

# DIFFERENTIAL PRESSURE TRANSMITTER

## DPT- 3WIRE



### Model summary

Each device has 8 jumper selectable measuring ranges. Each device is temperature compensated.

**Model:**     **DPT250 - R8 ( -AZ -D -Q -S )**  
                   **DPT2500 - R8 ( -AZ -D -Q )**  
                   **DPT7000 - R8 ( -AZ -D -Q )**

- R8 for 8 measuring range
- D for display
- Q for square root output (output is flow linear instead of pressure linear)
- AZ for Autozero element
- S with span point calibration

| Model 250      | Model 2500     | Model 7000  |
|----------------|----------------|-------------|
| 0...25 Pa      | -100...+100 Pa | 0...1000 Pa |
| 0...50 Pa      | 0...100 Pa     | 0...1500 Pa |
| 0...100 Pa     | 0...250 Pa     | 0...2000 Pa |
| 0...250 Pa     | 0...500 Pa     | 0...2500 Pa |
| -25...+25 Pa   | 0...1000 Pa    | 0...3000 Pa |
| -50...+50 Pa   | 0...1500 Pa    | 0...4000 Pa |
| -100...+100 Pa | 0...2000 Pa    | 0...5000 Pa |
| -150...+150 Pa | 0...2500 Pa    | 0...7000 Pa |

The Differential Pressure Transmitter is delivered individually packed with standard accessories (see accessories).

### Technical data

**Response Time:** 0.8 / 4 s selectable by jumper

**Measuring unit:** Selectable by jumper (Pa, kPa, mbar, inchWC, mmWC, psi)

**Suitable media:** Air and non-aggressive gases

**Measuring element:** Piezoresistive

**Max pressure:** 400 kPa

**Accuracy (from applied pressure):** ±1,5% or (±3Pa <250 Pa) (including: general accuracy, temperature drift, linearity, hysteresis, long term stability and repetition error)

#### Electrical interface:

- Supply voltage: 24 VAC or VDC ± 10%
- Power consumption: < 1.0 W (<1.5W with Iout 20mA)

#### Output signal:

0...10 VDC, Load R minimum 1kΩ or 4...20 mA, maximum load 500Ω

#### Materials:

- Housing: ABS
- Cover: PC
- Pressure connections: ABS
- Duct connectors: ABS
- Tubing: PVC

#### Connections:

- Electrical connections: 4 screw terminals, max 1.5 mm<sup>2</sup>

- Cable entry: M16

- Pressure connections: Male Ø 5,0 mm and 6,3 mm

**Weight:** 150 g, with accessories 290 g

**Dimensions:** 90,0 x 71,5 x 36,0 mm

#### General ambient condition:

- Temperature range:
  - Operation -10...+50°C (-5...+50°C for -AZ model)
  - Storage: -20...+70°C
- Ambient humidity: 0 to 95% RH

#### Safety:

- Protection standard: IP54
- Conformance: Meets the requirements for CE marking:
  - EMC directive 2004/108/EY
  - Rohs Directive 2002/95/EY

### Accessories

#### Standard accessories:

- 2 fixing screws
- 2 plastic duct connectors
- 2 m tube Ø 4 / 7 mm

#### Optional accessories:

- \* Metallic duct connector

### Zero-point adjustment

- 1) Loose both tubes from the pressure inlets + and -
- 2) Push zero button until the red led turns ON.
- 3) Wait until LED turns off and then install tubes again to the pressure inlets

It is recommended to adjust the zero point every 12 months during normal operation

\* If the transmitter is equipped with automatic zero element the manual push button adjustment is not required.

### Optional auto zero element \*

Optional auto zero element makes the DPT transmitter maintenance free for periodical push button zeroing. Element automatically adjusts the transmitters zero point from time to time, this eliminates the zero point long term drift of the piezoresistive sensing element.

Zero point adjustment is carried out every 10 minutes. During zero point adjustment the output and display values will freeze to the latest measured value. The automatic zero point adjustment takes 4 seconds.

