

Precision pressure indicator 1- or 2-channel version Model CPG2500




WIKA data sheet CT 25.02

Applications

- Factory calibration laboratories
- Calibration service companies and service industry
- Research and development laboratories

Special features

- Measuring ranges: from 0 ... 25 mbar to 0 ... 700 bar (up to 2 separate internal precision sensors possible)
- Pressure type: positive and negative gauge, absolute pressure and also differential pressure possible via two sensors
- Precision down to 0.003 % IS (IntelliScale)
- Accuracy down to 0.01 % IS (IntelliScale)



Precision pressure indicator model CPH2500

Description

Application

The CPG2500 is a modular pressure measuring instrument, incorporating up to two high-precision pressure sensors (in two separate channels) and a barometric reference as an option.

Due to a DKD/DAkkS certified accuracy of the entire measuring chain of 0.01 % (optional 0.01 % IS-50), it is predominantly used as a factory/working standard for the verification and/or calibration of the widest range of pressure measuring instruments.

Functionality

A colour touch-screen, combined with a user-friendly menu, guarantees the maximum ease of operation; and all this is available in a number of different languages. Various functions, such as min/max memory, pressure rate, tare or differential pressure measurement via two sensors, ensure that this precision pressure measuring instrument can be used for many different applications.

Software

WIKA EasyCal standard calibration and documentation software makes calibrating any type of pressure measuring instrument easy and enables the simple production of calibration certificates; or the customer can create his own test programs, e.g. with the help of LabVIEW® software.

Complete test and calibration systems

On request, complete mobile or stationary test systems can be manufactured. For integration into existing systems, RS-232, Ethernet, IEEE-488.2 (as an option) interfaces or an optional analog output of DC 0 ... 10 V are available.

Specifications

CPG2500

Reference pressure sensors

Pressure range	Standard	Optional
Accuracy	0.01 % FS	0.01 % IS-50 1)
Gauge pressure	0 ... 0.025 to 0 ... 700 bar ²⁾	0 ... 1 to 0 ... 400 bar
Bi-directional	-1 ... -0.025 to +0.025 ... + 700 bar ²⁾	-
Absolute pressure	0 ... 0.35 to 0 ... 701 bar abs.	0 ... 1 to 0 ... 401 bar abs.
Precision	0.003 % FS	0.003 % IS
Optional barometric reference		
Function	The barometric reference can be used to switch pressure types ³⁾ (absolute <=> gauge). With gauge pressure sensors, the measuring range of the sensor must begin with -1 in order to carry out an absolute pressure emulation.	
Measuring range	552 ... 1172 mbar abs.	
Accuracy	0.01 % of measured value	
Pressure units	38 and 2 freely programmable	

1) 0.01 % IS-50 accuracy: 0 ... 50 % of the measuring span 0.01 % of half the measuring span and 0.01 % of the measured value between 50 ... 100 % of measuring span.

2) Measuring range ≤ 70 mbar measuring span → 0.03 % FS.

3) For a pressure type emulation, we recommend a native absolute pressure sensor, since the zero point drift can be eliminated through a zero point adjustment.

Base instrument

Instrument	
Instrument version	Standard: desktop case optional: 19" rack-mounting with side panels incl. rack-mounting kit
Dimensions in mm	see technical drawings
Weight	approx. 2.3 kg
Display	
Screen	6.7" LCD (640 x 240 pixel)
Screen division	1 window per sensor
Resolution	4 ... 6 digits
Keyboard	Graphical colour touch-screen
Response time	< 200 msec
Warm-up time	approx. 15 minutes
Connections	
Number of integrateable sensors (selectable)	1 or 2 pieces
Pressure connections	up to 400 bar: 7/16-20 F SAE/MS (optional: 6 mm Swagelok® tube fitting inclusive) above 400 bar: Autoclave F250C/HIP HF4
Pressure adapters	on request
Permissible pressure media	clean, dry, non-corrosive, non-inflammable and non-oxidising gases (> 1 bar liquids possible)
Overpressure protection	150 % (optional external relief valve kit available)
Voltage supply	
Power supply	AC 100 ... 264 V, 47 ... 63 Hz
Permissible ambient conditions	
Operating temperature	0 ... 50 °C
Storage temperature	0 ... 70 °C
Relative humidity	0 ... 95 % r.H. (non-condensing)
Compensated temperature range	15 ... 45 °C
Communication	
Interface	Standard: RS-232, Ethernet optional: IEEE-488 or 0 ... 1 / 5 / 10 V analog output
Instruction sets	Mensor, WIKA SCPI, Mensor 2100

