PS 17 Differential pressure transmitter

The PS17 is a stationary differential pressure transmitter used for recording positive and negative differential pressures and converting them into electrical signals.

The device is designed for use in cleanrooms, machines, filter technology and heating, ventilation and air-conditioning systems (HVAC). It is used to measure the differential pressure of non-aggressive and non-combustible gases up to 10 kPa.

The device may only be used in the allowed measuring range (see type label).

Symmetrical and asymmetrical measurement ranges can be measured with the piezoresistive pressure transmitter.

Models

The device is available in different models:

- With one fixed measurement range or toggling between 4 different measurement ranges
- 3 supply connection options:
  a. 24 VAC / DC (with reverse polarity protection)
  b. 15.. 32 VDC (2-wire)
  c. 24 VDC (with galvanic separation)
- 3 electrical connection options:
  a. 2 cable glands M16
  b. 1 cable gland M20 (not for version with relay)
  c. 1 connector M12 (not for version with relay)
- Optional with 3 ½-digit display
- Optional with contact point/relay (not for 2-wire, cable gland M20 or connector M12)

The time constant and output signal are default settings (see type label). However, these settings can be configured.

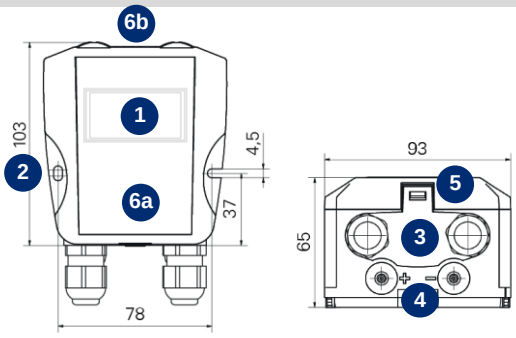
Configure settings

The device has numerous possible settings:

- Adjustment of time constant
- Zero-point calibration of measured values
- Fine adjustment of final value
- Restore factory settings
- Configure output signal
- Adjust measuring range (optional)
- Set relay/switching threshold (optional)

To adjust these functions, please use the detailed operating instructions at:
www.halstrup-walcher.de/technischedoku.

Control units and dimensions of the device



1. Display (optional)
2. Mounting option
   - Wall mounting with 2 screws
   - Top-hat rail mounting
3. Electrical connection option
   - 2 cable glands M16
   - 1 cable gland M20
   - 1 connector M12
4. Hose connections 4 or 6 mm
5. Flap for opening the housing
6. Type label
   a. Version without display
   b. Version with display

Safety precautions

These assembly instructions are part of the product. Please read the instructions carefully, follow our handling instructions and pay particular attention to the safety precautions. The instructions should be on hand at all times. Please contact the manufacturer if you do not understand any parts of these instructions.

The device has been designed and tested to ensure its safety. However, it may still be dangerous if used inappropriately. Always observe the operating requirements indicated on the type label and in the data sheet – particularly the permissible supply voltage.

Installation may only be carried out by qualified personnel. The device requires no maintenance. The device may only be cleaned from the outside with a damp cloth. The individual responsible for the electrical connections must be notified immediately if the device is damaged. In the event of malfunctions, please consult the detailed operating instructions at:
www.halstrup-walcher.de/technicaldocu.

Repairs should only be carried out by the manufacturer.

⚠ WARNING

Inside the device there may be electrical conductors with a voltage of 230 V (relay option).

The device must be disconnected from the power supply and secured before opening!

The device may only be opened and connected to an electrical power source by qualified personnel.

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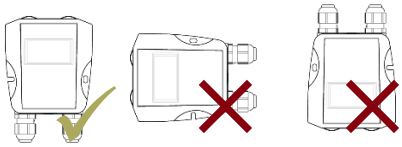
Installing the device

You can mount the device on a top-hat rail or screw it to a wall.

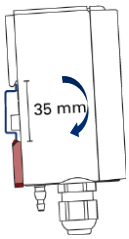


Please observe the recommended mounting position.

Do not place the device too close to heat and radiation sources.

1. Mounting on a top-hat rail/dismantling

The housing is prepared for mounting on a top-hat rail.



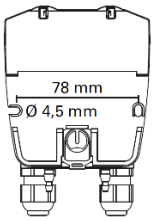
1. Place the housing in the desired position with the upper gap on the top-hat rail.
2. Lock the device in place by pushing it down.

The device is now mounted.

Note: To dismount the device, use a screwdriver to pull the red lug down.

2. Wall mounting

The device can be wall-mounted using 2 screws.



1. Prepare the drill holes.
2. Place the device on the wall.
3. Screw the right-hand screw into the wall first, but don't make it too tight yet.
4. Screw in the left-hand screw.
5. Use the slots for alignment/adjustment.
6. Then tighten all the screws.

The device is now installed on a wall.

Connecting the hoses

You can connect hoses with a 4 or 6 mm inner diameter. Your planner will instruct you about where to connect what hose.

Connecting to an electrical power source

To connect the device to an electrical power source, you must determine which connection version you have. In versions with cable glands, you must open the housing to connect the device to the electrical power.

Special versions with M12 supply plugs can be connected with the prepared mating plugs on site. In this case, your planner will provide the details.

1. Opening/closing the device

Carefully open the cover of the device to connect it to an electrical power source.

⚠ WARNING

Inside the device there may be electrical conductors with a voltage of 230 V (relay option).

The device must be disconnected from the power supply and secured before opening!

The device may only be opened and connected to an electrical power source by qualified personnel.

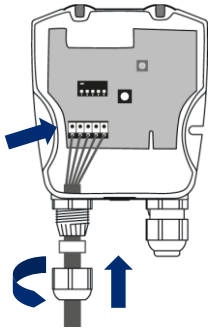
1. Loosen the flap with a screwdriver.
2. Fold the cover upwards until it locks in place and remains open by itself.

The device is now open.

Note: To close the device, carefully push the cover towards the closing flap of the housing until it locks in place. Make sure that the device is properly closed to provide IP protection.

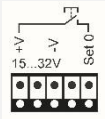
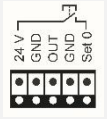
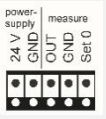
2. Connect supply voltage and output signal

You can connect the supply voltage, output signal and zero-point calibration input. For devices with cable glands, the cables are guided through the housing to the terminals.



1. Open the cable glands and thread the cable in.
2. Guide the cable ends into the housing.
3. The terminals are located at the bottom left of the circuit board.
4. Connect the cable ends according to your version (see also connection diagram in housing cover).
5. Ask your planner whether the digital zero-point calibration input (Set 0) is used.
6. Check the connection and close the cable gland.

Connection diagram of supply options:

	ZWL **2-wire** 15 .. 32 VDC	**AC/DC** **3-/4-wire** 24 VAC/DC	**VDC** **4-wire with galv. separation** 24 VDC
	 **1 2 3 4 5**	 **1 2 3 4 5**	 **1 2 3 4 5**
1	+ connection	Inlet for supply voltage	Inlet for supply voltage
2	not assigned	Ground for supply voltage or output signal	Ground for supply voltage
3	- connection	Output signal (voltage/current)	Output signal (voltage/current)
4	not assigned	Ground for supply voltage or output signal	Ground for output signal
5	Zero-point calibration input +24V = active	Zero-point calibration input +24V = active	Zero-point calibration input +24V based on ground for output signal = active

The device is now connected.

Outlook: After switching on, the device requires a **warm-up time of approx. 15 minutes** until the temperatures of the electronics and sensor have levelled off. The output signal may behave unstable during this time.

3. Connect relay (optional)

You can connect the optional relay.

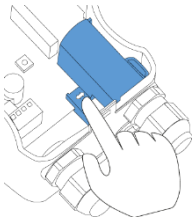
⚠ WARNING

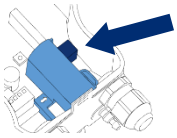
Inside the device there may be electrical conductors with a voltage of 230 V (relay option).

The device must be disconnected from the power supply and secured before opening!

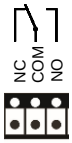
The device may only be opened and connected to an electrical power source by qualified personnel.

1. The device must be switched off (free of voltage) and opened (see 1. Opening/closing the device).
2. Carefully slide the protective cover for the relay contact to the left. To do this, use the surface marked with an arrow (above the pointer).





3. Now you have access to the relay terminal.



4. Connect the relay's supply voltage in accordance with the connection diagram also located on the circuit board above the terminal:
5. Use the same procedure as in 2. Connect supply voltage.
6. Carefully slide the cover to the right again until it locks in place. In doing so, please ensure that all relay connection cables are under the cover.

The relay is now connected.

Close the device again.