# HK INSTRUMENTS

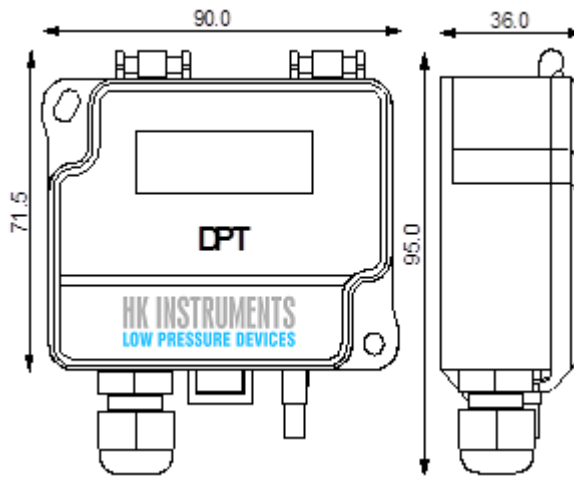
User-friendly measuring devices

Keihästie 7, 40950 Muurame,  
Finland

Phone: +358 14 337 2000  
Fax: +358 14 337 2020

Email: [info@hkinstruments.fi](mailto:info@hkinstruments.fi)  
[www.hkinstruments.fi](http://www.hkinstruments.fi)

## Dimensions

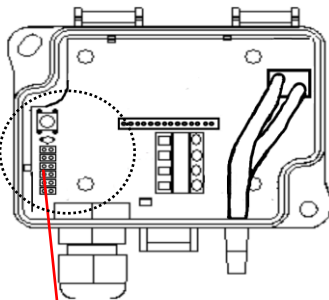


## Installation

ZEROING: Press the button



LED: Turns ON  
Zeroing



### Model DPT250

|          | 25Pa  | 50Pa  | 100Pa  | 250Pa  |
|----------|-------|-------|--------|--------|
| Jumper 1 | ●●    | ●●    | ●●     | ●●     |
| Jumper 2 | ●●    | ●●    | ●●     | ●●     |
| Jumper 3 | ●●    | ●●    | ●●     | ●●     |
|          | ±25Pa | ±50Pa | ±100Pa | ±150Pa |
| Jumper 1 | ●●    | ●●    | ●●     | ●●     |
| Jumper 2 | ●●    | ●●    | ●●     | ●●     |
| Jumper 3 | ●●    | ●●    | ●●     | ●●     |

### Model DPT2500

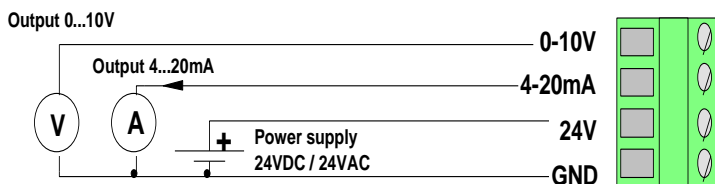
|          | ±100Pa | 100Pa  | 250Pa  | 500Pa  |
|----------|--------|--------|--------|--------|
| Jumper 1 | ●●     | ●●     | ●●     | ●●     |
| Jumper 2 | ●●     | ●●     | ●●     | ●●     |
| Jumper 3 | ●●     | ●●     | ●●     | ●●     |
|          | 1000Pa | 1500Pa | 2000Pa | 2500Pa |
| Jumper 1 | ●●     | ●●     | ●●     | ●●     |
| Jumper 2 | ●●     | ●●     | ●●     | ●●     |
| Jumper 3 | ●●     | ●●     | ●●     | ●●     |

### Model DPT7000

|          | 1000Pa | 1500Pa | 2000Pa | 2500Pa |
|----------|--------|--------|--------|--------|
| Jumper 1 | ●●     | ●●     | ●●     | ●●     |
| Jumper 2 | ●●     | ●●     | ●●     | ●●     |
| Jumper 3 | ●●     | ●●     | ●●     | ●●     |
|          | 3000Pa | 4000Pa | 5000Pa | 7000Pa |
| Jumper 1 | ●●     | ●●     | ●●     | ●●     |
| Jumper 2 | ●●     | ●●     | ●●     | ●●     |
| Jumper 3 | ●●     | ●●     | ●●     | ●●     |

## Electrical Connection:

0-10V      Output 0...10 V  
 4-20mA    Output 4...20 mA  
 24V        Supply 24 VAC or VDC  
 GND        Ground



|          |             |       |  |
|----------|-------------|-------|--|
| Jumper 4 | 0.8 s       | 4.0 s | Set response time<br><b>Note:</b> Measuring unit can change pressing button when Jumper 5 is placed.<br><b>Please remove jumper after setting.</b> |
| Jumper 5 | Select unit |       |  |
| Jumper 6 | Not in use  |       |  |

**⚠ Note! If wires are already powered, connect 24V and GND before connecting outputs!**