

# DIFFERENTIAL PRESSURE TRANSMITTERS DPT-PRIIMA SERIES

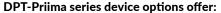
High accuracy, multi-range differential pressure transmitter for demanding applications



DPT-Priima is a high accuracy differential pressure transmitter designed for cleanrooms and other high accuracy applications. DPT-Priima has a new, extremely accurate sensor and automatic zero point calibration, optional span point calibration.

#### **DPT-Priima series devices include:**

- Multiple measuring units, field selectable via jumper, including: Pa, kPa, mbar, inchWC, mmWC, psi.
- 8 field selectable measurement ranges, unidirectional or bidirectional, selectable via jumper, (see Model Summary).
- AZ (autozero) function for automatic zero point calibration, eliminating the need for periodic manual autozeroing to ensure long term accuracy.
- Proportional output options including: voltage (0/2–10 V) and current (4–20 mA).



- Backlit display
- Field adjustable span point calibration (i.e. gain)



# **SIMILAR PRODUCTS**

- DPT-R8 series 8-range differential pressure transmitters
- 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 air flow transmitters

# **APPLICATIONS**

DPT-Priima is commonly used in applications requiring high measurement accuracy:

- monitoring pressure in cleanrooms
- monitoring pressure difference across the building envelope
- monitoring pressure and flow

# **MODEL SUMMARY**

Measurement ranges (Pa)	DPT-Priima	
(field selectable via jumper)	±25, ±50, ±100, ±500	
(For optional units, see Specifications)	025, 050, 0250, 01000	
Description	Model	Product code
High accuracy differential pressure transmitter		
- with AZ	DPT-Priima-AZ	103.039.001
- with AZ & display	DPT-Priima-AZ-D	103.039.002
- with AZ & span point calibration	DPT-Priima-AZ-S	103.039.003
- with AZ, display & span point calibration	DPT-Priima-AZ-D-S	103.039.004

# DIFFERENTIAL PRESSURE TRANSMITTERS **DPT-PRIIMA SERIES**

# **SPECIFICATIONS**

#### **Performance**

Measurement accuracy\* (from applied pressure):

0.4 % ±0.4 Pa

(including: general accuracy, linearity, hysteresis, long

term stability, and repetition error)

Output accuracy\*:

Voltage: ± 0.025 V at 25 °C

Current:  $\pm$  0.04 mA typical, at 25 °C, load 100  $\Omega$ 

 $\pm$  0.1 mA max, at 25 °C, load 20-500  $\Omega$ \*after an half-hour warm-up time

Overpressure:

Proof pressure: 10 kPa Burst pressure: 30 kPa Zero point calibration:

Automatic autozero and manual pushbutton

Response time:

0.4 s or 8.0 s, selectable via jumper

(63 % of the change)

**Technical Specifications** 

Media compatibility:

Dry air or non-aggressive gases

Measuring units:

Pa, kPa, mbar, inchWC, mmWC, psi, selectable via

jumper

Measuring element: MEMS, no flow-through

**Environment:** 

Operating temperature: -5...50 °C, Temperature compensated range 0...50 °C

Storage temperature: -40...70 °C. Humidity: 0 to 95 % rH, non-condensing

#### **Physical**

**Dimensions:** 

Case: 90.0 x 95.0 x 36.0 mm

Weight:

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: 0.2-1.5 mm<sup>2</sup> (12-24 AWG)

Cable entry: M16 Pressure fittings: Male ø 5,2 mm + High pressure

- Low pressure

#### **Electrical**

Voltage:

Circuit: 3-wire (V Out, 24 V, GND) Input: 24 VAC or VDC,  $\pm 10~\%$ Output: 0-10V / 2-10V Power consumption: <1.0 W, Resistance minimum:  $1 k\Omega$ 

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 O Minimum load: 20  $\Omega$ 

#### **Conformance**

Meets the requirements for:

CF. UKCA:

FMC. 2014/30/FU 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





## **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:	Product series					
DPT-Priima-AZ-D-S	DPT	Differential pressure transmitter				
		Model ty	ре			
		-Priima High accuracy				
			Zero point calibration			
			-AZ	With au	utozero calibration	
				Display	,	
				-D	With display	
					Without display	
					Span point calibration	
					-S Span point calibration	
					Without span point calibration	
Model	DPT	-Priima	-AZ	-D	-S	