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DATA SHEET

DPT-Priima-MOD-AZ-D

Produal

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DPT-Priima-MOD Modbus differential pressure transmitter



The DPT-Priima-MOD differential pressure transmitter is designed for cleanrooms and other high-accuracy applications. It measures static and differential pressure, airflow volume and air velocity. It has two functions for airflow measurement. You can either monitor airflow across a centrifugal fan, or connect an airflow volume probe to the transmitter to monitor airflow volume in a ventilation duct.

The DPT-Priima-MOD transmitter has an extremely accurate sensor and automatic zeroing. Automatic zeroing keeps the transmitter zero point accurate by automatically eliminating zero point drifting.

You can select the pressure measurement range from five options. The transmitter supports the Modbus RTU communication protocol. The BMS system reads the measurement data directly from the Modbus registers of the transmitter using Modbus RTU communication over the RS-485 interface. This transmitter does not have analogue outputs.

The backlit display shows the measured values for pressure and flow at the same time as default. You can also set the display to show only pressure or flow.

You can use this transmitter with the FloXact airflow volume probe and other airflow probes, pitot tube, or air dampers.

The following options are available:

- Calibration certificate

Commissioning this device is simple. You can configure the settings using the device menu or via Modbus communication.

The DPT-Priima-MOD differential pressure transmitters are typically used in building automation systems for:

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

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Technical specifications

Property	Value
Power supply	24 Vac/dc ±10 %
Power consumption	< 1 W during normal operation, < 2.2 W during automatic zeroing
Pressure measurement	* factory setting
Range	±120* / ±240 / ±620 / ±1240 / ±2490 Pa
Accuracy	0.4 % ±0.4 Pa (from applied pressure, including: general accuracy, linearity, hysteresis, long term stability, and repetition error)
Temperature compensation	Measurement is temperature compensated when ambient temperature is 0...50 °C.
Response time (T_{63})	0.4 s, 1...20 s, *4 s (typical, 63 % of the change). Selectable via device menu or Modbus communication.
Overpressure	
Proof pressure	10 kPa
Burst pressure	30 kPa
Measuring element	MEMS, no flow-through
Measurement units	
Pressure	*Pa, kPa, mbar, mmWC, inchWC, psi, none (selectable via device menu)
Airflow volume	*m3/s, m3/h, cfm, l/s, none (selectable via device menu)
Air velocity	m/s, ft/min (selectable via device menu)
Zeroing	automatic zeroing, manually by pushbutton or via Modbus communication
Pressure fittings	
Type	barbed fitting, male
Size	Ø5.2 mm
Material	brass
Outputs	None. The BMS system reads the registers via bus.
Display	2-line, backlit display, 46.0 x 14.5 mm. Shows measured pressure and flow values and measurement units.
Modbus communication	* factory setting
Protocol	Modbus RTU
Interface	RS-485
Bus speed	*9600/19200/38400 bit/s
Data bits	8
Parity	*none/odd/even
Stop bits	1
Unit load	1/8 UL
Wiring terminals	
Type	tilted screw terminals

