akribis

DATA SHEET

# KPEL

Produal

Distributed by AKRIBIS



## KPEL Differential Pressure Transmitter

# KPEL




24 V IP54 Pa

Product page

KPEL is a multifunctional differential pressure transmitter for air-handling systems. It has two pressure sensors and a built-in controller. It is ideal for measuring static or differential pressure from two measurement points at the same time. Temperature-compensated pressure measurement keeps pressure readings accurate despite changes in ambient temperature.

The transmitter has 8 fixed pressure measurement ranges and a custom range. You can select the measurement range separately for each pressure measurement.

It also has a span point adjustment function for cleanroom applications and other high-accuracy applications that require annual calibration of differential pressure transmitters.

The transmitter has two outputs for pressure measurement. You can configure them as voltage or current outputs. You can also use them as control outputs and configure their settings separately, for example, to control actuators.

In -M models, you can configure one or both outputs as inputs and read their values from the input registers over Modbus. You can configure them as voltage, digital or resistive inputs. Resistive input supports the following passive temperature sensor elements: NTC 10, NTC 20, PT1000, Ni1000 and Ni1000–LG.

The transmitter options include:

- Display (-N models)
- Modbus RTU communication (-M models)

You can commission all models using the ML-SER commissioning tool. You can also configure the -M model transmitter settings via bus. However, Modbus communication settings must be configured with the ML-SER commissioning tool before you can access the transmitter settings via Modbus network.


AKRIBIS · www.akribis.info · contacto@akribis.info

These differential pressure transmitters are typically used in building automation systems for:

- fan and blower monitoring
- filter monitoring
- damper monitoring and control
- pressure monitoring and control

## Technical specifications – Power supply

**Power supply**
24 Vac/dc (22...28 V)

**Maximum power consumption**
24 Vdc < 2.0 VA / 24 Vac < 2.5 VA

## Technical specifications – Measurements

**Differential air pressure measurement ranges**
±100 Pa, 0...100 Pa, 0...200 Pa, 0...500 Pa, 0...1000 Pa, 0...1500 Pa, 0...2000 Pa, 0...2500 Pa, Custom

**Differential air pressure measurement accuracy**
±1.25 % ±3 Pa from reading (25 °C)

**Pressure measurement response time**
1...20 s (typical, 63 % of the change)

**Temperature compensation**
Measurement is temperature compensated when ambient temperature is 0...50 °C.

**Pressure measurement long-term stability**
typ. ±10 Pa / year

**Maximum allowed pressure**
2500 Pa

**Burst pressure**
13 kPa

**Pressure measurement units**
Pa

**Zeroing**
manually by using the pushbutton

**Pressure fitting type**
barbed fitting, male

**Pressure fitting size**
outer diameter 5.0 mm

**Pressure fitting material**
brass

## Technical specifications – Product properties

**Appliance class**
III

**Materials**
PC and PBT plastic (housing), silicone (tubing)

**Warranty**
5 years

**Compliance information**
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.

## Technical specifications – Outputs

**Output connectors**
This device has 2 output connectors, one for each pressure sensor. You can also configure the outputs as control outputs.

**Voltage output**
2 x 0...10 Vdc, load > 5 kΩ

**Voltage output accuracy**
accuracy after a 30-minute warm-up time: ±0.025 V at 25 °C

**Current output**
2 x 4...20 mA, < 700 Ω

**Current output accuracy**
accuracy after a 30-minute warm-up time: typically ±0.04 mA at 25 °C, load 500 Ω. Max. ±0.1 mA at 25 °C, load 20...700 Ω


