

DIFFERENTIAL PRESSURE TRANSMITTERS DPT-IO-MOD SERIES



Differential pressure transmitter with Modbus communication and Input terminal

The DPT-IO-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-IO-MOD to connect directly to a field communications network.

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

The DPT-IO-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-IO-MOD can read values from one differential pressure measurement point and two temperature measurement points. Hence, the DPT-IO-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 air flow transmitters

APPLICATIONS

DPT-IO-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-IO-MOD-2500		DPT-IO-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-IO-MOD-2500-D	114.003.002	DPT-IO-MOD-7000-D	114.009.002

DIFFERENTIAL PRESSURE TRANSMITTERS

DPT-IO-MOD SERIES

SPECIFICATIONS

Performance

Accuracy (from applied pressure):

Model 2500:

Pressure < 125 Pa = 1 % + ± 2 Pa

Pressure > 125 Pa = 1 % + ± 1 Pa

Model 7000:

Pressure < 125 Pa = 1.5 % + ± 2 Pa

Pressure > 125 Pa = 1.5 % + ± 1 Pa

(Including: general accuracy, linearity, hysteresis, long term stability and repetition error)

Response time:

1...20 s selectable via menu

Thermal effects:

Temperature compensated 0...50 °C

Overpressure:

Proof pressure: 25 kPa

Burst pressure: 30 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:

MEMS, no flow-through

Environment:

Operating temperature: -20...+50 °C

Storage temperature: -40...+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 mm²

Cable Entry: M20

Pressure fittings:

Male \varnothing 5,0 mm and 6,3 mm

Electrical

Supply voltage:

24 VAC or VDC \pm 10 %

Power consumption:

< 1.3 W

Output signal:

via Modbus

Sensor type:

0-10 V, ntc10k, Pt1000, Ni1000/(-LG), and BIN IN (potential free contact) signals.

Conformance

Meets requirements for CE marking:

EMC directive 2014/30/EU

RoHS Directive 2011/65/EU

WEEE Directive 2012/19/EU

**COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 = ISO 14001 =**



HOW TO GENERATE A MODEL?

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