

## DIFFERENTIAL PRESSURE TRANSMITTERS DPT-DUAL-MOD-AHU

For air handling units



DPT-Dual-MOD-AHU is especially designed for air handling units, combining two differential pressure transmitters into one device. It offers a possibility to measure pressure from two different points. One of the measurements can be set to show the air flow rate. DPT-Dual-MOD-AHU has a Modbus interface and an Input terminal. When using the Input terminal, temperature transmitters can be replaced with temperature sensors. As a result, you will save in costs of the devices and in the installation costs.

DPT-Dual-MOD-AHU is designed for air handling units where one sensor monitors the air flow across the centrifugal fan while the other sensor monitors the filter cleanliness. The devices are suitable for air and non-combustible gases.



### SIMILAR PRODUCTS

- DPT-Dual-MOD series differential pressure transmitters with two pressure sensors and Modbus communication
- 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-Dual-MOD-AHU series devices are commonly used in HVAC/R systems for:

- air flow monitoring across centrifugal fans and blowers
- in-duct air flow monitoring
- VAV applications
- fan, blower and filter monitoring
- pressure and flow monitoring
- valve and damper control
- pressure monitoring in cleanrooms

### MODEL SUMMARY

	<b>DPT-Dual-MOD-AHU</b>	
<b>Measurement ranges (Pa)</b>	-700...7000 and -250...2500	
<b>Description</b>	<b>Model</b>	<b>Product code</b>
Differential pressure transmitter with two pressure sensors, flow measurement, Modbus configuration and display	DPT-Dual-MOD-AHU-D	120.016.013

# DIFFERENTIAL PRESSURE TRANSMITTERS

## DPT-DUAL-MOD-AHU

### SPECIFICATIONS

#### Performance

##### Accuracy (from applied pressure):

Sensor A (-700...7000 Pa):

Pressure < 125 Pa = 1.5 % + ±2 Pa

Pressure > 125 Pa = 1.5 % + ±1 Pa

Sensor B (-250...2500 Pa):

Pressure < 125 Pa = 1 % + ±2 Pa

Pressure > 125 Pa = 1 % + ±1 Pa

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

##### Input accuracy:

<0.5%

##### Response time:

1...20 s selectable via menu

##### 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
- Via Modbus write coil

#### Technical Specifications

##### Media compatibility:

Dry air or non-aggressive gases

##### Measuring units on display (Selectable via menu):

Pressure: Pa, kPa, mbar, inchWC, mmWC, psi

Flow: m<sup>3</sup>/s, m<sup>3</sup>/hr, cfm, l/s, m/s, ft/min

##### Measuring element:

MEMS, no flow-through

##### Environment:

Operating temperature: -20...50 °C

Temperature compensated range 0...50°C

Storage temperature: -40...70 °C

Humidity: 0 to 95 % rH, non-condensing

#### Physical

##### Dimensions:

Case: 102.0 x 71.5 x 36.0 mm

##### Weight:

150 g

##### Mounting:

2 each 4.3 mm screw holes, one slotted

##### Materials:

Case: ABS

Lid: PC

Pressure inlets: Brass

Tubing: Silicone

##### Protection standard:

IP54

##### Display:

2-line display (12 characters/line)

Line 1: active measurement, inlet A

Line 2: active measurement, inlet B

If inputs are selected, the lines show also input information (for example temperature)

#### Electrical Connections:

4+4 spring load terminals, max 1.5 mm<sup>2</sup>

Cable Entry: M20

#### Pressure fittings:

Male  $\varnothing$  5.2 mm

+ High pressure

- Low pressure

#### Electrical

##### Supply voltage:

24 VAC or VDC ± 10 %

##### Power consumption:

< 1.3 W

##### Output signal:

via Modbus

##### Input signals:

2 x input (0...10 V, NTC10k, Pt1000, NI1000/(-LG), or BIN IN)

#### Conformance

Meets requirements for:

	CE:	UKCA:
EMC:	2014/30/EU	S.I. 2016/1091
RoHS:	2011/65/EU	S.I. 2012/3032
WEEE:	2012/19/EU	S.I. 2013/3113

COMPANY WITH  
MANAGEMENT SYSTEM  
CERTIFIED BY DNV  
ISO 9001 • ISO 14001



### HOW TO GENERATE A MODEL?

Example:	Product Series		
	DPT-Dual-MOD-AHU-D	DPT	Differential pressure transmitter
		Model type	
		-Dual-MOD-AHU	For air handling units, both 2500 and 7000 sensors, flow measurement and Modbus communication
		Display	
	-D	With display	
Model	DPT	-Dual-MOD-AHU	-D

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