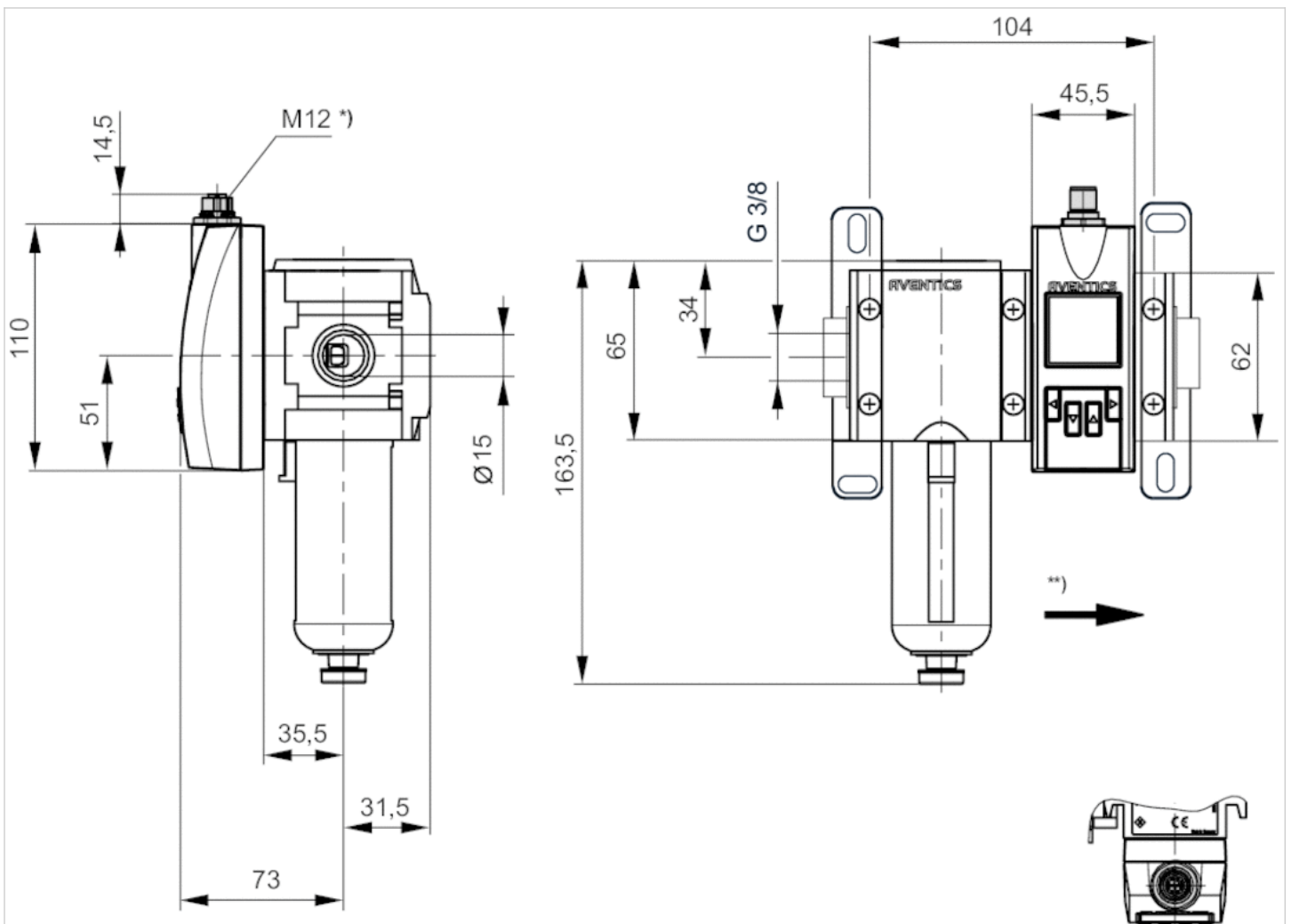
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.
 The device is designed to be installed in AS series air preparation 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

Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

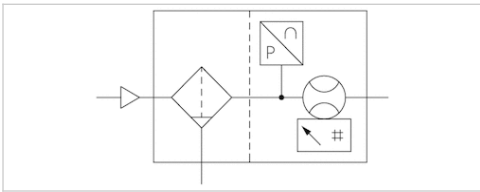
Dimensions in mm



* Internal thread
 ** Flow direction

Flow sensor, IO-Link, Series AF2

- 2 analog outputs, 2 switch outputs, 1 frequency output, 1 pulse output, IO-Link, Without mounting
- Qn min. 5-22 l/min
- Qn max. 1590-6490 l/min
- 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, UL (Underwriters Laboratories)

0 ... 16 bar

-20 ... 60 °C

-20 ... 60 °C

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

See table below

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
R412027176	AS2	G 3/8	5 l/min	1060 l/min	1060 l/min
R412027177	AS3	G 1/2	8 l/min	1630 l/min	1630 l/min
R412027178	AS5	G 1	22 l/min	4326 l/min	4326 l/min

Part No.	Nominal flow Qn	Weight	
	Max., extended		
R412027176	1590 l/min	0.85 kg	1)
R412027177	2445 l/min	1.25 kg	2)
R412027178	6490 l/min	2.3 kg	3)

1) 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 ... 3180 l/min

2) 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 ... 4890 l/min

3) 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 ... 12980 l/min

Technical information

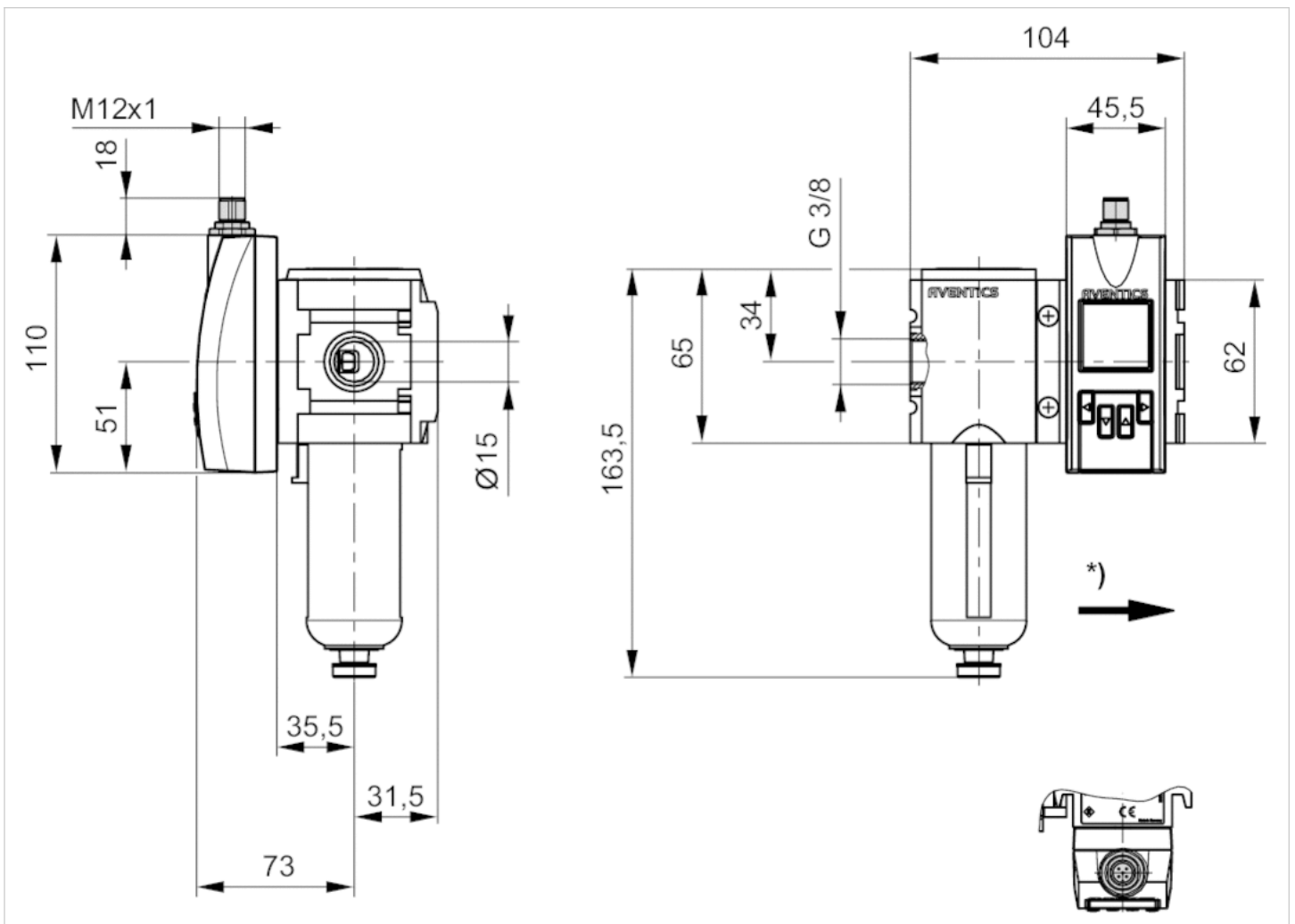
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Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

