

DIFFERENTIAL PRESSURE TRANSMITTERS DPT-CR-MOD SERIES



Differential pressure transmitter for cleanroom environmental monitoring with Modbus communication

DPT-CR-MOD is a differential pressure transmitter designed specially for cleanroom monitoring. In addition to differential pressure, the device enables monitoring temperature and relative humidity.

A 0...10 V voltage input of an external humidity and temperature transmitter can be connected to the input terminal of the device. In this case, all three measured values (differential pressure, relative humidity, temperature) can be shown simultaneously on the display. Alternatively, a passive temperature sensor can be connected to the input terminal.

DPT-CR-MOD is compatible with Modbus serial communication protocol.



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-CR-MOD series devices are commonly used in HVAC/R systems for:
- pressure, temperature and humidity monitoring in cleanrooms

MODEL SUMMARY

	DPT-CR-MOD	
Measurement ranges (Pa)	-250...2500	
Description	Model	Product code
Differential pressure transmitter for cleanroom monitoring with Modbus and display	DPT-CR-MOD-D	114.010.001

DIFFERENTIAL PRESSURE TRANSMITTERS

DPT-CR-MOD SERIES

SPECIFICATIONS

Performance

Measurement range:

-250...2500 Pa

Accuracy (from applied pressure):

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:

Temperature: ±0.25 °C typical @ 25 °C + accuracy of external transmitter

Humidity: ±0.5 % rH typical @ 25 °C + accuracy of external transmitter

Overpressure:

Proof pressure: 25 kPa

Burst pressure: 30 kPa

Zero point calibration:

Manual pushbutton or via Modbus

Response time:

1...20 s selectable via menu

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

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

Temperature compensated range 0...50 °C

Storage temperature: -40...70 °C

Humidity: 0 to 95 % rH, non-condensing

Physical

Dimensions:

Case: 102 x 71.5 x 36 mm

Weight:

150 g

Mounting:

2 each 4.3 mm screw holes, one slotted

Materials:

Case: ABS

Lid: PC

Pressure inlets: Brass

Protection standard:

IP54

Display:

2-line display (12 characters/line)

Line 1: pressure measurement

Line 2: relative humidity and temperature (if external measurements are connected)

Electrical Connections:

4+4 spring load terminals, max 1.5 mm²

Cable entry: M20

Pressure fittings:

Male ø 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:

Temperature input: 0-10 V or NTC10k, Pt1000,

Ni1000/(-LG)

RH input: 0-10 V

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: DPT-CR-MOD-D	Product Series		
	DPT	Differential pressure transmitter	
		Model type	
	-CR-MOD	For cleanroom monitoring, with Modbus communication	
	Display		
	-D	With display	
Model	DPT	-CR-MOD	-D