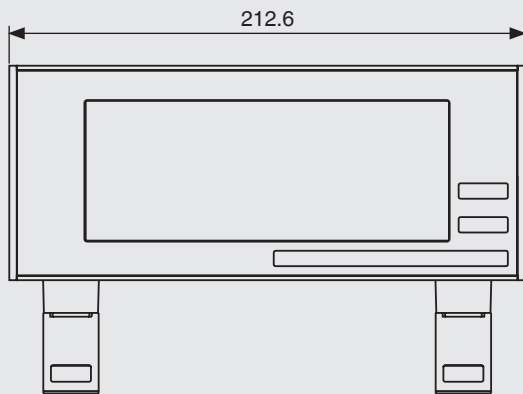
Approvals and certificates

Certificate	
Calibration ⁴⁾	Incl. 3.1 calibration certificate per DIN EN 10204

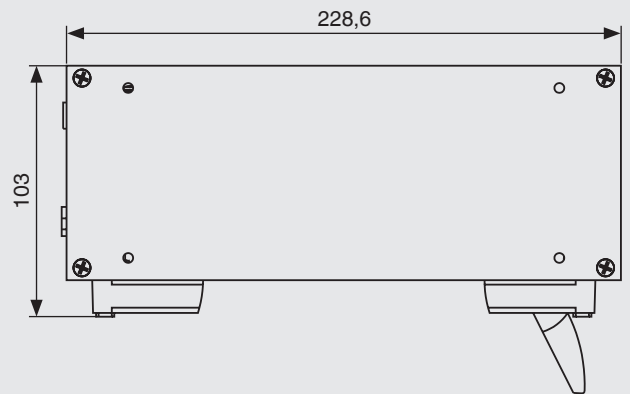
4) Calibration in a horizontal position.

