



Peritact 2000-K10

**Low-pressure meter with digital display,
analogue outputs and limit contacts for
differential pressure and flow rate**

- ☐ Micro flow sensor
- ☐ Smallest measuring range 0...10 Pa
- ☐ 2 analogue outputs 0/2...10 V and 0/4...20 mA
- ☐ 2 switching outputs with switching contacts 250 Vac, 8 A
- ☐ Switching function min or max
- ☐ Lit LCD-display 4 lines, 20 characters
- ☐ Supply voltage 230 Vac, 24 Vac or 24 Vdc
- ☐ Wall attachment housing IP65
- ☐ Panel installation easily possible with additional parts



Description and Operation

Safety notes



Attention! Read these instructions carefully before connecting the device and taking it into operation. The device must only be connected and taken into operation by experienced specialists.

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Application

The low-pressure meter PERITACT 2000-K10 is used to measure, display, transfer measured values and monitor thresholds of small differential pressures of non-aggressive gases and specifically air.

The area of use is, e.g., in climate and ventilation technology in control of fans, room pressure monitoring or filter control.

A design with root-extracting characteristic curve may also be used to measure air flow according to the effective pressure or backpressure procedure.

Description

The differential pressure to be measured causes a very low flow in a micro-flow sensor that is thermally assessed. Thus, this measuring procedure shows a small leak that is unimportant in most applications. Benefits of this procedure are the independence of position even at very small measuring ranges and the high zero point safety that is decisive especially at flow rate measurement according to the effective pressure procedure with square root extracted characteristic curve.

A lit LC display with 4 lines with 20 characters each permits comfortable and well-structured display of the following parameters:

1 st line	actual value digital with physical unit
2 nd line	actual value as analogue bar display
3 rd line	set thresholds as arrows
4 th line	set thresholds digital

The low-pressure meter PERITACT 2000-K10 has a voltage output 0/2...10 V and additionally a current output 0/4...20 mA. Switching from 0...10 V to 2...10 V or from 0...20 mA to 4...20 mA takes place in the setting mode.

There are 2 output relays with potential-free switching contacts for monitoring of 2 adjustable thresholds.

The device has an installed mains transformer for a supply voltage of 230 Vac. The device can also be supplied directly with 24 Vac or 24 Vdc.

The entire measuring system is placed in a wall attachment housing with protection type IP65. The connection sleeves for the differential pressure to be measured are located at the bottom of the device, while the electrical cables are routed into the device through wet-room passages.

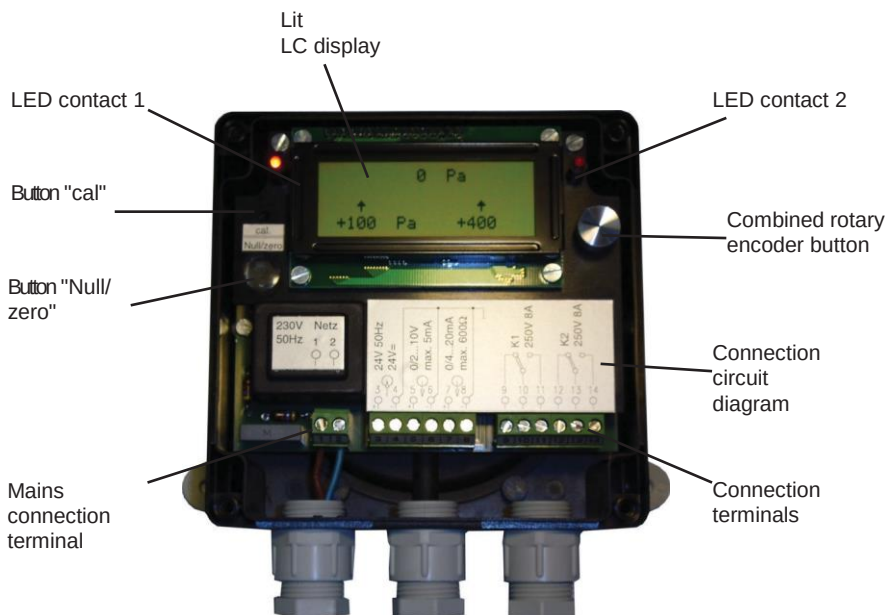
Assembly

The low-pressure meter PERITACT 2000-K10 is intended for wall setup. An additional installation frame also permits control panel installation.

