

Electrical mounting of pressure sensors and electronic pressure switches

WIKA data sheet IN 00.50

Applications

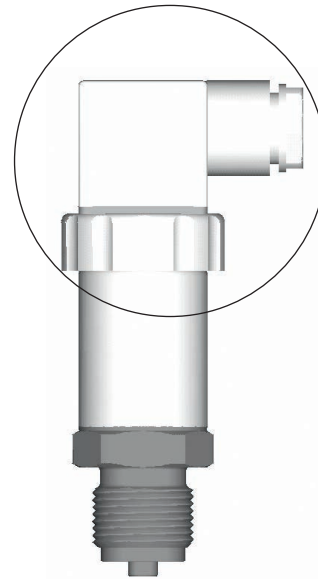
- For determining the electrical connections for WIKA pressure measuring instruments

Scope

- Pressure sensors
- Electronic pressure switches
- UHP transducers

Content

- Making the electrical connection
- Connection types
- Ingress protection overview (IP code)



Description

WIKA offers pressure measuring instruments with a variety of electrical connections in order to meet diverse customer-specific application requirements.

Making the electrical connection

Requirements for the mounting point

The mounting point must meet the following conditions:

- Humidity $\leq 80\%$ relative humidity
- Non-condensing
- Protected from weather influences
- Sufficient space for a safe electrical installation
- Permissible ambient temperatures must remain within the performance limits of the measuring instrument.
- Consider possible restrictions on the ambient temperature range due to the mating connectors used.

Preparation:

- Only use original accessories.
 - To connect the instrument, the mating connector or cable outlet must be assembled in advance.
 - Only use cables with suitable characteristics for the respective operating conditions.
 - Select a cable diameter that matches the cable bushing of the connector.
- For accessories, see data sheet for the respective instrument.

Electrical mounting:

Mating connector

1. Make the connection to the mating connector, see ["2-wire connection"](#).
2. Make sure that the cable gland of the mounted connector has a tight fit.
3. Check existing seals for damage.
4. Establish the plug connection. Tighten any cable glands and check the correct seating of the seal, if available, to ensure the ingress protection.



Only the correct combination of connector and mating connector will ensure the desired IP ingress protection.

Cable outlet

1. Select the mounting option.
2. Cables with ventilation tubes must be vented to atmosphere.
3. If specified, with cable versions, attach strain relief.
4. Make sure that no moisture enters at the lead end.

Fitting a DIN 175301-803 angular connector

1. Loosen the screw (1).
2. Loosen the cable gland (2).
3. Disconnect the angular connector (5) + (6) from the instrument.



CAUTION!

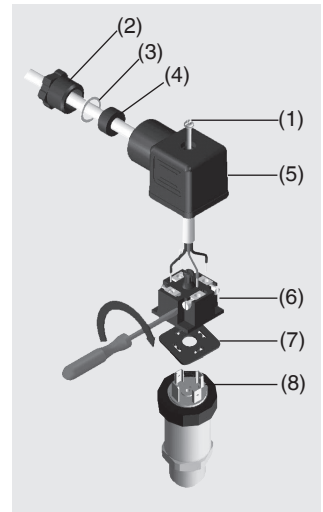
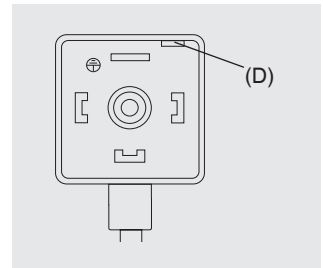
Improper mounting

The seal of the angle housing will be damaged.

- Do not try to push the terminal block (6) out using the screw hole (1) or the cable gland (2).

Via the mounting hole (D), lever the terminal block (6) out of the angle housing (5).

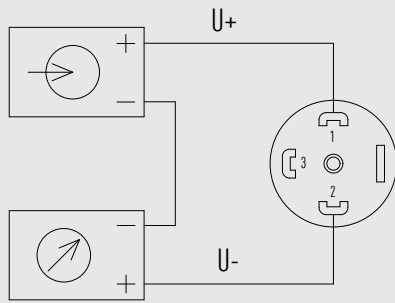
5. Slide the cable through the cable gland (2), the ring (3), the seal (4) and the angle housing (5).
6. Connect the cable ends to the terminal block (6) in accordance with the connection diagram.
7. Press the angle housing (5) onto the terminal block (6).
8. Make sure that the seals are not damaged and that the cable gland and seals are correctly seated in order to ensure ingress protection.
9. Tighten the cable gland (2) around the cable.
10. Place the flat gasket (7) over the instrument's connection pins.
11. Push the angular connector (5) + (6) onto the instrument.
12. Tighten the screw (1).



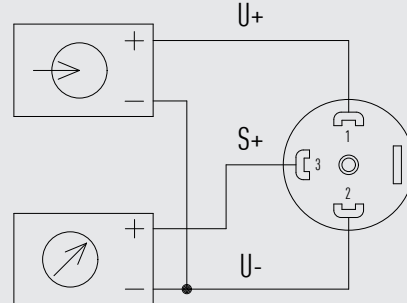
Connection types: example of M12 and DIN-A connector

Angular connector, DIN 175301-803 A

2-wire connection

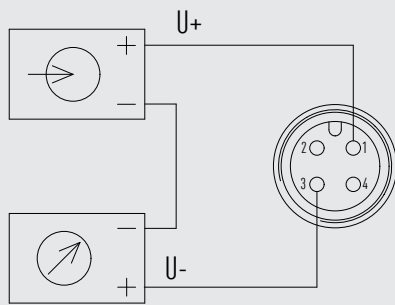


3-wire connection

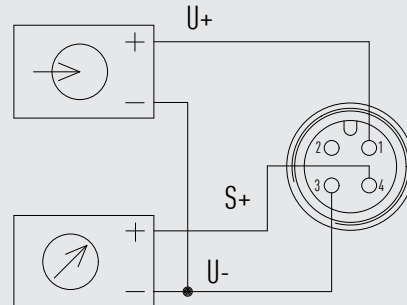


Circular connector, M12 x 1, 4-pin

2-wire connection



3-wire connection



Legend

- U₊ Positive power supply terminal
- U₋ Negative power supply terminal
- S₊ Analogue output
-  Voltage supply
-  Load

→ The pin assignment can be found on the respective product label.

Ingress protection (IP code) per electrical connection

Electrical connection	Ingress protection (IP code) per IEC 60529	Note
Angular connector DIN 175301-803 A	IP65	-
Angular connector DIN 175301-803 C	IP65	-
Circular connector M12 x 1 (4-pin)	IP67	-
Deutsch connector DT04	IP67	-
Delphi connector Metri-Pack series 150 (3-pin)	IP67	-
Bayonet connector (6-pin)	IP67	-
Cable outlet	IP67	Only with cable outlets: ■ Unshielded with models A-10, O-10 ■ Shielded with model O-10 ■ OEM version with model A-10 ■ ½ NPT, conduit with model S-20
Cable outlet IP67	IP67	-
Cable outlet IP68	IP68	-
Cable outlet IP69K	IP69K	-
Cable outlet IP6K9K	IP6K9K	-
Field case	IP6K9K	-
AMP Superseal connector 1.5 (3-pin)	IP67	-
VW connector, code I (4-pin)	IP67	-
USB connector type A	IP67 (instrument)	-
	IP20 (connector)	

In the event of any discrepancies or contradictions between this technical information and the information in the item name or in the operating instructions, solely the information in the item name or in the operating instructions shall be binding and take precedence.

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