



Peritact 2000-K

**Low pressure measuring device with digital display,
analog outputs and limit value switches
for draught, pressure and differential pressure**

- ☐ Diaphragm measuring unit
- ☐ Lowest measuring range 0...50 Pa
- ☐ 2 analog outputs 0...10 V and 0/4...20 mA
- ☐ 2 contact-outputs with change over contacts
- ☐ Switch function min. or max.
- ☐ Illuminated-Indicator with 4 lines, 20 character each
- ☐ Supply voltage 230 Vac, 24 Vac or 24 Vdc
- ☐ Wall mounting case IP65
- ☐ Panel mounting with additional accessories



Description and operation

Safety indications



Attention! Read these instructions carefully before connecting the unit and putting it into operation. The device disposes of shock hazardous voltage and is therefore only to be connected and put into operation by trained and expert staff.

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Use

The low pressure measuring unit PERITACT 2000-K is used for measuring, display and transfer of measured values of smaller differential pressures of non-aggressive gases, particularly air.

The application range is e.g. in the climate and ventilation technology with the control of fans, monitoring of the room pressure or the filter control.

A version with characteristic square rooted can be used for flow measuring in accordance to effective head- or pressure head procedure.

Description

The differential pressure to be measured acts onto a silicone diaphragm and deflects it to a measuring spring. Deflection is transferred into an electronic output signal by a differential transformer with an electronics made up in SMD technology.

An illuminated indicator with 4 lines to each 20 characters allows a comfortable and clear display of following parameter.

- | | |
|---------|--|
| 1. line | pressure actual value with unit of measurement |
| 2. line | pressure actual value as analogous beam |
| 3. line | adjusted limit value (arrows) |
| 4. line | adjusted limit value (digital) |

The low pressure measuring unit PERITACT 2000-K has a voltage output of 0/2...10 V and in addition a current output of 0/4...20 mA. The change over of 0...10 V to 2...10 V resp. of 0...20 mA to 4...20 mA will be done in the adjustment mode.

For controlling of the two adjustable limit values two output relays with potential free change-over contacts are available.

The unit is equipped with an incorporated mains transformer for a supply voltage of 230 Vac. Furthermore, it is possible to supply the unit with 24 Vac or with 24 Vdc directly.

The complete measuring system is placed in a wall mounting case with protection IP65. The connection nozzles for the differential pressure to be measured are situated at the bottom side while the electrical cables are conducted into the unit via damp proof installation cables.

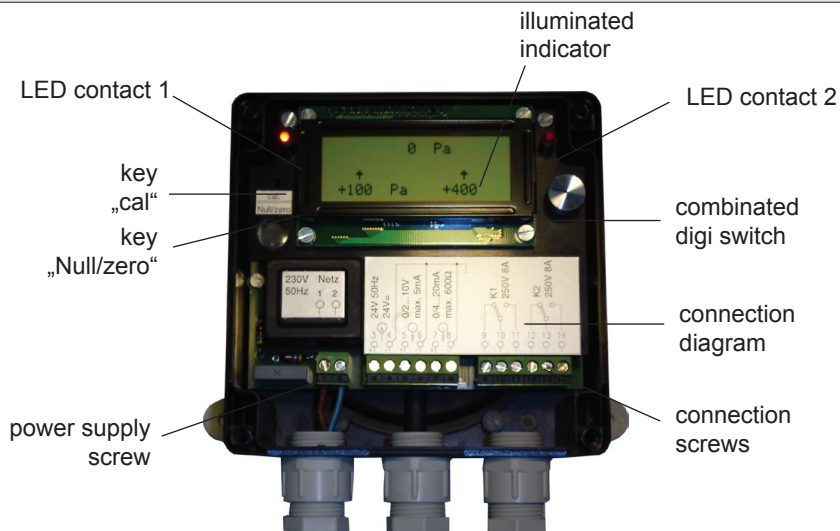
Mounting

The low-pressure measuring unit PERITACT 2000-K has to be vertically mounted onto an antivibration wall. A three-point fastening is provided for assembly.

The panel mounting type is equipped with additional parts which are mounted onto the device. The panel cut-off dimensions should be made according to drawing on page 6.

A zero point adjustment has to be effected after assembly, particularly with small measuring ranges. (see pages 4)

Using element, adjustments



View PERITACT 2000-K
by removed front cover

1. Zeropoint

For the adjustment of the zero point, the pressure hoses have to be removed. Now, it is possible to adjust the zero point with the key „Null/zero“ (besides the LCD-indicator) after taking off the front cover. Then place the hoses on again for pressure measuring.

2. Measuring range

The measuring range will be guaranteed by longterm stable steel springs. A re-calibration is usually not necessary. Should the range get re-calibrated even though an exact low pressure-calibrator is required. For adjustment the correspondig value has to be given on the unit, after that the key „cal“ has to get set by a bolt or smal screw driver. After a short adjustment time the unit will be calibrated to the given final value.

3. Adjustment of the beginning range and range span by $\pm$ ranges

By units, their ranges do not start with pressure zero, e.g. -100...+500 Pa after setting the key „Null/zero“ the output is set to the corresponding value of zero-pressure. After this the final value e.g. +500 Pa should be applied to the device, then set the key „cal“.

The start value, e.g. -100 Pa is herewith also be set regarding the linearity of the device.

Square rooting is not possible on $\pm$ ranges.

Adjustments

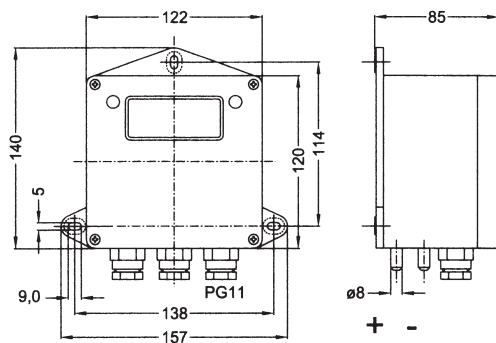
Further adjustments

By pushing the combined digi switch one gets to the adjustment mode. Here the following parameters can be adjusted with the help of the digi switch.

1. upper limit value
2. lower limit value
3. hysteresis
4. time delay of the contacts (0...20 sec.)
5. switch function min. or max. of the upper limit value
6. switch function min. or max. of the lower limit value
7. damping of the range (0, 1, 2, 4, 8, 16 oder 32 sec.)
8. characteristic (linear or square rooted)
9. change over the analog signals of 0...100 % to 20...100 %.

The respectively next adjustment parameter will be arrived by pushing the digi switch, the parameter itself will be adjusted by turning of the digi switch. Pushing of the digi switch after arriving the last adjustment parameter will set back the unit to measuring mode. The new adjusted values will be stored in the EEPROM-region of the micro-controllers.

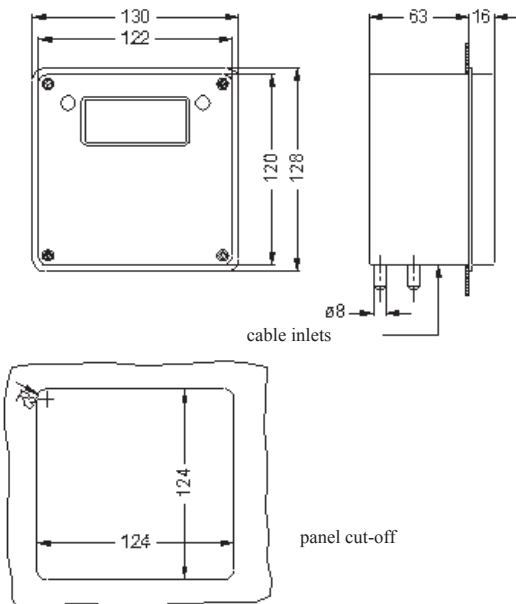
Physical dimensions



Connection of pressure pipes

The diameter of the connection nozzles which are intended for hose connection is 8 mm. The nozzles are situated at the bottom side of the unit, overpressure connection and underpressure connection are marked with „+“ and „-“.

Physical dimensions panel mounting

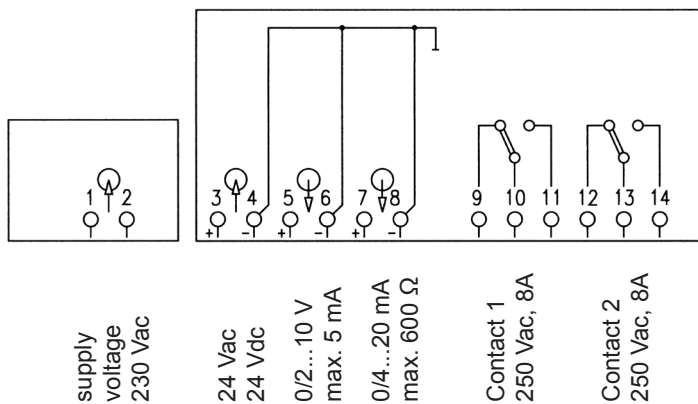


Electrical connection

Connection is effected as per connection plan below. The terminals are directly accessible after removing the front cover.

The connection cables are layed via M16x1,5 screwed connections.

Connection plan



Explanations to the connection plan

Supply with 230 Vac at terminals 1 and 2. This connection is physically separated from the remaining electronics by an incorporated mains transformer.

Supply with 24 Vac or with 24 Vdc at terminals 3 and 4. Here, direct supply is effected, i.e. the terminals 4, 6 and 8 are earth connections which are internally connected.

The voltage output and the current output can be used in parallel or individually. The current output is not be short-circuited only if the voltage output is used.

Switch contacts at terminals 9, 10, 11 (contact 1) and 12, 13, 14 (contact 2). The activation of the belonging relays will be shown in the front cover, by a LED.

Technical Data

Lowest measuring range:	50 Pa
Largest measuring range:	10.000 Pa
Measuring range adjusted:	on request, also $\pm$ ranges, e. g. -50...0...+50 Pa (if technically possible)
Overpressure security:	up to 0,2 bar
Static pressure:	max. 0,2 bar
Pressure connections:	Hose nozzles 8 mm $\varnothing$
Electrical connections:	Terminal screws up to 2,5 mm ²
Cable entries:	2 x M16x1,5
Supply voltage:	230 Vac (incorporated mains transformer) and 24 Vac or 24 Vdc (direct supply)
Power consumption:	approx. 1,5 VA
Output:	0...10 V and 0/4...20 mA
Electronic damping:	adjustable 0, 1, 2, 4, 8, 16, 32 sec.
Contact output:	2 potential free change over contact
Switch function:	min. or max. for each contact
Switch delay:	adjustable 0...20 sec.
Indicator:	illuminated LCD with 4 lines to each 20 character, following values will be shown: 1. line pressure actual value with unit of measurement 2. line pressure actual value as analogous beam 3. line adjusted limit value (arrows) 4. line adjusted limit value (digital)
Wall mounting housing:	Ultramid/ABS, black/grey Dimensions 122 x 120 x 85 mm (W x H x D)
Protection:	IP65
Ambient temperature:	0...50 °C
Weight:	approx. 900 g
EMC:	Control as per EN50081-2, EN50082-2, CE-sign
Accuracy:	$\pm 1 \%$