

Precision hand-held pressure indicator Model CPH6400

WIKA data sheet CT 14.01



Applications

- Calibration service companies and service industry
- Measurement and control laboratories
- Quality assurance

Special features

- Digital indicator with easily interchangeable reference pressure sensors (plug-and-play)
- Measuring ranges from 0 ... 250 mbar up to 0 ... 6,000 bar (vacuum and absolute pressure ranges also available)
- Accuracy: 0.025 % (incl. calibration certificate)
- Simultaneous pressure and temperature measurement with external Pt100 resistance thermometer
- Min, Max, pressure rate and data logger function



Precision hand-held pressure indicator model CPH6400 with optional model CPT6400 reference pressure sensor

Description

Features

A wide variety of reference pressure sensors, offering various measuring ranges of up to 6,000 bar, are available to the operator, always ensuring a solution matched to the application. The individual sensors can be exchanged quickly and without tools (plug-and-play) and are automatically recognised by the digital indicator. Also, as an option, very accurate temperature measurement with a Pt100 resistance thermometer is possible. In addition, this instrument features a large, easily-read display with backlighting (on/off selectable), a durable case and simple, clear operation.

Functionality

In addition to mobile and high-precision pressure and temperature measurement, the CPH6400 also opens up other helpful applications e.g. recording of pressure and temperature curves (via the logging function), leak testing (via the pressure rate function) and peak value determination (via the Min/Max function).

Software

The WIKA-CAL calibration software is available both for the reading of the logger data stored in CPH6400 and for online calibrations in conjunction with a PC. Using this software, the calibration data is automatically transferred into a printable calibration certificate. WIKA-CAL also offers, over and above PC-supported calibration, the management of the calibration and instrument data in an SQL database.

Complete test and service set

For maintenance and service applications, various service case systems are available. These include pressure service sets with/without pressure generation, power supply unit/charger, connection adapter, etc.

Certified accuracy

For each reference pressure sensor and Pt100 resistance thermometer, the accuracy for the complete measuring chain is certified by a factory calibration certificate which accompanies the instrument. On request, we can provide a DKD/DAkkS calibration certificate for this instrument.

Specifications

Precision hand-held indicator model CPH6400 (complete measuring chain)

Sensor technology		1 reference pressure sensor (interchangeable without tools) ¹⁾							
Measuring range	bar	0 ... 0.25	0 ... 0.4	0 ... 0.6	0 ... 1	0 ... 1.6	0 ... 2.5	0 ... 4	0 ... 6
Overpressure limit	bar	1.6	2	4	5	10	10	14	35
Burst pressure	bar	4	2.4	4.8	6	12	12	20.5	40
Accuracy of the measuring chain		0.025 % FS ²⁾							
Measuring range	bar	0 ... 10	0 ... 16	0 ... 25	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 250
Overpressure limit	bar	35	80	80	80	120	200	320	500
Burst pressure	bar	42	96	96	96	550	800	1,000	1,200
Accuracy of the measuring chain		0.025 % FS ²⁾							
Measuring range	bar	0 ... 400	0 ... 600	0 ... 1,000	0 ... 1,600	0 ... 2,500	0 ... 4,000	0 ... 5,000	0 ... 6,000
Overpressure limit	bar	800	1,200	1,500	2,300	3,500	5,000	6,000	7,000
Burst pressure	bar	1,700	2,400	3,000	4,000	6,000	8,000	10,000	11,000
Accuracy of the measuring chain		0.025 % FS ²⁾			0.1 % FS ²⁾				
Types of pressure	Gauge pressure, {absolute pressure measuring ranges from 0 ... 25 bar abs. and vacuum measuring ranges from -1 ... +39 bar}								
Sensor compatibility	Compatible with model CPT6400 reference pressure sensors								
Temperature measurement	only for 2-channel version								
Sensor type	Pt100, 4-wire								
Measuring range	-10 ... +50 °C								
Resolution	0.01 °C								
Accuracy	0.05 °C ³⁾								

{ } Items in curved brackets are optional extras for an additional price.

1) Up to 10 reference pressure sensors can be supported on each instrument (up to 10 calibration data sets).

2) Calibrated at 23 °C and in vertical mounting position, process connection facing downwards.

3) Deviation between the set value and the actual value

Digital indicator model CPH6400

Indication	
Display	Large graphic display, with backlighting (on/off selectable)
Display resolution	up to 6 digits; selectable
Pressure units	bar, mbar, kPa, psi, mmHg, inHg and kg/cm ² (depending on the measuring range, freely selectable)
Functions	
Measuring rate (pressure)	5 values/sec
Memory	Min/Max, integrated data logger
Functions via key press	Tare, change units
Menu functions	Min/Max memory, pressure rate, zero point adjustment for overpressure ranges, logger (start/pause/stop)
Data logger	Cyclic logger: automatic recording of up to 1,000 pressure values (for 2-channel version: 500 pressure values and 500 temperature values) Cycle time: selectable from 1 ... 3600 seconds
Voltage supply	
Power supply	Internal Lithium-Ion rechargeable battery (charging time: < 6 h)
Battery life	approx. 25 hours of operation
Permissible ambient conditions	
Operating temperature	0 ... 50 °C
Storage temperature	-20 ... +60 °C
Relative humidity	0 ... 85 % r. h. (non-condensing; at 50 °C)

Digital indicator model CPH6400

Communication

Interface USB

Case

Material Polyamide 12, membrane keypad, transparent panels

Ingress protection IP 65

Dimensions see technical drawing

Weight approx. 480 g

Reference pressure sensor model CPT6400

Process connection $\leq 1,000$ bar: G $\frac{1}{2}$ B; {various connection adapters on request}
> 1,000 bar: M16 x 1.5 female, with sealing cone

Material

Wetted parts Stainless steel (with measuring ranges > 25 bar ... $\leq 1,000$ bar Elgiloy® in addition)

Internal transmission fluid Synthetic oil (only for measuring ranges up to 25 bar) {Halocarbon oil for oxygen versions} 4)

Sensor specifications

Accuracy per year ≤ 0.025 % of span (only with CPH6400)

Compensated range 0 ... 50 °C

Permissible ambient conditions

Medium temperature -20 ... +80 °C 4)

Operating temperature -20 ... +80 °C 4)

Storage temperature -40 ... +85 °C 4)

Relative humidity 0 ... 95 % r. h. (non-condensing)

Case

Material Stainless steel

Connection to the CPH6400 Circular connector, 8-pin

Ingress protection IP 65 (with cable connected)

Dimensions see technical drawing

Weight approx. 220 g

{ } Items in curved brackets are optional extras for an additional price.

4) For oxygen versions, the medium temperature must not exceed 60 °C.

CE conformity, approvals, certificates

CE conformity CPH6400

EMC directive 2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (portable measurement equipment)

CE conformity, CPT6400

Pressure equipment directive 97/23/EC, PS > 200 bar; module A, pressure accessory

EMC directive 2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (industrial application)

Approvals

GOST-R Import certificate, Russia

GOST Metrology/measurement technology, Russia

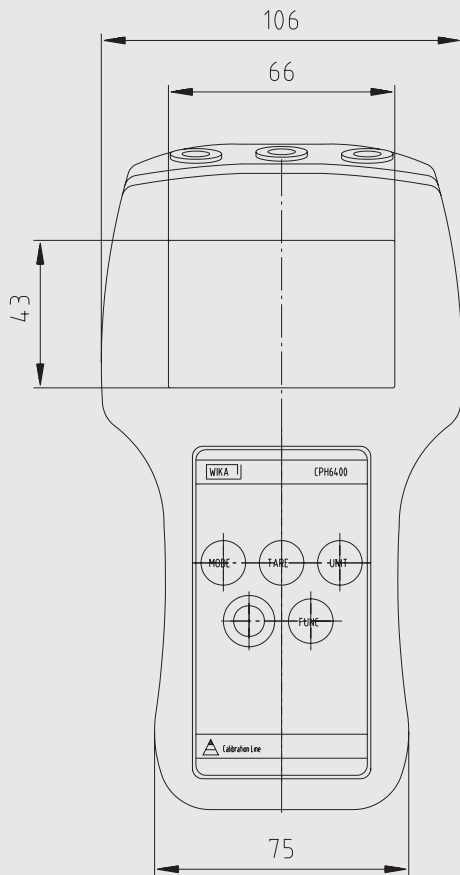
Certificates

Calibration Standard: 3.1 calibration certificate per DIN EN 10204
Option: DKD/DAkkS calibration certificate

