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GRILLO

Operating and installation instructions

PERITACT2000 / K / K10 / 2L

Differential pressure transmitter

Low-pressure measuring device with digital display for tensile, compressive and differential pressure, limit contacts and flow rate

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1. General safety instructions

1.1 Signal words for warnings

The safety instructions in this user manual are for hazard prevention.
You are in the operating instructions before an action / work / activity is described in which a hazard may occur.

CAUTION	Identification of a low-risk hazard that may result in property damage or minor bodily injury.
A NOTICE.	Signal word for important product information that should be highlighted in particular.
Danger word. 	**Type of hazard** Source of danger Hazard prevention

1.2 Pictograms and symbols used

The following symbols are used in this guide:

	General hazard symbol (Danger, warning, caution)		General note

1.3 General Information

A NOTICE. 	This instruction manual contains information on the correct installation and operation of the differential pressure regulator and is intended solely for the operator and authorized personnel. Following this manual will help to avoid hazards and downtime.

2. Product description

The PERITACT2000 differential pressure transmitters are used for measuring and controlling small differential pressures of non-aggressive gases, especially air.

2.1 Intended Use

The PERITACT 2000 low-pressure measuring device is used for measuring, displaying, and transmitting small differential pressures of non-aggressive gases, especially air. Applications include, for example, air conditioning and ventilation systems for controlling fans, monitoring room pressure, and controlling filters.

2.3 Functional description

The differential pressure to be measured acts on a silicone diaphragm and deflects it against a measuring spring. A differential transformer with surface-mount electronics converts this deflection into an electrical output signal.

A 3.5-digit LCD digital display is integrated to show the current pressure reading. The PERITACT 2000 low-pressure gauge has a voltage output of 0-10 V and an additional current output of 0/4-20 mA. The current output can be switched from 0-20 mA to 4-20 mA using a DIP switch.

The device has a built-in mains transformer for a supply voltage of 230 Vac. It can also be powered directly with 24 Vac or 24 Vdc.
The entire measuring system is housed in a wall-mounted enclosure with IP65 protection. The connection ports for the differential pressure being measured are located on the underside of the device, while the electrical cables are routed into the device via moisture-resistant feedthroughs. Simple mounting hardware allows the device to also be used for panel mounting.
This hardware is pre-installed upon delivery.

3. Assembly

The PERITACT2000 differential pressure transmitter is designed for wall mounting. Please consider the following factors when selecting a location:

- The mounting surface must be sufficiently firm and free from vibrations.
- The environment must meet the climatic conditions specified in the technical data.

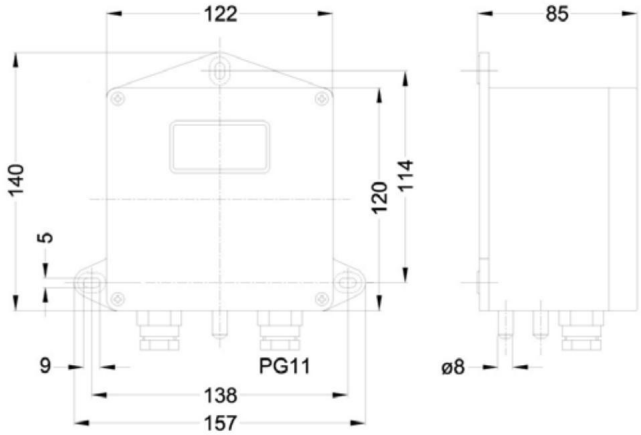
CAUTION	**Property damage**
	Read the operating instructions carefully before assembly and commissioning. The device may only be connected and commissioned by experienced personnel.

A NOTICE.	
	• The device is position-dependent • The PERITACT2000 must be mounted vertically. • The PERITACT2000 can be mounted on a wall.

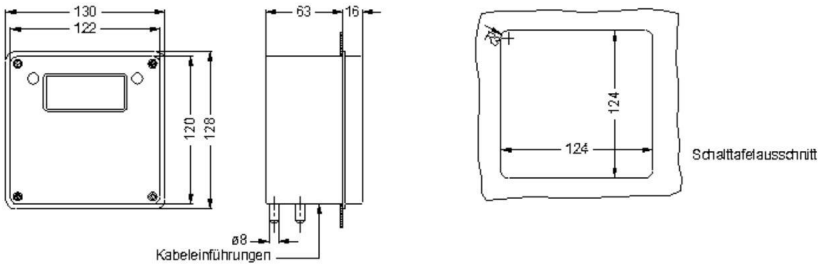
3.1 Dimensions

All dimensions in mm.

Building mass wall structure:



Building mass of panel structure:



3.2 Wall mounting

The wall-mounted version must be installed vertically on a vibration-free wall. A three-point mounting system is provided for installation.

