# DIFFERENTIAL PRESSURE TRANSMITTERS
## DPT-MOD Series

Differential pressure transmitter with Modbus communication and Input terminal

The DPT-MOD differential pressure transmitter for air conforms to Modbus over serial line protocol, using RTU transmission mode and RS485 interface. The digital output signal is sent over Modbus enabling the DPT-MOD to connect directly to a field communications network.

DPT-MOD requires less wiring than traditional 3-wire transmitters, since multiple devices can be connected on serial line.

The DPT-MOD includes an Input terminal that enables reading of multiple other signals such as temperature or control relays over Modbus. The Input terminal has two input channels designed to accept 0–10 V, ntc10k, Pt1000, Ni1000/(-LG), and BIN IN (potential free contact) signals. For example, DPT-MOD can read values from one differential pressure measurement point and two temperature measurement points. Hence, the DPT-MOD does the work of three transmitters.

## SIMILAR PRODUCTS

- DPT-2W series differential pressure transmitters with 4–20 mA 2-wire configuration
- DPT-R8 series 8-range differential pressure transmitters
- DPI series electronic differential pressure switches
- PS series mechanical differential pressure switches
- DPT-FLOW series airflow transmitters

## APPLICATIONS

DPT-MOD series devices are commonly used in HVAC/R systems for:
- fan, blower and filter monitoring
- pressure and flow monitoring
- valve and damper control
- pressure monitoring in cleanrooms

## MODEL SUMMARY

| | DPT-MOD-2500 | | DPT-MOD-7000 | |
|---|---|---|---|---|
| Measurement ranges (Pa) | -250...2500 | | -250...7000 | |
| **Description** | **Model** | **Product code** | **Model** | **Product code** |
| Differential pressure transmitter with Modbus configuration and display | DPT-MOD-2500-D | 114.003.002 | DPT-MOD-7000-D | 114.009.002 |

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## SPECIFICATIONS

### Performance
**Accuracy** (from applied pressure):
±1.5 % + 1 Pa
(Including: general accuracy, temperature drift, linearity, hysteresis, long term stability and repetition error)
**Response time:**
1...20 s selectable via menu
**Max pressure:**
400 kPa

### Communication
Protocol: MODBUS over Serial Line
Transmission Mode: RTU
Interface: RS485
Byte format (11 bits) in RTU mode:
    Coding System: 8-bit binary
    Bits per Byte:
        1 start bit
        8 data bits, least significant bit sent first
        1 bit for parity
        1 stop bit
Baud rate: selectable in configuration
Modbus address: 1–247 addresses selectable in configuration menu

**Zero point calibration options:**
• Manual pushbutton autozero
• Via Modbus write coil

### Technical Specifications
**Media compatibility:**
Dry air or non-aggressive gases
**Measuring units:**
Selectable via menu (Pa, mbar, inchWC, mmWC, psi)
**Measuring element:**
Piezoresistive
**Environment:**
Operating temperature: -10...+50 °C
Storage temperature: -20...+70 °C
Humidity: 0 to 95 % rH

### Physical
**Dimensions:**
Case: 102.0 x 71.5 x 36.0 mm
**Weight:**
150 g, with accessories 290 g
**Mounting:**
2 each 4.3 mm screw holes, one slotted
**Materials:**
Case: ABS
Lid: PC
Pressure inlets: Brass
Duct connectors: ABS
Tubing: PVC
**Protection standard:**
IP54

### Display:
2-line display (12 characters/line)
Line 1: active measurement
Line 2: units
**Electrical Connections:**
4+3 spring load terminals, max 1.5 mm$^2$
Cable Entry: M20
**Pressure fittings:**
Male ⌀ 5,0 mm and 6,3 mm

### Electrical
**Supply voltage:**
24 VAC or VDC ± 10 %
**Power consumption:**
< 1.3 W
**Output signal:**
via Modbus

### Conformance
Meets requirements for CE marking:
EMC directive 2004/108/EC
RoHS Directive 2002/95/EC

## How to generate a model?

| Example: | Product Series | | | | |
|---|---|---|---|---|---|
| **DPT-MOD-2500-D** | DPT-MOD | Differential pressure transmitter with Modbus configuration | | | |
| | | **Highest available measurement range** | | | |
| | | -2500 | -250...2500 Pa | | |
| | | -7000 | -250...7000 Pa | | |
| | | | **Display** | | |
| | | | -D | With display | |
| Model | DPT-MOD | -2500 | -D | | |