Dimensions in mm

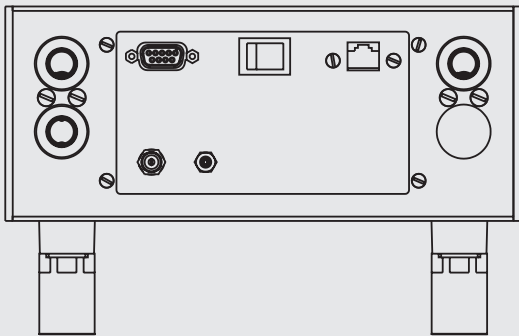
Front view



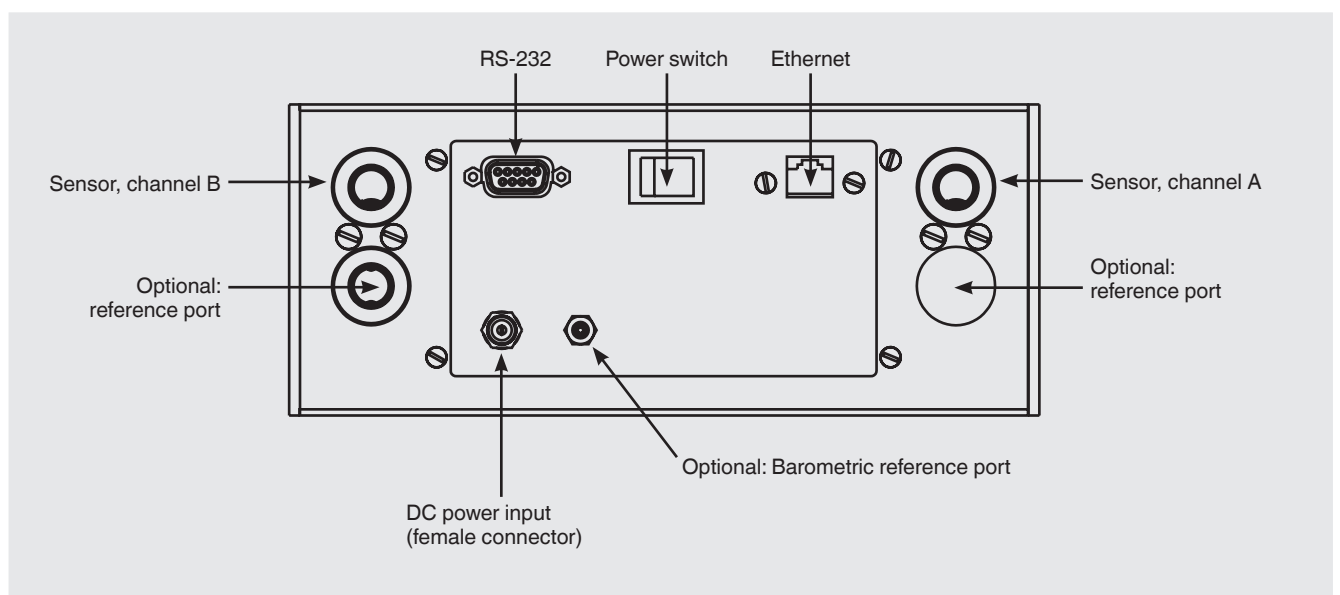
Side view



Rear view



Electrical and pressure connections - rear



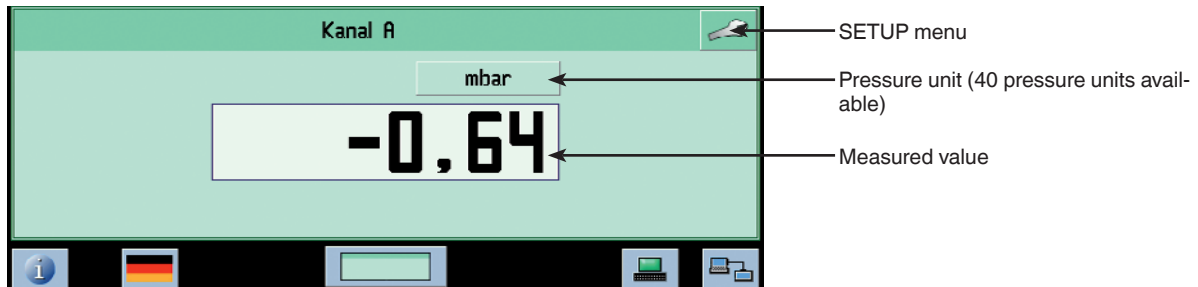
Display configuration and available functions

The instrument is available with either one or two internal precision pressure controllers (single or dual channel version); their display along with optional functions can be easily configured via touch-screen.

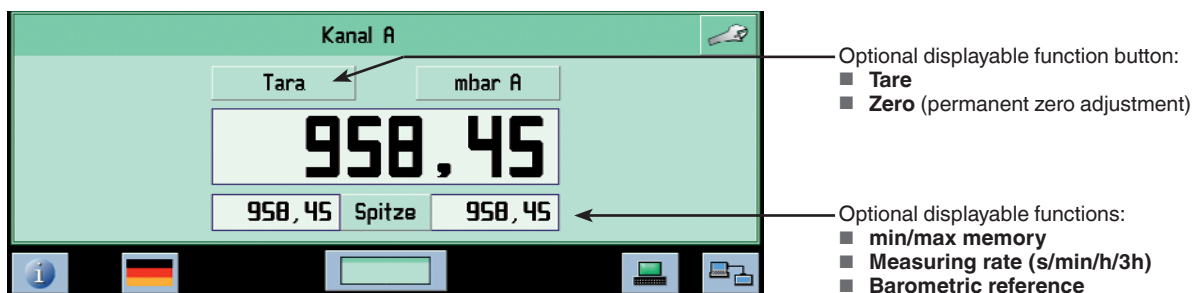
Except for the pressure unit which is configured directly via the pressure unit button, all settings can be easily accessed and configured via the SETUP menu button (top right on the screen).

1-channel version

a) Standard screen display



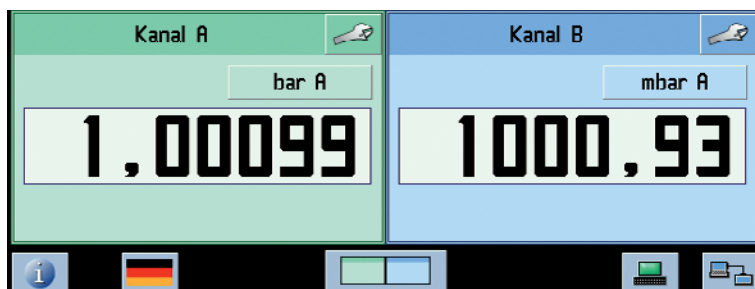
b) Screen display along with extra-functions enabled (configurable via SETUP menu)



Further optional available functions (configurable via SETUP menu)

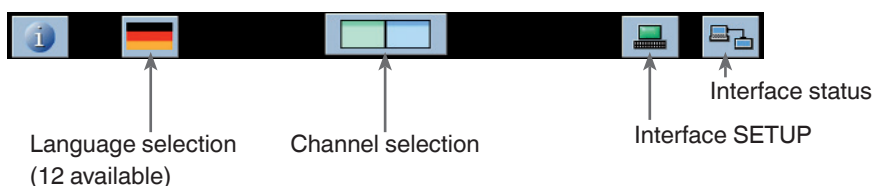
- Head correction (between reference and test item)
- Signal filtering
- Differential pressure measurement (only possible with dual channel version)

