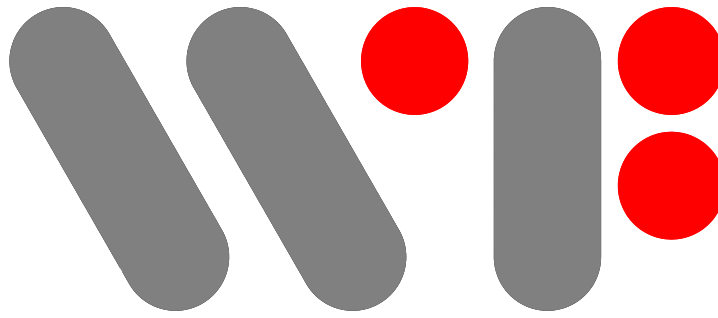




WF STEUERUNGSTECHNIK GMBH

Differential pressure sensor

0 ... 0.6 bar / 0 ... 2.5 bar



The Delta-P transmitter records the differential pressure across the treatment components and, in conjunction with the Airleader, avoids both unnecessary element changes in filters and energy waste due to excessive pressure losses, e.g. at:

- Compressed air filters
- Adsorption dryers
- Compressed air preparation lines

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airleader

Differential pressure transmitter

The transmitter measures the pressure difference between liquid or gaseous media and converts it into an analogue output signal. Its piezoresistive silicon sensor is installed in a stainless-steel measuring cell.

Technical data

Unless otherwise stated, percentages refer to the measurement span.
Reference conditions: DIN 16086 and DIN EN 60770.

Range	Max. system pressure ²	Max. overload, both sides ²	Max. overload, + side / - side	Burst pressure
0 to +0.6 bar	5 bar	7.5 bar	7.5 bar / 5 bar	≥ 60 bar
0 to +2.5 bar	10 bar	15 bar	15 bar / 10 bar	≥ 60 bar

Wetted materials [5]

Stainless steel: 1.4571, 1.4435 or 1.4305.
Plastic: PBT GF30 or PA66. Seal: FPM.

Outputs and load resistance

4-20 mA, two-wire:
 $R \leq (U_B - 10 \text{ V}) / 0.02 \text{ A}$
0.5-4.5 V, ratiometric: $R \geq 20 \text{ k}\Omega$
0-10 V, three-wire: $R \geq 20 \text{ k}\Omega$

Zero offset

≤ 0.3%

Thermal hysteresis

Compensated range: -15 to +85°C.
Range ≤ 0.6 bar: max. ±1%.
Range > 0.6 bar: max. ±0.5%.

Step response

Current output: ≤ 3 ms.
Voltage output: ≤ 10 ms.

Supply voltage

4-20 mA output: 10-30 V DC.
0.5-4.5 V output: 5 V DC ±0.5 V.
0-10 V output: 11.5-30 V DC.
Nominal supply: 24 V DC; use the specified 5 V supply for the ratiometric output.

Ripple and consumption

Supply-voltage peaks must remain within the specified supply limits.
Maximum current consumption: 25 mA.

Supply-voltage influence

≤ 0.02%/V for the 4-20 mA output.
The 0.5-4.5 V output is ratiometric.

Temperature limits

Ambient: -20 to +80°C.
Medium: -15 to +100°C [6].
Storage: -50 to +100°C.

EMC and mechanical shock

EN 61326: Class B emissions; industrial immunity requirements.
DIN IEC 68-2-27: 100 g / 1 ms.

1 Maximum ambient temperature: +60°C. 2 Applies when both + and - sides are pressurised simultaneously.

3 Total error includes linearity, hysteresis, repeatability and temperature drift from -15 to +85°C. 4 Of full-scale value.

5 The customer must check compatibility with the medium. PBT is not suitable for hot water.

6 For water above 50°C, thermally isolate the transmitter using pressure tubing. At 85°C water temperature, use at least 200 mm of tubing, depending on ambient temperature.

Mounting and electrical connection

Mechanical vibration

DIN IEC 68-2-6: ≤ 20 g at 15-2000 Hz.

Ingress protection

EN 60529: IP67 with an M12 x 1 circular connector, DIN 72585 bayonet connector or fixed cable.

Process connection

2 x G1/8 female threads.

For pipe and hose adapters, see the ordering information.

Electrical connection options

M12 x 1 circular connector; DIN 72585 bayonet connector; or permanently connected 2 m cable (other lengths on request).

Mounting position

Any orientation. A deviation from the nominal position can cause a position error of up to 2 mbar.

Mass

180 g; approximately 220 g with mounting bracket.