Additional parts are installed for panel mounting; these are attached to the device if ordered accordingly. The panel cutout must be made according to the drawing.

After installation, a zero point adjustment (4.4 Zero point adjustment) must be carried out, especially for small measuring ranges.

4. Commissioning

4.1 Electrical connection

The connection is made according to the wiring diagram below. The terminals are directly accessible after removing the front cover. The connection cables are fed in via PG11 screw terminals.

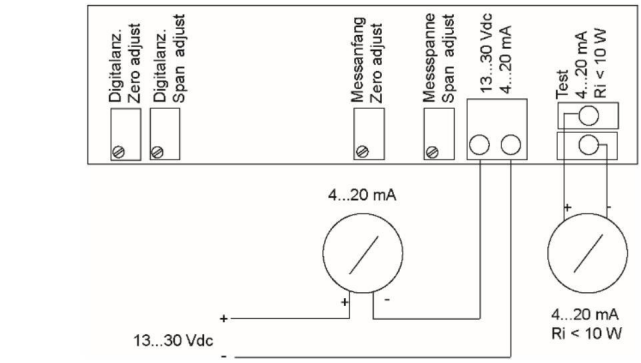
4.2 Electrical connection diagram

PERITACT2000

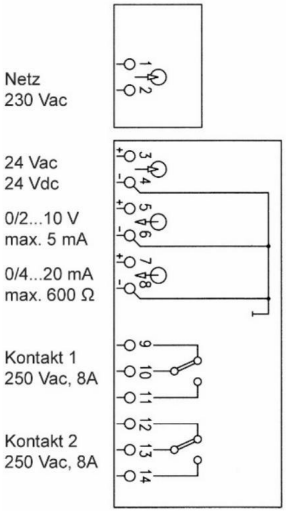
Power supply of 230 Vac at terminals 1 and 2. This connection is galvanically isolated from the rest of the electronics via a built-in mains transformer.

Power is supplied with 24 Vac or 24 Vdc at terminals 3 and 4. This is a direct supply, meaning terminals 4, 6, and 8 are ground connections that are internally connected.
The voltage and current outputs can be used in parallel or individually. The current output does not need to be short-circuited if only the voltage output is used.

PERITACT2000-2L



The connection polarity at terminals 1 and 2 of the two-wire transmitter is arbitrary.



Power supply of 230 Vac at terminals 1 and 2. This connection is galvanically isolated from the rest of the electronics via a built-in mains transformer.

Power is supplied with 24 Vac or 24 Vdc at terminals 3 and 4. Here, a direct supply is provided, meaning terminals 4, 6 and 8 are ground connections that are internally connected.

The voltage and current outputs can be used simultaneously or individually. The current output does not need to be short-circuited if only the voltage output is used.

Switching contacts at terminals 9, 10, 11 (contact 1) and 12, 13, 14 (contact 2). The contacts are shown in their rest position. Activation of the corresponding relay is indicated by an LED on the front cover.

4.3 Pressure connections

The connection nozzles have a diameter of 8 mm and are designed for hose connection. The nozzles are located on the underside of the device; the positive and negative pressure connections are marked with "+" and "-".

PERITACT2000K10 – No vacuum measurement possible

4.4 Zero point setting

1. Zero point - To set the zero point, disconnect the pressure hoses. Then, the zero point can be set using the "Measurement start" potentiometer (next to the terminals).
Adjust after removing the front cover. Then reattach the hoses for pressure measurement.

2. Measuring range - If an accurate low-pressure calibrator is available, it is also possible to
The measuring range can be readjusted using the corresponding potentiometer.

3. Damping - If the pressure reading fluctuates, electronic damping can be set in 3 stages using the "Damping" DIP switch.

1 off 2 off = no damping 1 off 2 on = damping approx. 0.8s

1 on, 2 off = damping approx. 0.3s
1 on 2 on = damping approx. 1.1s

4. Switching the current output from 0...20 mA to 4...20 mA

Dip switch 1 on 2 off = 0...20 mA
1 off 2 on = 4...20 mA

5. Maintenance

The PERITACT2000 contains no wear parts or consumables. Maintenance is not required. Upon request, Arthur Grillo GmbH offers annual calibration with a factory certificate. For more information, please contact:

6. Warranty

Warranty and liability claims for personal injury or property damage are excluded if they are due to one or more of the following causes:

- Improper use of the device.
- Improper assembly, commissioning, operation and maintenance of the device.
- Unauthorized structural modifications to the device beyond its intended purpose.

- Improperly performed repairs.
- Disasters caused by foreign bodies and force majeure.