Dual channel variant (two integrated precision sensors)



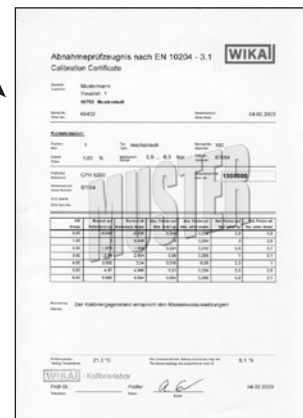
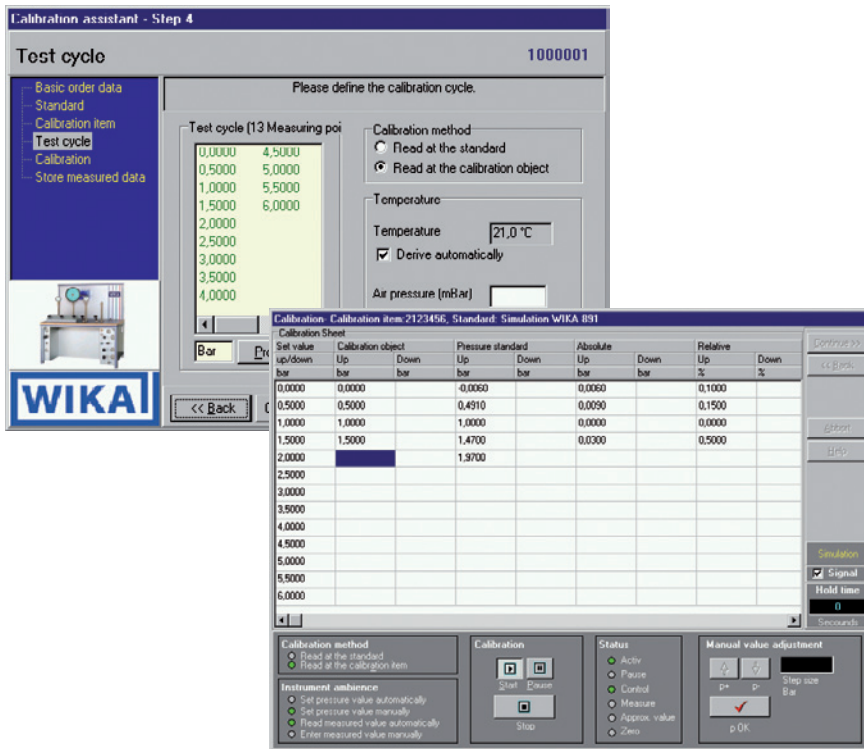
Explanation of the lower toolbar

A toolbar with the following functions is located at the bottom of the display. By pressing a particular button the respective submenu will appear.



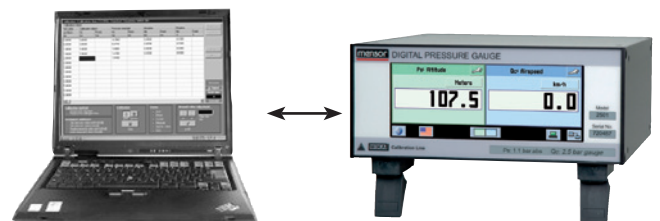
Automatic calibration using CPC2500 and EasyCal calibration software

The WIKA EasyCal calibration software is used for the calibration (inspection equipment monitoring) of mechanical and electronic pressure measuring instruments in accordance with DIN ISO 9000ff.



Performance characteristics of EasyCal professional:

- A calibration assistant guides you through the calibration
- User-friendly interface
- Automatic generation of the calibration steps in accordance with DIN EN 837-1
- Generation of 3.1 certificates in accordance with DIN EN 10204
- Customer-specific test reports possible (Access Report designer)
- Calibration data storage and instrument management via Access database
- Languages: German/English



Serial communication via RS-232 or IEEE-488.2

Scope of delivery

- Precision pressure indicator CPG2500
- 1.5 m power cord
- Operating instructions
- 3.1 calibration certificate per DIN EN 10204

Options

- DKD/DAkkS certified accuracy
- 19" rack mount kit
- Second internal sensor
- Barometric reference
- IEEE-488.2 interface
- Analog output
- Complete test and calibration systems

Accessories

- Robust transport case
- Pressure adapters
- Pressure relief valve kit
- Interface cable
- EasyCal standard calibration software

Ordering information

Model / Housing type / Channel A reference sensor / Channel B reference sensor / Barometric reference / Interface / Analog output / Pressure connection adapter / Additional order information

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We reserve the right to make modifications to the specifications and materials.



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