DIFFERENTIAL PRESSURE TRANSMITTERS
DPT-R8 Series

5 YEAR WARRANTY

Field adjustable, multi-range differential pressure transmitters for air

DPT-R8 series differential pressure transmitters are engineered for building automation in the HVAC/R industry. The most technologically advanced transmitters on the market, measuring static and differential pressure, with field selectable units, range and output, all in a single device.

DPT-R8 series devices include:

- Multiple measuring units, field selectable via jumper, including: Pa, kPa, mbar, inchWC, mmWC, psi.
- 8 field selectable measurement ranges, unidirectional or bi-directional, selectable via jumper, (see Model Summary).
- Proportional output options including: voltage (0–10 V) and current (4–20 mA).

DPT-R8 series device options offer:

- AZ (autozero) function for automatic zero point calibration, eliminating the need for periodic manual autozeroing to ensure long term accuracy
- Backlit display
- Field adjustable span point calibration

The versatility of the DPT-R8 series differential pressure transmitters ensures that the right product for your application is available.

SIMILAR PRODUCTS

- DPT-2W series differential pressure transmitters with 4–20 mA 2-wire configuration
- DPT-MOD series differential pressure transmitters with Modbus configuration
- DPI series electronic differential pressure switches
- PS series mechanical differential pressure switches
- DPT-FLOW series airflow transmitters

APPLICATIONS

DPT-R8 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

Measurement ranges (Pa) (field selectable via jumper) (For optional units, see Specifications)	**DPT250-R8** ±25, ±50, ±100, ±150 Pa 25, 50, 100, 250 Pa	**DPT2500-R8** ±100, 100, 250, 500 Pa 1000, 1500, 2000, 2500 Pa	**DPT7000-R8** 1000, 1500, 2000, 2500 Pa 3000, 4000, 5000, 7000 Pa
Description	**Model**	**Model**	**Model**
Multi-range differential pressure transmitter	DPT250-R8	DPT2500-R8	DPT7000-R8
- with display	DPT250-R8-D	DPT2500-R8-D	DPT7000-R8-D
- with AZ	DPT250-R8-AZ	DPT2500-R8-AZ	DPT7000-R8-AZ
- with AZ & display	DPT250-R8-AZ-D	DPT2500-R8-AZ-D	DPT7000-R8-AZ-D
- with AZ & span point calibration	DPT250-R8-AZ-S		
- with AZ, display and span point calibration	DPT250-R8-AZ-D-S		

DIFFERENTIAL PRESSURE TRANSMITTERS
DPT-R8 Series

SPECIFICATIONS

Performance
Accuracy (from applied pressure):
±1,5 % + 1 Pa
(including: general accuracy, temperature drift, linearity, hysteresis, long term stability, and repetition error)
Thermal effects:
Temperature compensated across the full spectrum of capability
Overpressure:
Proof pressure: 25 kPa
Burst pressure: 30 kPa
Zero point calibration:
Automatic autozero or manual pushbutton
Response time:
4.0 s or 0.8 s, selectable via jumper

Technical Specifications
Media compatibility:
Dry air or non-aggressive gases
Measuring units:
Pa, kPa, mbar, inchWC, mmWC, psi, selectable via jumper
Measuring element:
Piezoresistive
Environment:
Operating temperature: -10...50 °C
Storage temperature: -20...70 °C
Humidity: 0 to 95 % rH, non condensing

Physical
Dimensions:
Case: 90.0 x 95.0 x 36.0 mm
Weight:
150 g
Mounting:
2 each 4.3 mm screw holes, one slotted
Materials:
Case: ABS
Lid: PC
Duct connectors: ABS
Tubing: PVC
Protection standard:
IP54
Display (Optional)
2-line display (12 characters/line)
Line 1: active measurement
Line 2: units
Electrical connections:
4-screw terminal block
Wire: 12–24 AWG (0.2–1.5 mm^2)
Cable entry: M16
Pressure fittings:
Male Ø 5,0 mm and 6,3 mm
+ High pressure
– Low pressure

Electrical
Voltage:
Circuit: 3-wire (V Out, 24 V, GND)
Input: 24 VAC or VDC, ±10 %
Output: 0–10V
Power consumption: <1.0 W
Resistance minimum: 1 kΩ

Current:
Circuit: 3-wire (mA Out, 24 V, GND)
Input: 24 VAC or VDC, ±10 %
Output: 4–20 mA
Power consumption: <1.2 W
Maximum load: 500 Ω

Conformance
Meets the requirements for CE marking:
EMC Directive 2004/108/EY
RoHS Directive 2002/95/EY

AZ-calibration

AZ-calibration is an autozero function in the form of an automatic zeroing circuit built into the PCB board. The AZ-calibration electronically adjusts the transmitter zero at predetermined time intervals (every 10 minutes). The AZ-calibration eliminates all output signal drift due to thermal, electronic or mechanical effects, as well as the need for technicians to remove high and low pressure tubes when performing initial or periodic transmitter zero point calibration.

The AZ adjustment takes 4 seconds. To avoid conflict with the BAS system, the output and display values will freeze to the latest measured value, after which the device returns to its normal measuring mode. Transmitters equipped with the AZ-calibration are virtually maintenance free.

How to generate a model?

Example: DPT250-R8-AZ-D-S	Product series					
	DPT	Differential pressure transmitter				
		Highest available measurement range				
		250	0–250Pa			
		2500	0–2500 Pa			
		7000	0–7000 Pa			
			Model type			
			-R8	Multi-range, 3-wire configuration		
			-2W	Multi-range, 2-wire configuration		
			-MOD	Modbus configuration		
				Zero point calibration		
				-AZ	With autozero calibration	
					Standard with pushbutton manual autozero	
					Display	
					-D	With display
						Without Display
						Span point calibration
						-S Span point calibration
						Without span point calibration
Model	DPT	250	-R8	-AZ	-D	-S