Mounting options

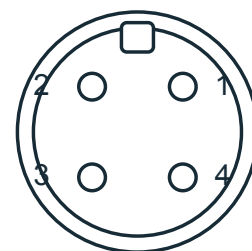
Three holes on the underside of the device; accessory mounting bracket; or mounting on the pressure tubing (e.g. 6 x 1 pipe).

4-20 mA two-wire output

Pin 1 (+): brown

Pin 3 (-): blue - signal connection to an analogue input, for example AE1.

The pin markings identify the two-wire transmitter connections.



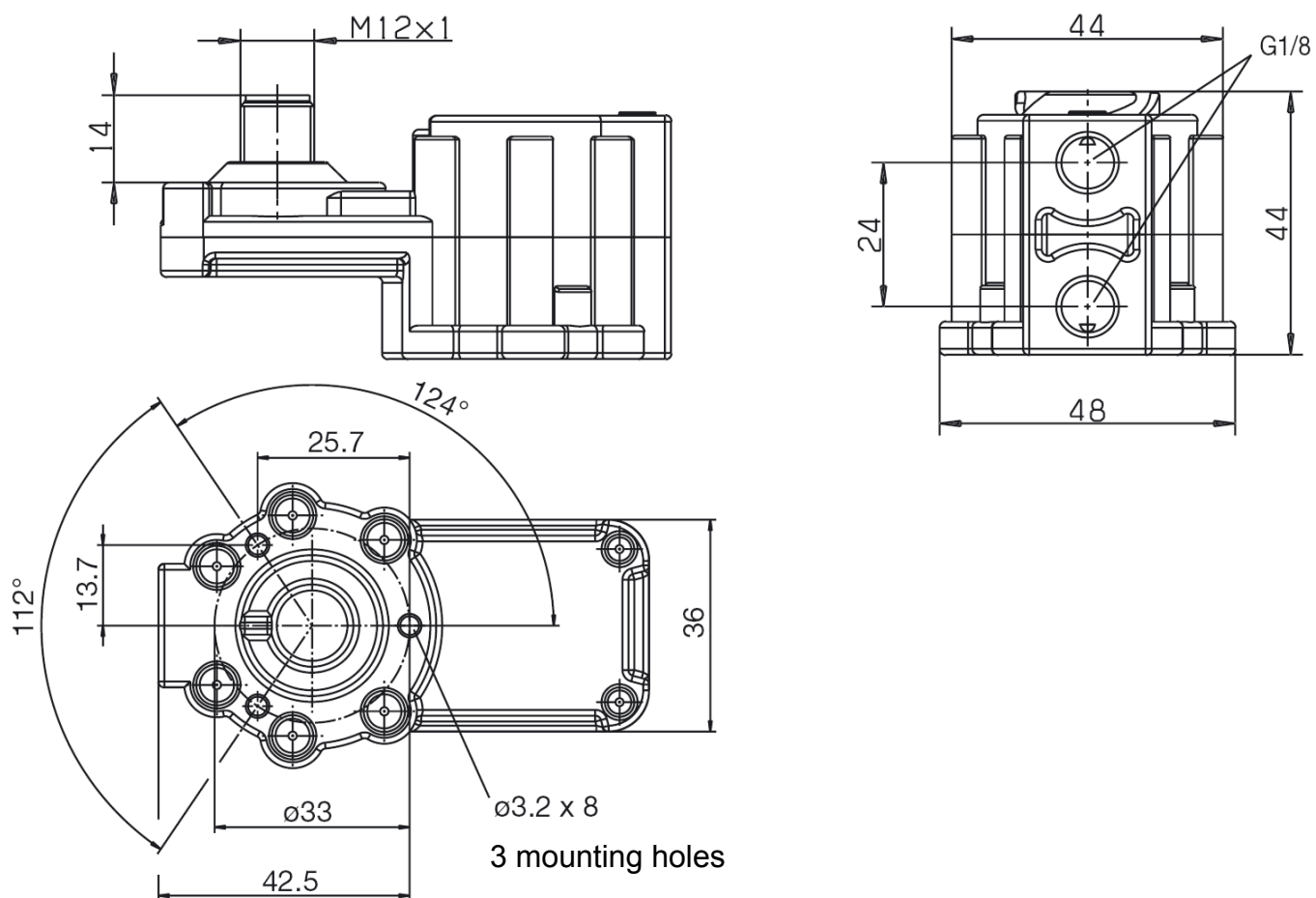
Circular connector

Assembly of the Delta-P transmitter

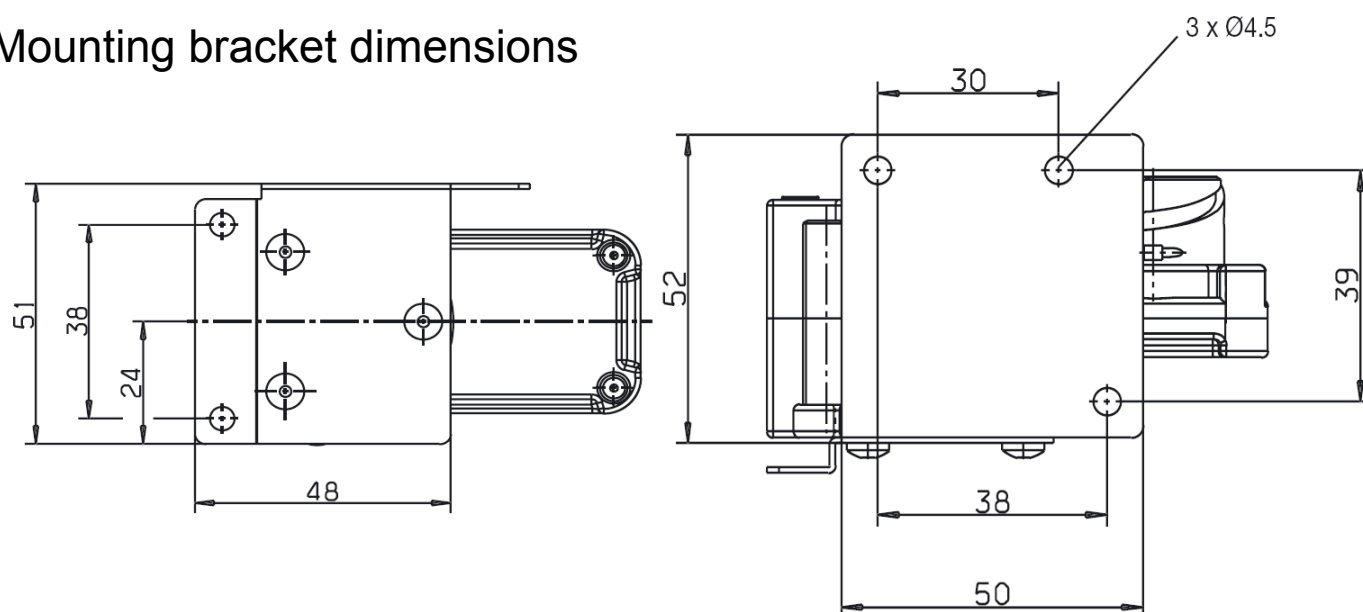
Mount the transmitter close to the pressure tapping points using the mounting bracket. Connect the pressure ports, then wire the electrical output to an analogue input on the Airleader controller or an Airleader RS485 connection module.



