DIFFERENTIAL PRESSURE TRANSMITTERS DPT-CR-MOD SERIES

Differential pressure transmitter for cleanroom environmental monitoring with Modbus communication

5 YEAR WARRANTY

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