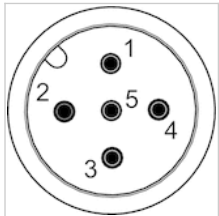
Dimensions in mm



* Flow direction

Pin assignments

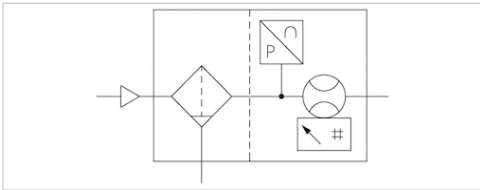
Pin assignments, M12x1, 5-pin



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
- Qn min. 5-22 l/min
- Qn max. 1590-6490 l/min
- 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 max.
Power consumption max.
Response time
Protection class
Shock resistance max.
Vibration resistance
Reproducibility
Weight

CE declaration of conformity, RoHS, UL
(Underwriters Laboratories)

0 ... 16 bar
-20 ... 60 °C
-20 ... 60 °C
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
45 V DC
12 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
See table below

Technical data

Part No.	for series	Compressed air connection	Nominal flow Qn		Nominal flow Qn
			Min., standard	Max., standard	Min., extended
R412027179	AS2	G 3/8	5 l/min	1060 l/min	1060 l/min
R412027180	AS3	G 1/2	8 l/min	1630 l/min	1630 l/min
R412027181	AS5	G 1	22 l/min	4326 l/min	4326 l/min

Part No.	Nominal flow Qn		Weight	
	Min., standard	Max., extended		
R412027179	5 l/min	1060 l/min	0.85 kg	1)
R412027180	8 l/min	1630 l/min	1.25 kg	2)
R412027181	22 l/min	4326 l/min	2.3 kg	3)