7. Error messages / malfunctions

Description	measure
The display shows nothing.	Check electrical connection
The measured value remains at zero.	Functional test with slight pressure in measurement mode for Differential pressure
Measurement error	Perform zero point adjustment according to chapter 4.4.
Mistakes remain consist	Contact manufacturer

8. Disposal

When disposing of electronic components and devices, please observe the legal regulations in the user's country regarding their disposal.

9. Technical Data

	PERFORMANCE:
Overload protection:	At least up to 10 times the measuring span
Static pressure:	Max. 0.2 bar
	ACCURACY / ERROR LIMITS:
Zero point deviation: ± 0.75% sum of linearity and hysteresis:	± 1% of the measuring range
Temperature drift Zero point:	± 0.3% / 10 K
Temperature drift Measuring range:	± 0.2% / 10 K
	TECHNICAL SPECIFICATIONS:
Operating mode:	Measurement mode
Medium being measured:	Air or non-aggressive gases
Sensor:	Electromechanical diaphragm measuring device
Unit of measurement:	Pa
Smallest measuring span:	0…50 Pa (0.5 mbar) **– PERITACT2000 / 2000-K** 0…10 Pa (0.1 mbar) – **PERITACT2000K10**
Largest measuring range:	0…10000 Pa (100 mbar) – **PERITACT2000 / -K** 0…3500 Pa (35 mbar) – **PERITACT2000-K10**
Measuring ranges: **(PERITACT2000 / -K)**	0…50 Pa (0.5 mbar), 0…100 Pa (1 mbar), 0…200 Pa (2 mbar), 0…400 Pa (4 mbar), 0…500 Pa (5 mbar), 0...1000 Pa (10 mbar), 0…2000 Pa (20 mbar), 0…4000 Pa (40 mbar), 0…5000 Pa (50 mbar), 0…6000 Pa (60 mbar), 0…10000 Pa (100 mbar)
Measuring ranges: **(PERITACT2000-K10)**	0...10 Pa (0.1 mbar), 0...20 Pa (0.2 mbar), 0...50 Pa (0.5 mbar), 0...100 Pa (1 mbar), 0...200 Pa (2 mbar), 0...400 Pa (4 mbar), 0...500 Pa (5 mbar), 0...1000 Pa (10 mbar), 0...2000 Pa (20 mbar), 0…3000 Pa (30 mbar), 0…3500 Pa (35 mbar)
Characteristic curve:	Pressure - linear, Volume - square root **(Only PERITACT2000K / -K10)**
Damping:	Adjustable in 3 stages - **PERITACT2000** Adjustable: 0, 1, 2, 4, 8, 16, 32 s - **PERITACT2000-K / -K10**
Ambient temperature:	-10...+50 °C
Storage temperature:	-25...+60 °C
The following only PERITACT2000K / PERITACT2000K10:	
Switching function:	Min. or max. for each contact

Adjustable Switching ranges: 0…100% measuring range

Switching outputs: 2 potential-free changeover contacts

Switching delay: Adjustable 0...20 s

Contact rating: 250 Vac, 8 A non-inductive load

PHYSICALLY:

Housing: Ultramid/ABS, black/grey

Dimensions: 122 x 120 x 85 mm (W x H x D)

Weight: Approx. 900 g

Protection class: IP 65 according to EN 60529

Advertisement:

(PERITACT2000) 3 1/2-digit digital LCD display, digit height 13 mm

(PERITACT2000K/ K10) Illuminated LCD display - 4 lines, 20 characters

Values: Actual pressure value with unit, actual pressure value as analog bar graph, set limits (arrows), set limits (digital)

Electrical connections: Cable entry M16 x 1.5

Pressure connections: Hose nozzles 8 mm ø

ELECTRONICS:

Supply voltage: 230 Vac, 24 Vac or 24 Vdc **(13…30 Vdc – PERITACT2000-2L)**

Power consumption: Approx. 1.5VA - **PERITACT2000K / PERITACT2000K10**

Output: Output: 0...10 V, 0/4...20 mA **(4…20 mA – PERITACT2000-2L)**

CONFORMITY:

EMC: EN 61000-6-2, EN 61000-6-3, CE mark

RoHS: Complies with RoHS Directive 2011/65/EU

10.1 CE Marking As electrical equipment, the PERITACT2000 falls within the scope of Directive 2004/108/EC (EMC Directive). The following standards were applied within the framework of the EMC Directive:

DIN EN 61000-6-2:2006-03 Correction 1:2011-06	Electromagnetic compatibility (EMC) - Part 6-2: Technical standards - Immunity to interference for industrial areas
DIN EN 61000-6-3:2011-09	Electromagnetic compatibility (EMC) - Part 6-3: Technical basic standards - Interference emission for residential areas, Business and commercial sectors as well as small businesses

You can request the declaration of conformity here: