Electronic Pressure Calibrator PC4
Pressure up to 1000 mbar, internal pressure source

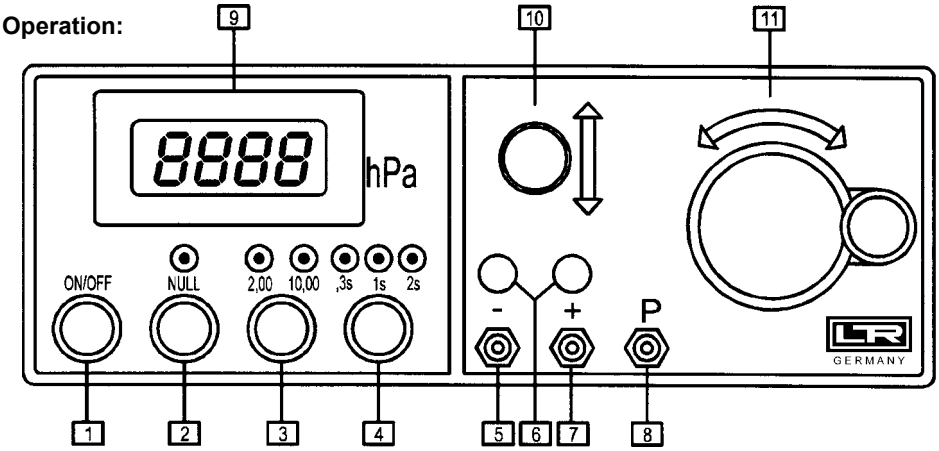
PC4

PC4-Pressure Calibrator with internal pressure source up to 1000 mbar
Pressure - Vacuum - Differential Pressure

The PC4 is an appliance for verification and calibration of pressure sensors, pressure gauges, as well as pressure switches for low pressures. The combination pressure measuring unit and pressure generator allows a variety of applications in the laboratory as well as in the field.
The PC4 can be used with battery (9V E-Block) or (optional) from the mains (plug-in power supply).
The robust inductive measuring cell covers a wide pressure measuring range by means of a 1 : 5 pressure range selector. The PC4 can be delivered for 3 standard measuring ranges. Responsetime of the measuring signal can be selected for 3 steps.
The pressure is displayed on a high contrast LC display with 12.5 mm characters. An analogue output is available on request. For greater volumes an integrated hand pump is used to generate a pressure and metal bellows is used for precide adjustment.
Two integrated valves are used to vent the measuring equipment.

Application Areas:
Heating, ventilation, air conditioning, Cleanroom technology, medical technology, Filter technology, Level measurements (bubble-through measurements), Flow-velocity measurements (Pitot tube, orifice blade)

Operation:



Pressure output P should be connected with 6 mm tube at a low or negative pressure using a T-piece to the pressure to be measured as well as to the pressure intput “+” resp. “-“ for vacuum. For large displacement volumes the measuring pressure is set to course using the pump [10]. Fine setting is made with knob [11].

[1] **ON/OFF key:** With this key the PC4 is switched on and off. If the jack connector of the optional plug-in power supply is disconnected, the PC4 switches over to battery operation.
[2] **Zero point key :** This keypad is used to adjust the sensor to zero. Zero settings must be carried out with the pressure inputs open. During zero setting the red LED over the keypad is illuminated. Response times are automatically set to the shortest time and must be reset to the required values if necessary.
[3] **Measurement range key:** With this keypad the measurement range is selected. The LED over the keypad displays the corresponding measurement range value.
[4] **Response times:** To supress pressure peaks the response time of the instrument can be set using this keypad. The corresponding integration times are displayed by the LEDs.
[5] **Pressure input:** Measurement input for negative overpressure (vacuum) - for 6 mm tube.
[6] **Ventilating valves:** This keypad is used to ventilate the measurement set-up.
[7] **Pressure input:** Measurement input for positive overpressure (for 6 mm tube).
[8] **Pressure output (P):** At this output the pressure produced by the pump or bellow can be tapped and using a T-connector can be connected to the unit under test “+” or “-“ inputs and pressure “+” or “-“ inputs of the PC4.
[9] **LCD display:** The measured pressure is diplayed on this LCD. A negative overpressure is indicated with a “minus” prefix. Should the battery voltage be exceeded a battery symbol display is illuminated.
[10] **Pump:** For large displacement volumes a coarse setting of the measured pressure is selected by the pump. Fine adjustment is carried out as in [11]. CAUTION: Excessive pressures can damage the measurement cells.
[11] **Bellow:** For small volume displacements as well as for fine pressure adjustments the metal bellows should be preferably be used. The metal bellows has two mechanical stops. Turning to the right results in a pressure increase whereas turning to the left causes a decrease. ATTENTION: Never blow into the pressure connections! Measurement ranges up to 100 mbar can thereby be damaged or destroyed.

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Available Types:

Type	Pressure Ranges		Overload
PC4-10	0...10 mbar	switch-selectable to 0...1,999 mbar	10-times
PC4-100	0...100 mbar	switch-selectable to 0...19,99 mbar	10-times
PC4-1000	0...1000 mbar	switch-selectable to 0...199,9 mbar	2-times
other pressure ranges on request			

Technical Data:

Measurement principle:	Inductive
Medium:	non-aggressive gases
Wetted parts:	Ni, Al, CuBe, PU
Linearity:	0.2% FS
Hysteresis:	0.1% max. FS
Long term stability	±0.5% per year (typical)
Sensor volume:	appr. 3 ml
Volume increase:	appr. 0,2 ml at nominal pressure
Pump:	Displacement volume variable
Bellows (fine adjustm.):	Displacement volume appr. 25 cm³ at 20 crankshaft rotations
Power supply:	9 V E-Block (Option: plug-in power supply 230 VAC 50/60 Hz)
Current consumption:	appr. 10 mA
Protection:	250 mAT
Supply influence:	< 0,05%
Option:	Analogue output 0...1 V (max. load resistance ≥2 KOhm)
Display:	LCD 3 1/2 digits (12.5 mm); Option: LCD 4 1/2 digits (12.5 mm)
Response time:	Adjustable 0.3 / 1 / 2 Seconds
Pressure connections:	Diameter 6.6 mm x 1 mm (for flexible hose with 6 mm diam.)
Electrical connections:	Power supply jack plugs for optional plug-in power supply 4 mm banana plugs for optional analogue output
Temperature influence	Zeropoint ±0.03% FS / K; Span ±0.03% FS / K
Temperature ranges:	specified range from +10°C to +40°C
Humidity:	up to 80% relative humidity
Storage temperature:	-10°C to +70°C
Housing:	Bench housing in Aluminium 248 mm x 225 mm x 90 mm
Shock resistance:	1 g
Housing colour:	Grey, Front green anodized
Protection class:	III
Degree of protection:	IP 30
Standardisation:	EN 50081-1; EN 50081-2; EN 50082-1; EN 50082-2; EN 61010
Weight:	appr. 2 kg

Options:

- LCD-display 4 1/2 digits
- Plug-in power supply 230 VAC
- Analogue Output 0...1 V
- other pressure ranges on request

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