1) 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 ... 3180 l/min

2) 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 ... 4890 l/min

3) 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 ... 12980 l/min

Technical information

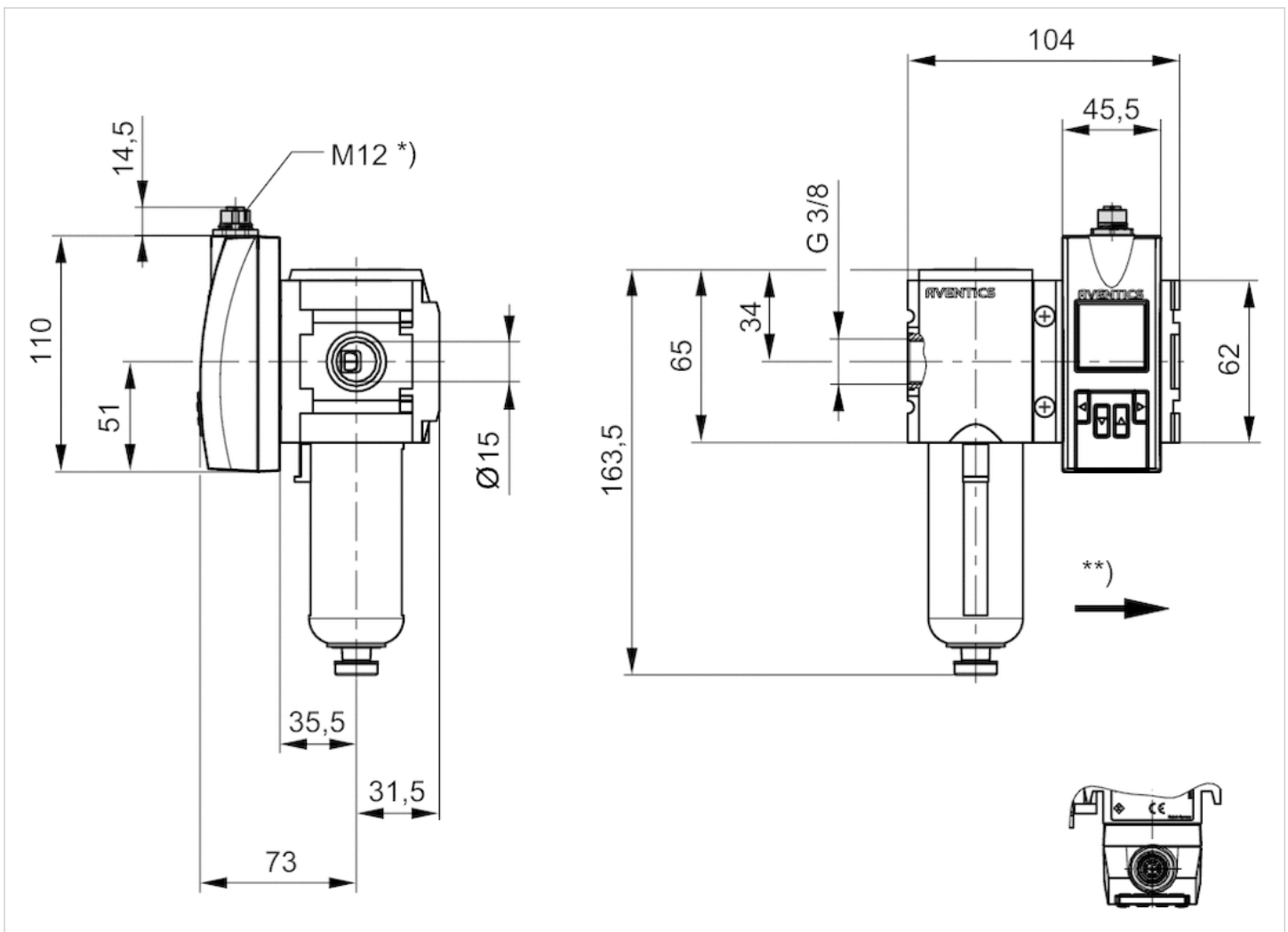
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.
 The device is designed to be installed in AS series air preparation 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

