HK INSTRUMENTS
USER-FRIENDLY MEASURING DEVICES

DIFFERENTIAL PRESSURE TRANSMITTERS
DPT-PRIIMA-MOD

Multifunctional high accuracy differential pressure transmitters

DPT-Priima-MOD is a multifunctional high accuracy transmitter for measuring volume flow, velocity, and static and differential pressure. It is designed for cleanrooms and other demanding applications. The measurements can be read and the configuration done via Modbus communication. DPT-Priima-MOD can also be used with several different measurement probes such as FloXact™ or pitot tube, and air dampers.

DPT-Priima-MOD has a new, extremely accurate sensor and automatic zero point calibration, and optional calibration certificate.

DPT-Priima-MOD series devices include:
- Two selectable functions:
  o Measure and monitor in-duct volume flow, velocity or differential pressure
  o Measure and monitor air flow across centrifugal fans
- Multiple selectable measurement units:
  o Volume flow: m3/s, m3/h, cfm, l/s
  o Velocity: m/s, ft/min
  o Pressure: Pa, inWC, mmWC, kPa, mbar, psi
- Backlit display
- AZ (autozero) function for automatic zero point calibration, eliminating the need for periodic manual autozeroing to ensure long term accuracy
- Modbus communication protocol

DPT-Priima-MOD series device options offer:
- Calibration certificate

SIMILAR PRODUCTS

- DPT-Priima series high accuracy differential pressure transmitters
- DPT-R8 series 8-range differential pressure transmitters
- DPT-MOD series differential pressure transmitters with Modbus configuration
- DPT-Flow series air flow transmitters
- AVT series air velocity transmitters

APPLICATIONS

DPT-Priima-MOD 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

	DPT-Priima-MOD-AZ-D	
Measurement ranges (Pa)	±120 Pa, ±240 Pa, ±620 Pa, ±1240 Pa, ±2490 Pa	
Description	**Model**	**Product code**
High accuracy differential pressure transmitter with air flow measurement and Modbus communication		
- with display and autozero	DPT-Priima-MOD-AZ-D	102.012.001

DIFFERENTIAL PRESSURE TRANSMITTERS
DPT-PRIIMA-MOD

SPECIFICATIONS

Performance
Measurement ranges:
±120 Pa*, ±240 Pa, ±620 Pa, ±1240 Pa, ±2490 Pa
(selectable via menu or modbus)
*default range
Accuracy (at applied pressure):
0.4 % ±0.4 Pa
(Including: general accuracy, linearity, hysteresis, long term stability, and repetition error)
Overpressure:
Proof pressure: 10 kPa
Burst pressure: 30 kPa
Zero point calibration:
Automatic autozero, manual pushbutton or via Modbus register
Response time:
0.4–20 s, selectable via menu or via Modbus register (63 % of the change)

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
Pressure units (select via menu):
Pa, kPa, mbar, inWC, mmWC, psi
Flow units (select via menu):
Volume: m3/s, m3/hr, cfm, l/s
Velocity: m/s, ft/min
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: 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 fittings: Brass
Tubing: Silicone
Protection standard:
IP54

Display
2-line display (12 characters/line)
    Line 1: Volume or velocity measurement
    Line 2: Pressure measurement
Size: 46.0 x 14.5 mm
Electrical connections:
4-screw terminal block
Wire: 0.2–1.5 mm^2 (16–24 AWG)
Cable entry:
Strain relief: M16
Knockout : 16 mm
Pressure fittings
Male ø 5.2 mm
+ High pressure
- Low pressure

Electrical
Supply voltage:
24 VAC or VDC ± 10 %
Power consumption:
< 1 W
< 2,2 W during AZ-calibration
Output signal:
via Modbus

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

UKCA   CE   RoHS COMPLIANT

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 measurement 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-MOD-AZ-D	DPT	Differential pressure transmitter			
		Model type			
		-Priima-MOD	High accuracy, with Modbus communication		
			Zero Point Calibration		
			-AZ	With autozero calibration	
				Display	
				-D	With display
Model	DPT	-Priima-MOD	-AZ	-D	

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