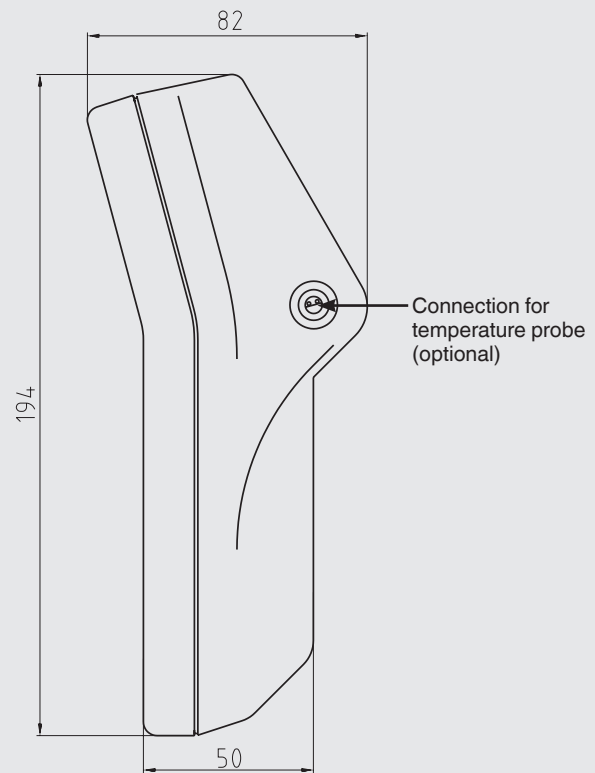
Approvals and certificates, see website

Dimensions in mm

Digital indicator CPH6400
Front view

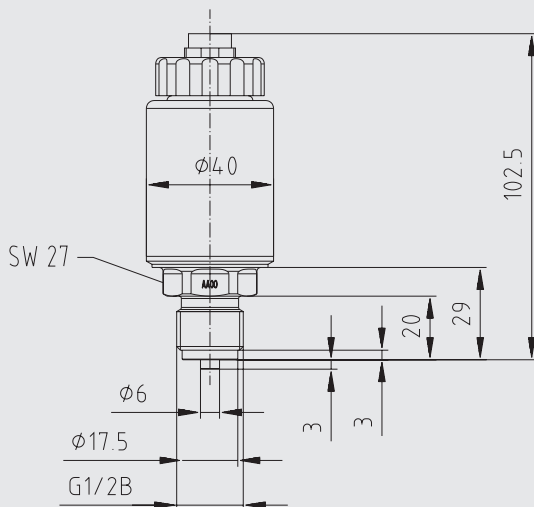


Side view



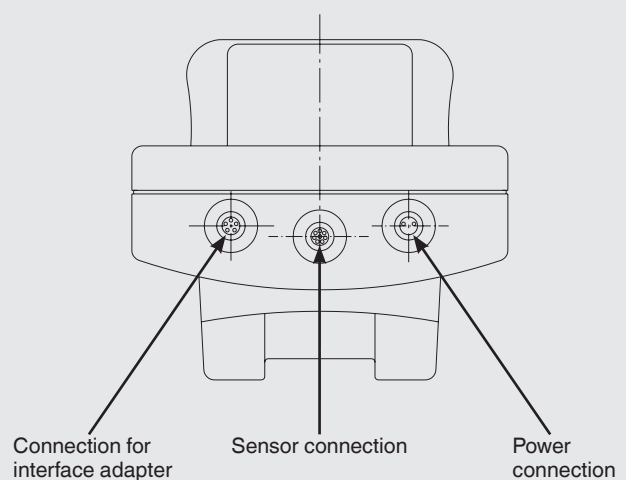
Dimensions in mm

Reference pressure sensor CPT6400



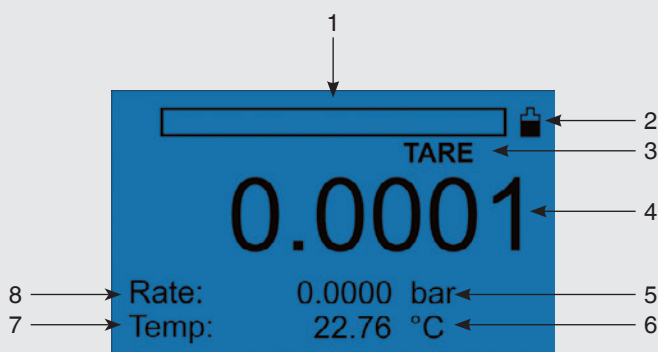
Electrical connections to the digital indicator