AKRIBIS · www.akribis.info · contacto@akribis.info

## Technical specifications – Installation

**Mounting**
with screws, external lugs, 2 x Ø4.5 mm screw holes, one slotted

**Commissioning tool**
ML-SER transmitter commissioning tool

## Technical specifications – Wiring

**Wiring terminals**
tilted screw terminals

**Wire**
0.2...1.5 mm² (24...16 AWG)

**Wiring terminal tightening torque**
0.4 Nm

**Cable gland**
M16

## Technical specifications – Operating and storage conditions

**IP protection class**
IP54
**Note:** cable downwards

**Ambient temperature**
0...50 °C

**Ambient humidity**
0...95 %rH

**Storage temperature**
-20...70 °C

**Storage humidity**
0...95 %rH (non-condensing)

## Technical specifications – Dimensions

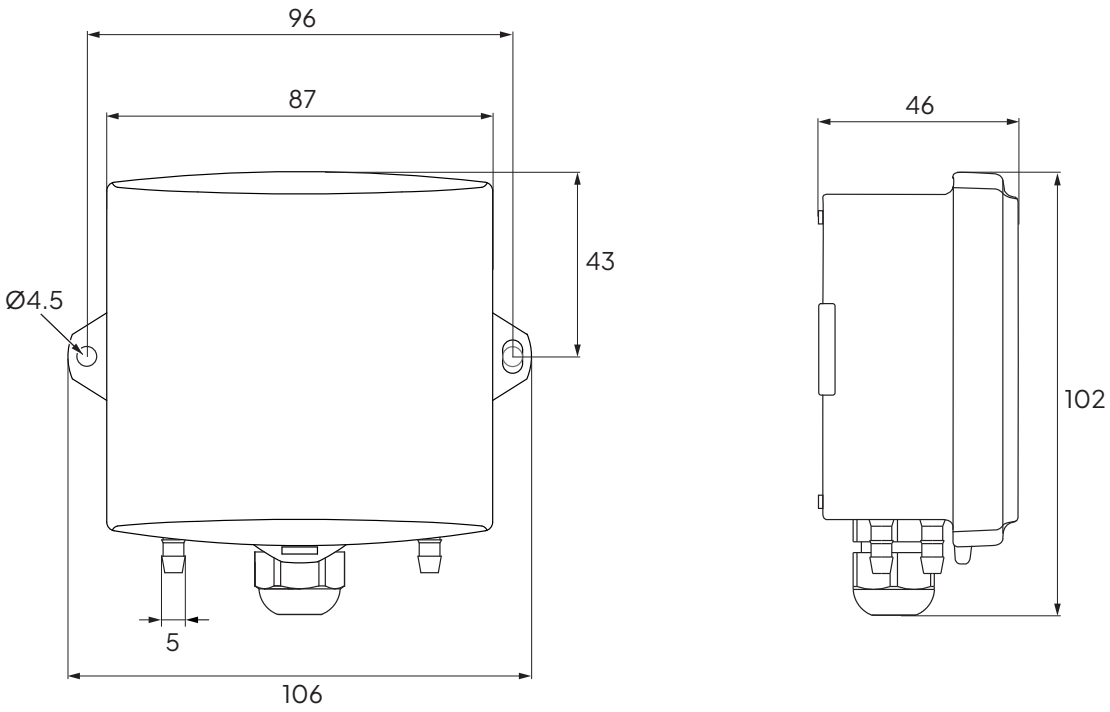
**Product dimensions (w x h x d)**
106 x 102 x 46 mm

**Product weight**
140 g


AKRIBIS · www.akribis.info · contacto@akribis.info

## Dimensions

All dimensions are in millimetres (mm).




## Factory settings

**Differential air pressure measurement range**
0...2500 Pa

**Pressure measurement response time**
4 s

**Pressure measurement unit**
Pa

**Output signal mode**
0...10 Vdc

**Controller**
Disabled

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

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

**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.

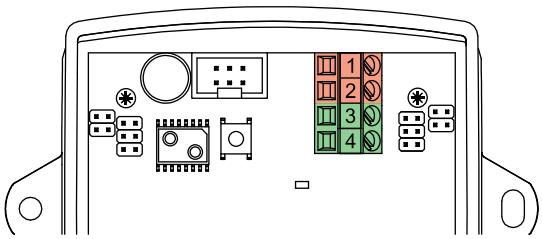

AKRIBIS · www.akribis.info · contacto@akribis.info

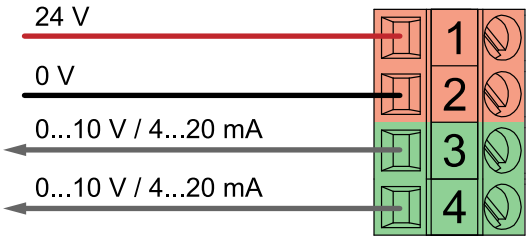
**Important:** For CE and UKCA compliance, use correctly grounded, shielded cable.

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

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 wiring diagram below. The nominal tightening torque for wiring terminal screws is 0.4 Nm.
5. Tighten the strain relief.
6. Close the cover.

See the figure below for wiring terminal location.




| | |
|---|---|
| **1** | Power supply, 24 Vac/dc |
| **2** | Power supply, 0 V |
| **3** | Output 1, 0...10 V / 4...20 mA |
| **4** | Output 2, 0...10 V / 4...20 mA |

## Ordering information

| | Product name | Product number | |
|---|---|---|---|
|  | KPEL | 1131310 | dual differential pressure transmitter, manual zeroing |

In addition to the product model introduced in this data sheet, following product models are also available.

| | Product name | Product number | |
|---|---|---|---|
|  | KPEL-N | 1131311 | dual differential pressure transmitter with display, manual zeroing |

| | Product name | Product number | |
|---|---|---|---|
|  | KPEL-M | 1131260 | dual differential pressure transmitter, Modbus, manual zeroing |
|  | KPEL-M-N | 1131261 | dual differential pressure transmitter with display, Modbus, manual zeroing |

## Tools

| | Product name | Product number | |
|---|---|---|---|
|  | ML-SER | 1139010 | transmitter commissioning tool |

## Optional products

| | Product name | Product number | |
|---|---|---|---|
|  | DP-AK | 1241000001 | differential pressure measurement accessory kit |


AKRIBIS · www.akribis.info · contacto@akribis.info