Additional parts are installed for control panel installation. They are attached to the device if ordered accordingly. The control panel section is to be built according to the drawing.

The device is independent of position due to the measuring procedure with a micro flow sensor.

Operating Elements, Settings



View Peritact 2000-K
with the front cover taken off

Zero-point setting

The pressure hoses must be removed for zero-point setting. Then set the zero point with the button "Null/zero" (next to the digital display) after removing the front cover. Then reattach the hoses for pressure measurement.

Setting the measuring range

The measuring range is warranted by long-term stable steel springs. Recalibration usually is not required. If the measuring range still is to be adjusted, this must be done with a precise vacuum calibrator.

For setting, apply the corresponding final pressure to the meter, then push the button through the bore "cal" using a pin or a small screwdriver. The meter is calibrated to the specified final value after a brief setting time.

Setting the measuring start and range in $\pm$ -measuring ranges

For devices where the measuring start is not at pressure zero, e.g. $-100 \dots 0 \dots +500$ Pa, the value for pressure "zero" will appear after pushing the button "Null/zero".

Then put the final value, e.g. $+500$ Pa, onto the device and push the button "cal" to set the measuring range.

The value for the measuring start is now set in the scope of the device's linearity as well. Square root extraction is not possible for $\pm$ -measuring areas.

Settings

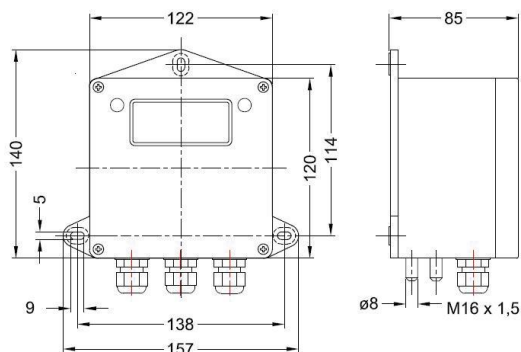
Other settings

Pushing the combined rotary encoder button will take you to the setting mode. The following additional parameters can be set here with the rotary encoder:

1. upper limit
2. lower limit
3. switching hysteresis
4. time delay of the switching relays (0...20 s)
5. switching function min or max of the upper limit
6. switching function min or max of the lower limit
7. dampening of the measured value (0, 1, 2, 4, 8, 16 or 32 s)
8. characteristic curve (linear or root-extracting)
9. switching of the analogue outputs of 0...100 % to 20...100 %.

The respective next setting parameter is reached by pushing the rotary encoder button; the parameter as such is set by turning the rotary encoder. Pushing the rotary encoder button after the last setting parameter returns the device to the measuring mode. The newly set values are stored in the EEPROM area of the microcontroller.

Construction Dimensions

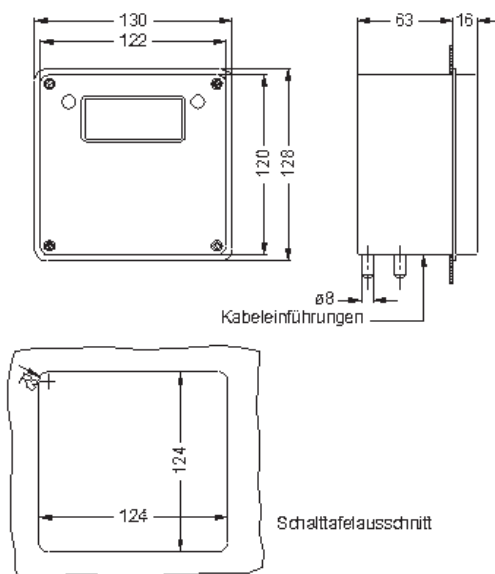


Connection to Pressurised Lines

The connection sleeves have a diameter of 8 mm and are intended for hose connection. We recommend a hose of 7 x 1.5 mm. The sleeves are at the bottom of the device; the overpressure connection is characterised with a "+".