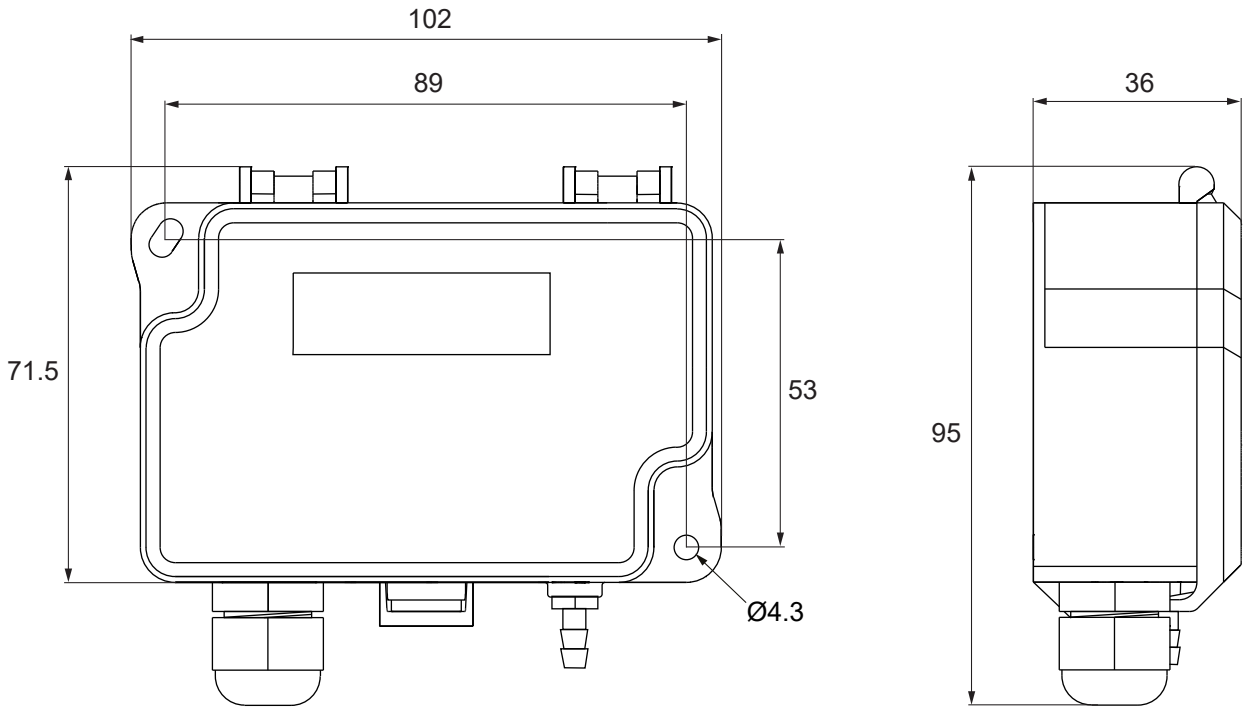
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Property	Value
Wire	0.2...1.5 mm^2 (24...16 AWG)
Tightening torque	0.4 Nm
Appliance class (IEC 60664-1)	III
Operating conditions	
Ambient temperature	-5...50 °C
Storage temperature	-40...70 °C
Ambient humidity	0...95 %rH (non-condensing)
Compatible media	dry air or non-aggressive gases
Housing	
Protection class	IP54, cable downwards
Cable gland	M20
Materials	ABS and PC plastic (housing), silicone (tubing)
Mounting	2 x Ø4.3 mm screw holes, one slotted
Dimensions (w x h x d)	102 x 95 x 36 mm
Weight	150 g
Warranty	5 years
CE UKCA	Refer to the EU Declaration of Conformity or the UK Declaration of Conformity for compliance information. You can find the declarations on this product's page at www.produal.com.
Company certificates	
Quality management	ISO 9001
Environmental management	ISO 14001

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Dimensions

All dimensions are in millimetres (mm).



Wiring

WARNING: Only connect wires and commission the device if you are qualified for electrical work and familiar with building automation products. Risk of electric shock and damage to the device.

WARNING: Always commission the device in a de-energised electricity network. Risk of electric shock.

WARNING: Connect this device to SELV (separated extra low voltage) electricity network only. This device is appliance class III product according to IEC 60664-1.

CAUTION: Use single-stranded wires if possible. If you use multi-stranded wires, always install wire end sleeves to the wires to prevent short circuits and ensure secure attachment.

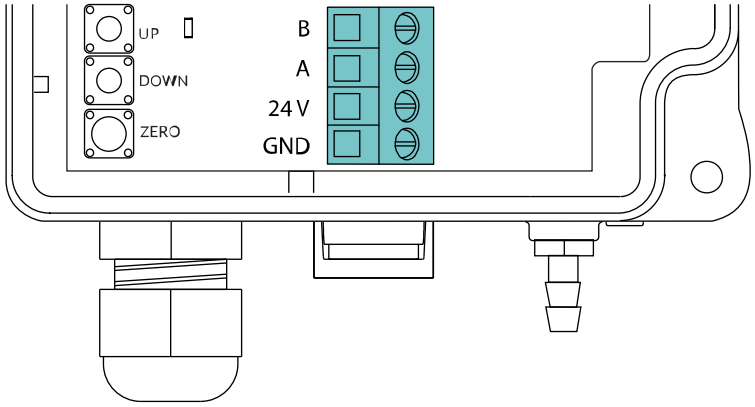
Important: For CE and UKCA compliance, use correctly grounded, shielded cable.

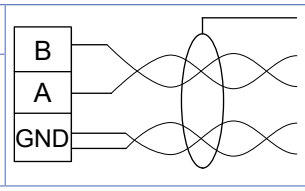
Note: Use a shielded twisted-pair cable for Modbus cabling. Connect the shield to earth at one point only to prevent ground loops and noise. The shield is usually connected to earth at the end of the main cable.

1. Open the cover.
2. Unscrew the strain relief on the cable gland.
3. Route the cable through the strain relief and the cable gland.

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4. Connect the wires to the terminal block according to the table below.



B- *A+*		Modbus RTU, RS-485
24 V		24 Vac/dc power supply
GND		0 V

The nominal tightening torque for wiring terminal screws is 0.4 Nm.

Important: Do not use excessive force when you tighten the wiring terminal screws.

5. Tighten the strain relief.
6. Close the cover.

Ordering information

	Model	Product number	Description
	DPT-Priima-MOD-AZ-D	102.012.004	High-accuracy Modbus differential pressure transmitter with display, automatic zeroing
	DP-AK	1241000001	Differential pressure measurement accessory kit. Includes pressure measurement hose (2 m), 2 duct connectors and 4 connector mounting screws.
	SPP	1241000009	Static pressure port for pressure difference monitoring across the building envelope. Installed to the outer wall of the building.