Top view



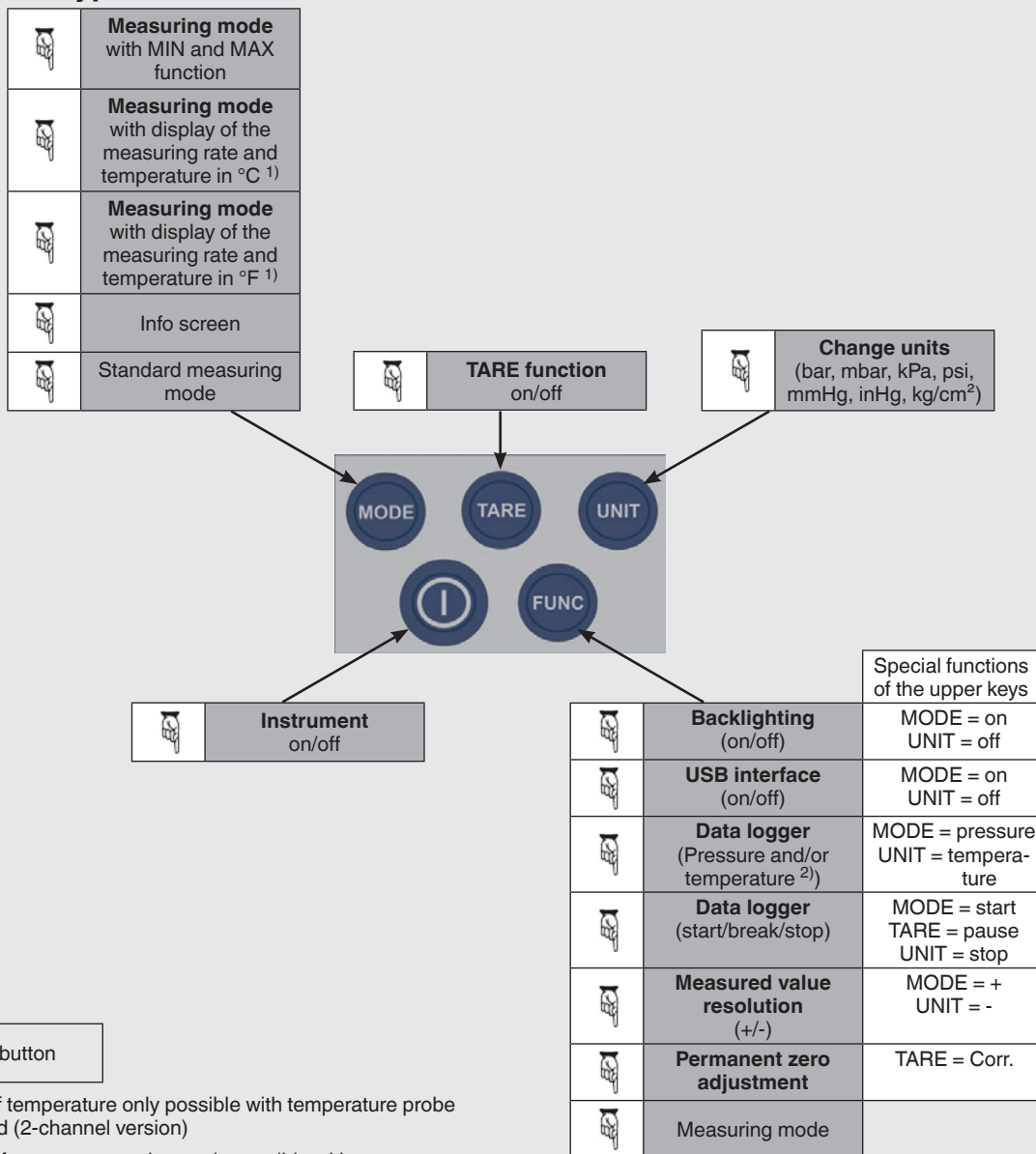
Operation of the model CPH6400 hand-held pressure indicator

Display



- 1 Bargraph
- 2 Battery status display
- 3 TARE function (if activated)
- 4 Current measured pressure value
- 5 Pressure unit
- 6 Temperature unit (2-channel version)
- 7 Current measured temperature via the external temperature probe (2-channel version)
- 8 Display of the measuring rate

Membrane keypad



1) Display of temperature only possible with temperature probe connected (2-channel version)
 2) Storage of temperature values only possible with temperature probe connected (2-channel version)

Complete test and service cases



Calibration case with model CPH6400 precision hand-held pressure indicator for pressure, consisting of:

- Plastic service case with foam insert
- Precision hand-held pressure indicator model CPH6400
- Sensor cable for external operation of sensor
- Charger
- Spaces for several CPT6400 reference pressure sensors

Basic version

Available measuring ranges see specifications



Calibration case with model CPH6400 precision hand-held pressure indicator and model CPP30 hand test pump for pressures of -0.95 ... +35 bar, consisting of:

- Service case with foam insert
- Precision hand-held pressure indicator model CPH6400
- Pneumatic hand test pump model CPP30, -0.95 ... +35 bar
- Sensor cable for external operation of sensor
- Charger
- Spaces for several CPT6400 reference pressure sensors