Technical information

Material	
Housing	Polyamide, Polycarbonate
Seals	Fluorocaoutchouc

Dimensions

Dimensions in mm



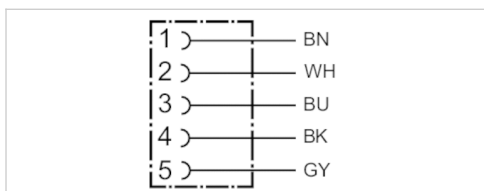
* Internal thread
 ** Flow direction

Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm ²
Weight	See table below



Technical data

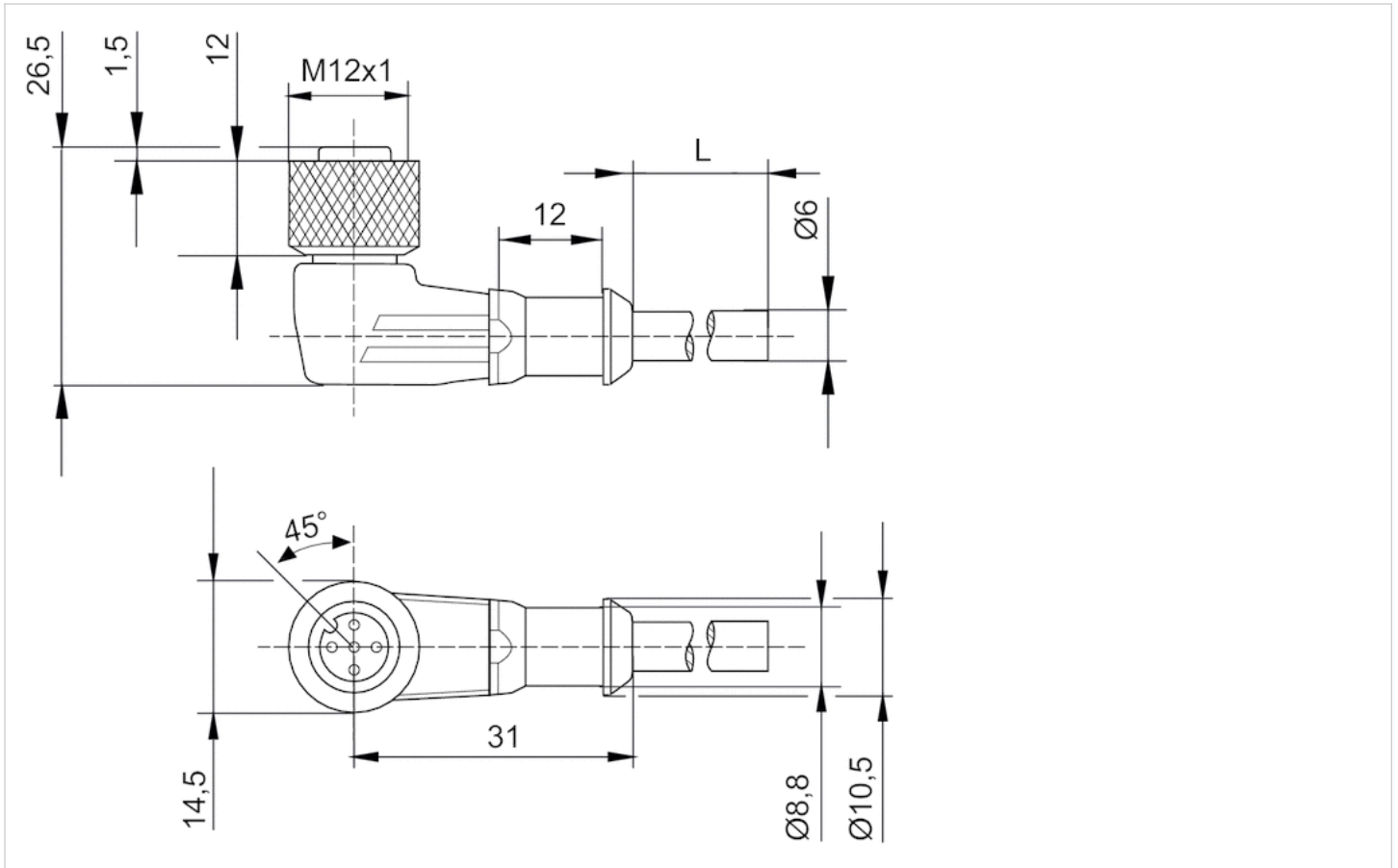
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

