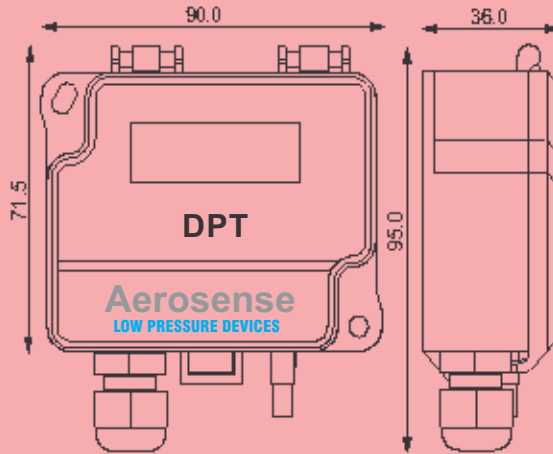




AEROSENSE DIFFERENTIAL PRESSURE TRANSMITTER



DPT-MOD



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.

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 DPT-MOD-2500	Model DPT-MOD-7000
-250...2500 PA	-250...7000 PA

Add -D to end of Model with Display For e.g. DPT-MOD-2500-D

Service: Air and non-aggressive gases

Measuring element: Piezoresistive

Accuracy: ±1.5 % + 1 Pa

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

Response Time: 1...20 s selectable via menu

Max pressure: 400 kPa

Electrical interface:

- Supply voltage: 24 VAC or VDC ± 10%
- Power consumption: < 1.3 W

Output signal: via Modbus

Materials:

- Housing: ABS
- Cover: PC
- Pressure inlets: ABS

Connections:

- Electrical connections: 4+3 spring load terminals, max 1.5 mm²
- Cable entry: M20
- Pressure connections: Male 5,0 mm and 6,3 mm

Weight: 150 g

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

General ambient condition:

- Temperature range:
 - Operation -10...+50°C
 - Storage: -20...+70°C
 - Ambient humidity: 0 to 95% RH

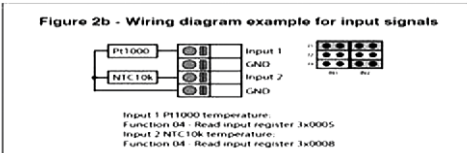
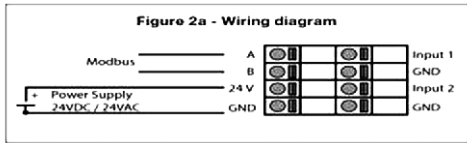
Safety:

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

Optional Accessories:

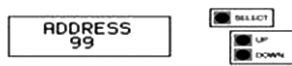
- Plastic Pressure Tips
- 2m Tubes

WIRING DIAGRAMS:



CONFIGURATION

- 1) Activate the device Menu by pushing the the select button for 2 seconds.
- 2) Select the address for Modbus: 1...247



3) Select the baud rate: 9600/19200/38400.



4) Select the parity bit: None/Even/Odd



5) Select the pressure unit for display: Pa/inchWC/mmWC/psi/mbar



6) Select the response time: 1...20 s



7) Push the select button to exit menu.



ZERO POINT ADJUSTMENT

NOTE! Supply voltage must be connected one hour before the zero point adjustment is carried out. Access via Modbus or by push button.

- 1) Loose both tubes from the pressure inlets + and -.



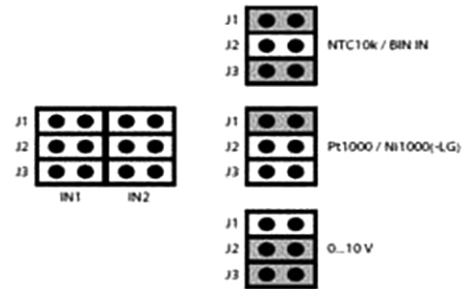
- 2) Press the select button briefly
- 3) Wait until the LED turns off and then install tubes again for the pressure inlets.

INPUT SIGNAL CONFIGURATION

Input signals can be read over Modbus via DPT MOD RS485 interface.

Signals	Accuracy for measurement	Resolution
0...10 V	< 0,5 %	0,1 %
NTC10k	< 0,5 %	0,1 %
Pt1000	< 0,5 %	0,1 %
Ni1000/(-LG)	< 0,5 %	0,1 %
BIN IN (potential free contact)		

Input Signal Configuration



MODBUS REGISTERS

Function 04- Read Input register

Register	Parameter Description	Data type	Value	Range
3x0001	Program version	16 bit	0...1000	0,00...99,00
3x0002	Pressure reading	16 bit	-250...2500/7000	-250...2500/7000 (Pa)
3x0004	Input 1: 0...10 V	16 bit	0...1000	0...100 %
3x0005	Input 1: Pt1000	16 bit	-500...500	-50...+50 °C
3x0006	Input 1: Ni1000	16 bit	-500...500	-50...+50 °C
3x0007	Input 1: Ni1000-LG	16 bit	-500...500	-50...+50 °C
3x0008	Input 1: NTC10k	16 bit	-500...500	-50...+50 °C
3x0009	Input 2: 0...10 V	16 bit	0...1000	0...100 %
3x0010	Input 2: Pt1000	16 bit	-500...500	-50...+50 °C
3x0011	Input 2: Ni1000	16 bit	-500...500	-50...+50 °C
3x0012	Input 2: Ni1000-LG	16 bit	-500...500	-50...+50 °C
3x0013	Input 2: NTC10k	16 bit	-500...500	-50...+50 °C

Function Code 02- Read Input Status

Register	Parameter Description	Data type	Value	Range
1x0001	Input 1: BIN IN	Bit 0	0...1	On - Off
1x0002	Input 2: BIN IN	Bit 0	0...1	On - Off

Function 05- Write single coil

Register	Parameter Description	Data type	Value	Range
0x0001	Zeroing function	Bit 0	0...1	On - Off

Function Code 06- Write single register

Register	Parameter Description	Data type	Value	Range
4x0001	Beta value of NTC thermistor	16 bit	0...30000	1...30000 (Default: 4220)