Basic version incl. pneumatic pressure generation

Available measuring ranges see specifications



Calibration case with model CPH6400 precision hand-held pressure indicator and model CPP700-H or CPP1000-H hand test pump for pressures of 0 ... 700 bar or 0 ... 1,000 bar, consisting of:

- Service case with foam insert
- Precision hand-held pressure indicator model CPH6400
- Hydraulic hand test pump model CPP700-H or CPP1000-H, 0 ... 700 bar or 0 ... 1,000 bar
- Sensor cable for external operation of sensor
- Charger
- Spaces for several CPT6400 reference pressure sensors

Basic version incl. hydraulic pressure generation

Further specifications see data sheet CT 91.07.

WIKA-CAL calibration software

Easy and fast creation of a high-quality calibration certificate

The WIKA-CAL calibration software is used for generating calibration certificates or logger protocols for pressure measuring instruments and is available as a demo version for a cost-free download.

A template helps the user and guides him through the creation process of a document.

In order to switch from the demo version to a full version of the respective template, a USB key with the template has to be purchased.

The pre-installed demo version automatically changes to the selected full version when the USB key is inserted and is available as long as the USB key is connected to the computer.



- Creation of calibration certificates for mechanical and electronic pressure measuring instruments
- A calibration assistant guides you through the calibration
- Automatic generation of the calibration steps
- Generation of 3.1 certificates in accordance with DIN EN 10204
- Creation of logger protocols
- User-friendly interface
- Languages: German, English, Italian and more due with software updates

For further information see data sheet CT 95.10

Calibration certificates can be created with the Cal-Template and logger protocols can be created with the Log-Template.



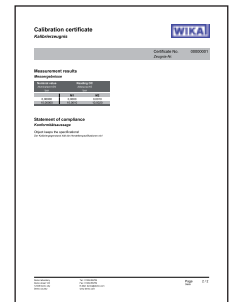
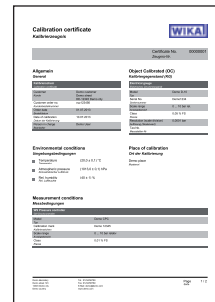
Cal Demo

Generation of calibration certificates limited to 2 measuring points, with automatic initiation of pressures via a pressure controller.



Cal Light

Generation of calibration certificates with no limitations on measuring points, without automatic initiation of pressures via a pressure controller.



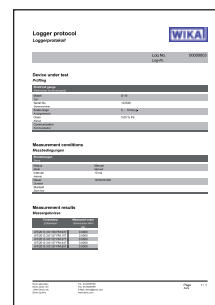
Log Demo

Creation of data logger test reports, limited to 5 measured values.



Log

Creation of data logger test reports without limiting the measured values.



Temperature measurement with model CPH6400 precision hand-held pressure indicator

In addition to the external CPT6400 reference pressure sensor, an external Pt100 temperature probe can now be connected in parallel. An accuracy of 0.05 °C can be achieved with this. The additional temperature extension is available as an option - as a basic unit, the CPH6400 remains a precision hand-held pressure indicator.

With the integrated data logger, pressure or temperature can be recorded, as well both measurement parameters simultaneously. The evaluation from the data logger is carried out using Microsoft EXCEL®.

The simultaneous measurement and logging of pressure and temperature opens a wide range of possible applications for the CPH6400. For example, the instrument is thus ideally suited to leak testing, since now the influence of temperature can also be recorded for any pressure increase or pressure drop.



Precision hand-held pressure indicator model CPH6400 with model CPT6400 reference pressure sensor and temperature probe

Scope of delivery

- Precision hand-held pressure indicator model CPH6400
- Battery charger
- 3.1 calibration certificate per EN 10204
- Choice of sensors

Accessories

Connection adapters

- Various connection adapters for process connection
- MINIMESS® quick-connect process connection system

Temperature probe

- Pt100 resistance thermometer

Voltage supply

- Battery charger

Connection cable

- USB interface cable

Ordering information

CPH6400 / Instrument version / Temperature probe / Temperature calibration / Holding fixture / Software / Interface cable / Test pump / Transport case / Additional order information

CPT6400 / Operating pressure range / Unit / Measuring range / Process connection / Type of certificate / Additional order information

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

Pressure generation

- Pneumatic test pumps
- Hydraulic test pumps

Test case

- Various calibration cases incl. pressure generation

Software

- WIKA-CAL calibration software

Options

- 2-channel version (pressure and temperature measurement in a single instrument)
- Sensors for oxygen applications
- DKD/DAkkS certified accuracy

