PEL 10K differential pressure transmitter





The PEL 10K differential pressure transmitter is designed for measuring static pressure, pressure differences and air volume flow in air handling systems. The transmitter compensates pressure measurement according to the ambient temperature. It provides eight fixed pressure measurement ranges selectable with jumpers and a custom range configurable with the ML-SER commissioning tool.

This transmitter has one voltage output and one current output. Both outputs are scalable (0...10 / 2...10 / 0...5 Vdc and 4...20 / 0...20 mA). Output mode options include pressure linear and flow (volume) linear modes.

Regular automatic zeroing removes output signal drift that can occur due to thermal, electronic or mechanical effects.

The influence of process disturbances (e.g. turbulence) can be decreased by selecting a suitable response time (2 s or 8 s).

The optional, backlit display (-N model) shows the measurement values at one decimal accuracy up to ±199.9 Pa and at 1 Pa accuracy from ±200 Pa.

Commissioning the transmitter is simple. You can select the measurement range, response time and output mode with jumpers. You can configure the custom range and output scaling using the ML-SER commissioning tool.

The PEL 10K differential pressure transmitters are typically used in building automation systems for:

- fan, blower or filter monitoring
- pressure or flow monitoring
- valve or damper monitoring

Technical specifications

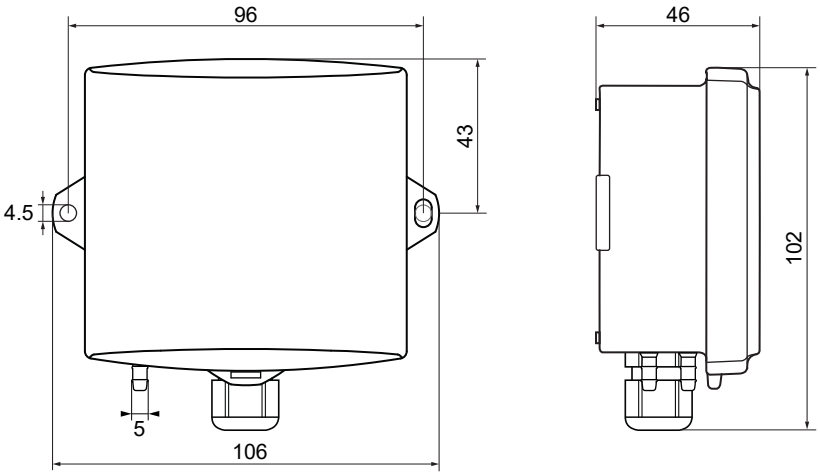
Property	Value
Power supply	24 Vac/dc (22...28 V)
Power consumption	< 2 VA
Pressure measurement	* factory setting
Range	±500 / ±1000 / -2500...0 / 0...200 / 0...1000 / 0...2500 / 0...5000 / *0...10000 Pa, selectable with jumpers. Custom range 0...10000 Pa, high limit configurable at 10 Pa steps.

Property	Value
Accuracy	including: general accuracy, linearity, hysteresis, long-term stability, and repetition error
±500 / 0...200 / 0...1000 Pa ranges	±10 Pa from reading
±1000 Pa range	±20 Pa from reading
-2500...0 / 0...2500 Pa ranges	±50 Pa from reading
0...5000 Pa range	±100 Pa from reading
0...10000 Pa range	±200 Pa from reading
Temperature compensation	Measurement is temperature-compensated when ambient temperature is 0...45 °C.
Response time (T_{63})	2.0 s / *8.0 s (typical, 63 % of the change)
Maximum overpressure	13 kPa
Measurement units	*Pa
Zeroing	automatic zeroing only
Pressure fittings	
Type	male
Size	Ø5.0 mm
Material	ABS plastic
Analogue outputs	This device has 1 voltage output and 1 current output for pressure linear or flow linear output signal.
Voltage output	* factory setting
Range	*0...10 / 2...10 / 0...5 Vdc, < 2 mA
Current output	
Range	*4...20 / 0...20 mA, 700 Ω
Display (-*N* models)	backlit dot matrix display
Wiring terminals	
Type	tilted screw terminals
Wire	1.5 mm^2 (16 AWG)
Tightening torque	0.6 Nm
Appliance class (IEC 60664-1)	III
Operating conditions	
Ambient temperature	0...45 °C
Ambient humidity	0...95 %rH (non-condensing)
Compatible media	dry air or non-aggressive gases
Housing	
Protection class	IP54, cable downwards
Cable gland	M16
Materials	PC and PBT plastic
Mounting	2 x Ø4.5 mm screw holes, one slotted

Property	Value
Dimensions (w x h x d)	106 x 102 x 46 mm
Weight	160 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

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 an appliance class III product according to IEC 60664-1.

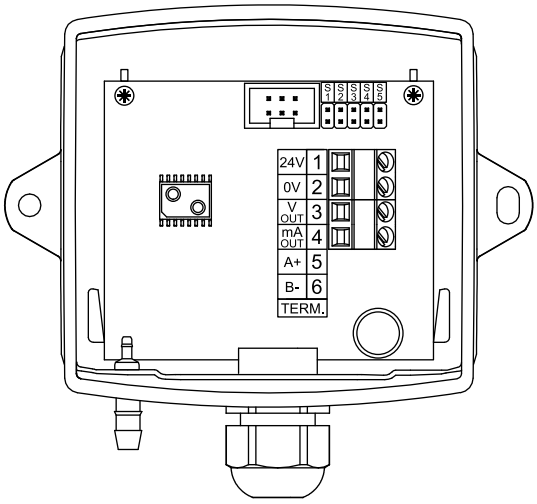
CAUTION: Use single-stranded wires if possible. If you use multi-stranded wires, always install wire end sleeves to the wires to prevent short circuits and ensure secure attachment.

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

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.

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

   Connect the signal wire to voltage output or current output according to system requirements.



24V	Power supply, 24 Vac/dc (22…28 V), < 2 VA
0V	0 V
V out	Voltage output, 0...10 / 2...10 / 0...5 Vdc, < 2 mA
mA out	Current output, 4...20 / 0...20 mA, 700 Ω

   The nominal tightening torque for wiring terminal screws is 0.6 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

	Type	Product number	Description
	PEL 10K	1131490	Differential pressure transmitter, 8 ranges and configurable custom range 0...10000 Pa
	PEL 10K-N	1131491	Differential pressure transmitter with display, 8 ranges and configurable custom range 0...10000 Pa
	ML-SER	1139010	Transmitter commissioning tool
	DP-AK	1241000001	Differential pressure measurement accessory kit. Includes 2 duct connectors, 4 connector mounting screws and a pressure measurement hose (2 m).