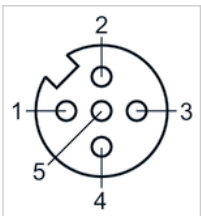
Dimensions



L = length

Pin assignments

Pin assignment, socket



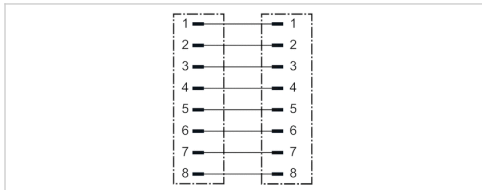
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

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.	-25 ... 85 °C
Protection class	IP66K
Wire cross-section	0.14 mm ²



Technical data

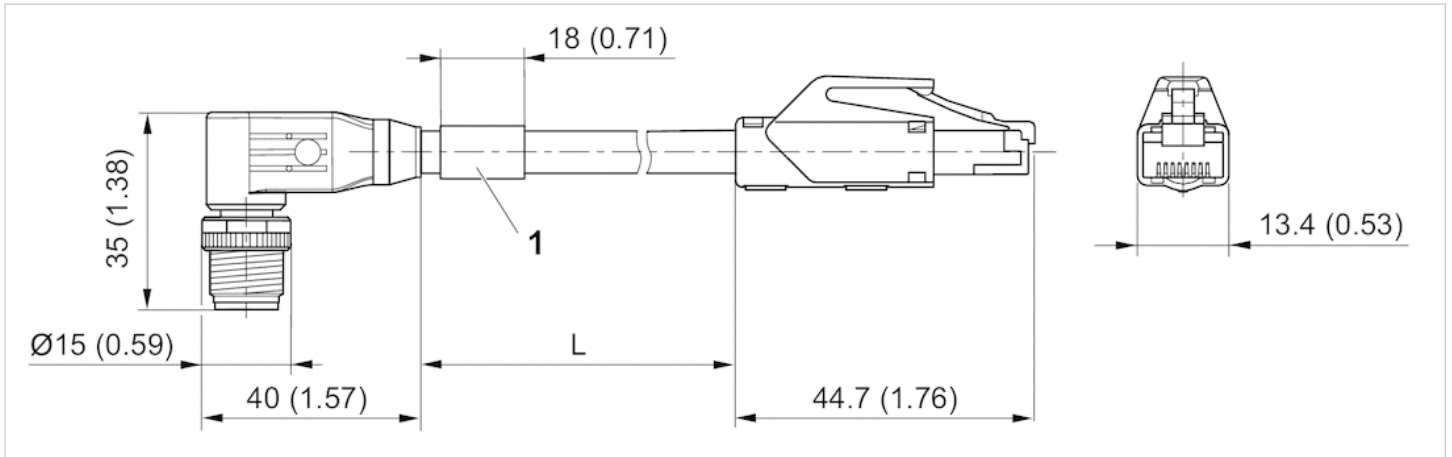
Part No.	Max. current	Cable length
R412027647	0.5 A	5 m

Technical information

Material	
Cable sheath	Polyurethane

Dimensions

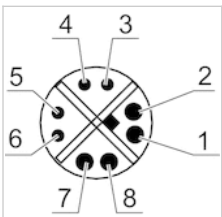
Dimensions



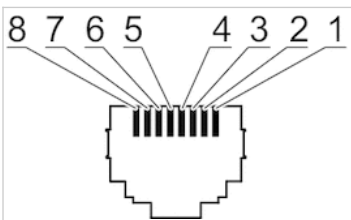
1) Name plate

Pin assignments

Plug pin assignment



Plug pin assignment



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



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