The hoses should not be longer than 10 m.

Construction Dimensions Panel Installation

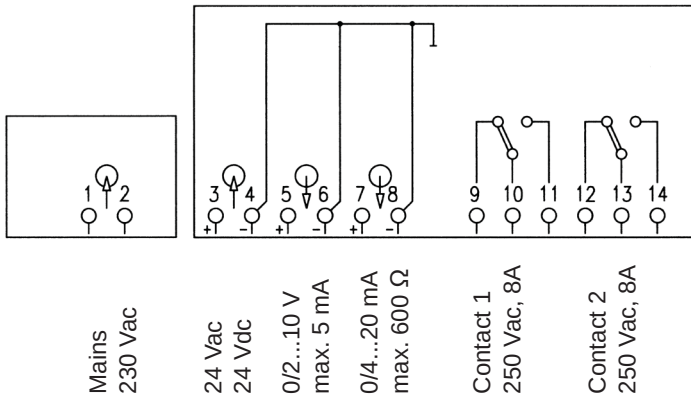


Electrical Connection

The connection is made according to the following circuit diagram. The terminals are directly accessible after removing the front cover.

The connection cables are supplied via M16x1.5 screw connections.

Circuit Diagram



Explanations on the circuit diagram

Supply with 230 Vac at terminals 1 and 2. This connection is galvanically insulated from the remaining electronics via an integrated mains transformer.

Supply with 24 Vac or with 24 Vdc at terminals 3 and 4. This is a direct supply i.e. the terminals 4, 6 and 8 are ground connections that are internally connected.

Voltage and current output can be used at the same time or individually. The current output does not have to be short-circuited if only the voltage output is used.

Switching contacts at the terminals 9, 10, 11 (contact 1) and 12, 13, 14 (contact 2); The contacts are drawn in the quiescent condition. Activation of the associated relays is displayed via an LED in the front lid.

Technical Data

Smallest measuring range:	50 Pa
Largest measuring range:	3500 Pa
Set measuring range:	as desired, $\pm$ areas not possible
Overload protection:	up to 0.2 bar, short-term up to 1 bar
Static pressure:	max. 0.2 bar
Pressure connections:	hose sleeves 8 mm $\varnothing$
Electrical connections:	screw clamps up to 2.5 mm ²
Cable insertions:	3 x M16x1.5
Supply voltage:	230 Vac (installed mains transformer) or 24 Vac or 24 Vdc (direct supply)
Power intake:	approx. 1,5 VA
Analogue outputs:	0/2...10 V and 0/4...20 mA
Characteristic curve:	linear or square-root extracting
Electronic dampening:	adjustable in 0, 1, 2, 4, 8, 16, 32 s
Switching outputs:	2 potential-free switching contacts
Contact load:	250 Vac, 8 A induction-free load
Switching function:	min or max can be set per contact
Switching delay:	adjustable 0...20 s
Display:	lit LC-display, 4 lines, 20 characters/line, the following values are displayed in measuring mode: 1 st line: actual value with physical units 2 nd line: actual value as analogue beam 3 rd line: set thresholds (arrows) 4 th line: set thresholds digital
Wall attachment housing:	ABS, grey Dimensions 122 x 120 x 85 mm (W x H x D)
Protection class:	IP65
Ambience temperature:	0...50 °C
Weight:	approx. 900 g
EMC:	Test according to EN50081-2, EN50082-2, CE
characters	
Tolerance:	$\pm 1 \%$