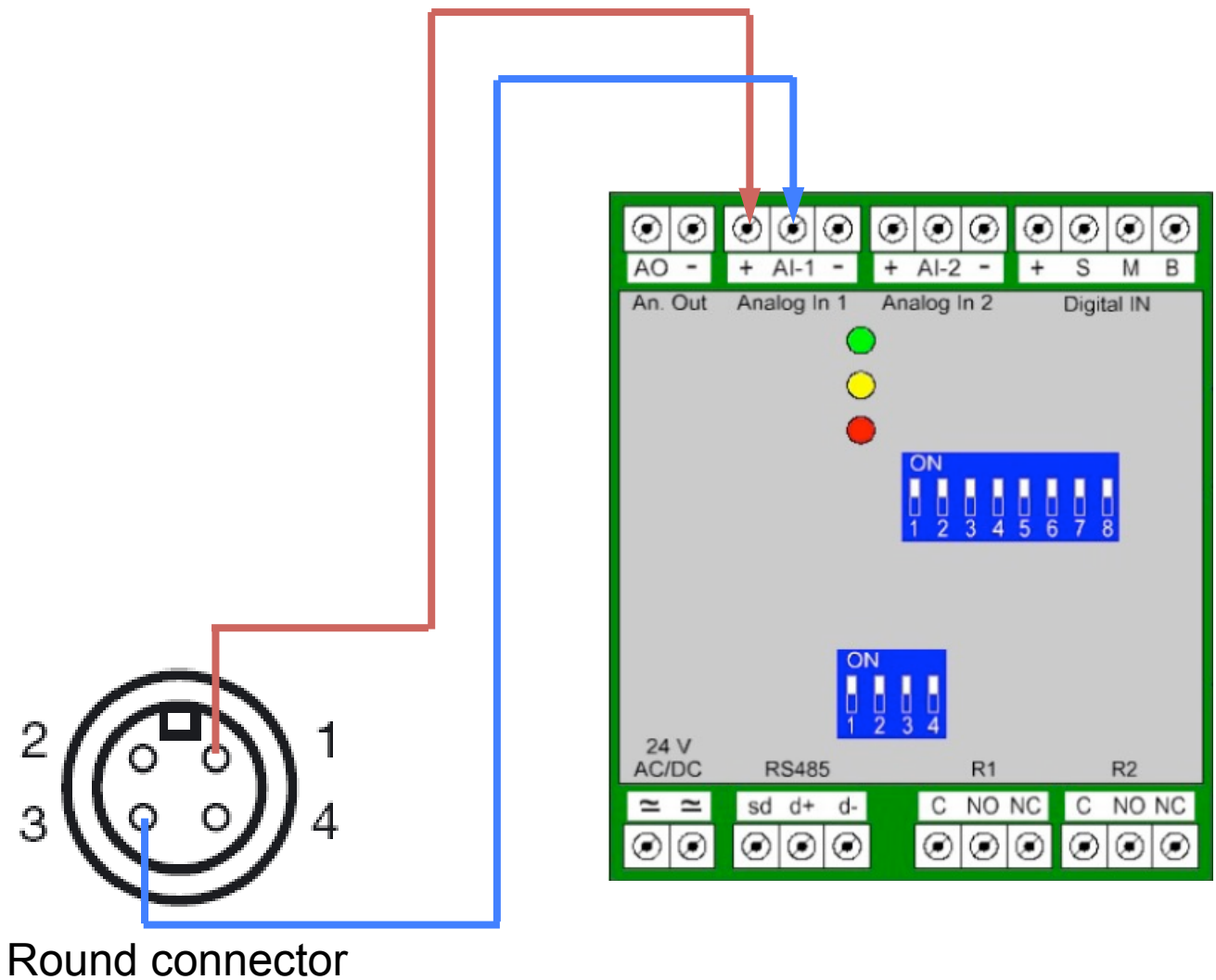
Transmitter dimensions

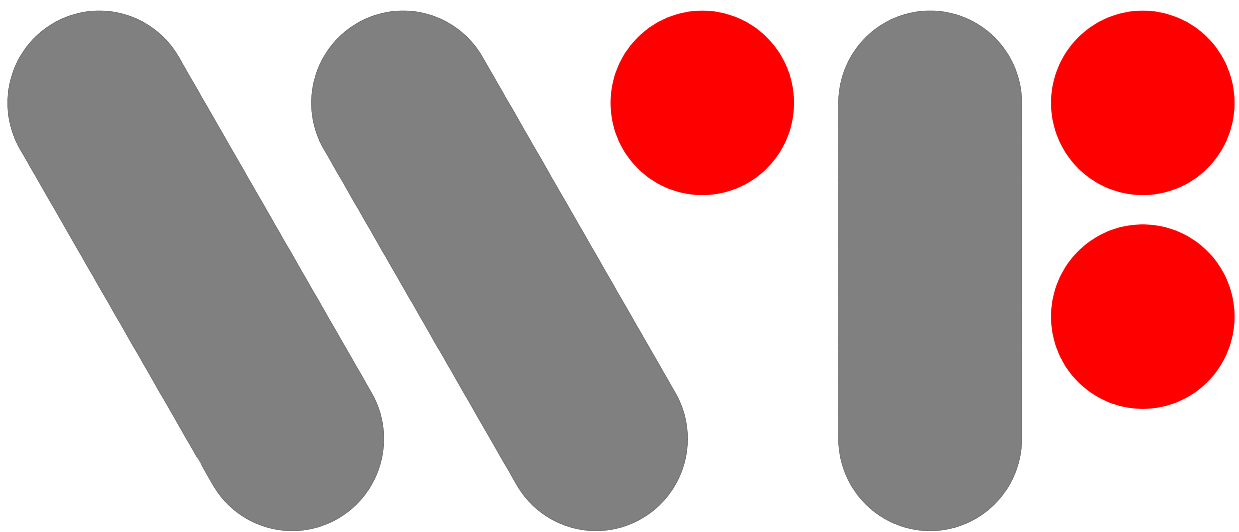


Mounting bracket dimensions



Wire the current output terminal + to PIN 1 (brown cable) of the sensor plug and PIN 3 of the plug (blue cable) to the signal input AI-1 or AI-2 “Analog In” of the connection module.





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