

Hand-held pressure indicators

Model CPH6200-S1 (1-channel version)

Model CPH6200-S2 (2-channel version)

WIKA data sheet CT 11.01

Applications

- Calibration service companies and service industry
- Instrument and control workshops
- Quality assurance

Special features

- Digital instrument with external pressure sensor (plug and play)
- Pressure ranges: from 0 ... 100 mbar up to 0 ... 1,000 bar
- Pressure type: gauge (+/-) and absolute pressure
- Certified accuracy: 0.2 %, optional: 0.1 % (incl. calibration certificate)
- Data logger evaluation software GSoft, calibration software EasyCal light and fully cased service sets (incl. pumps) available



Hand-held pressure indicator CPH6200-S1 with optional reference pressure sensor CPT6200

Description

Areas of application

Pressure sensors with ranges up to 1,000 bar are available for the CPH6200 digital indicator. This makes it especially suited to the process technology, mechanical engineering and mobile hydraulics industries. The digital instrument recognises the range of the connected pressure sensor automatically and guarantees high precision.

Functionality

Both gauge and absolute pressure ranges can be measured, and by using the 2-channel version CPH6200-S2 with two connected pressure sensors it is also possible to measure differential pressure. Via a menu selection, pressures can be displayed in bar, mbar, psi, kPa, MPa, mmHg or inHg. An integrated data logger and various other functions (like MIN, MAX, HOLD, TARE, Offset-correction, ALARM, POWER-OFF, 3 SAMPLE RATES, SEALEVEL etc.) ensure that the instrument can be used for many different applications.

Complete test and service cases

For maintenance and service applications various service cases are available. These include pressure service sets with or without pressure pump, with charger, adapter, etc. or service sets with an additional hand-held thermometer CTH6200.

Software

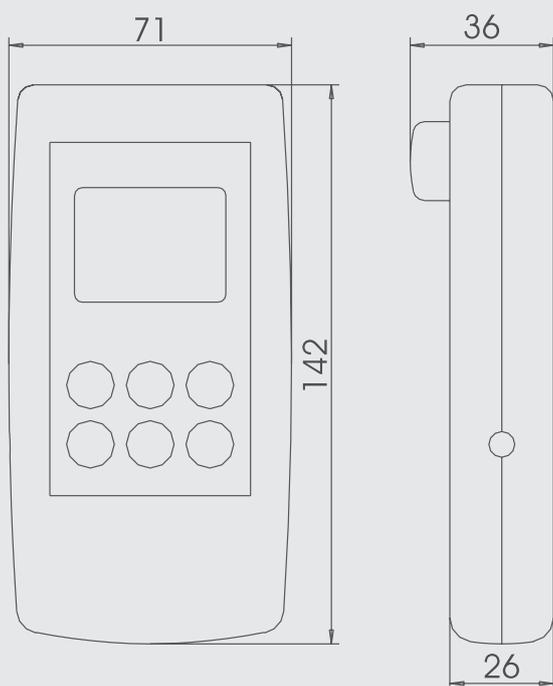
The Data logger evaluation software (GSoft) enables the display of recorded data, as tables or charts, on a PC and the calibration software (EasyCal light) is available for calibration tasks.

Certified precision

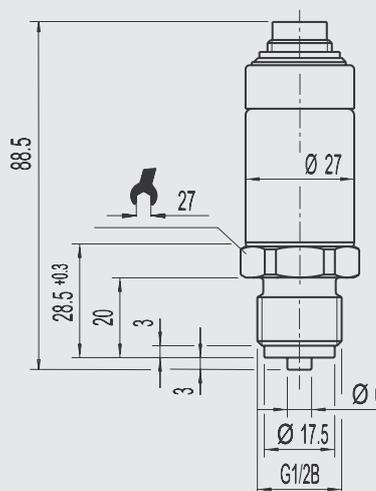
A factory calibration certificate for each pressure sensor certifies the total uncertainty of the measuring chain. Alternatively, on request, a DKD/DAkkS calibration certificate can be supplied.

Dimensions in mm

Digital instrument CPH6200

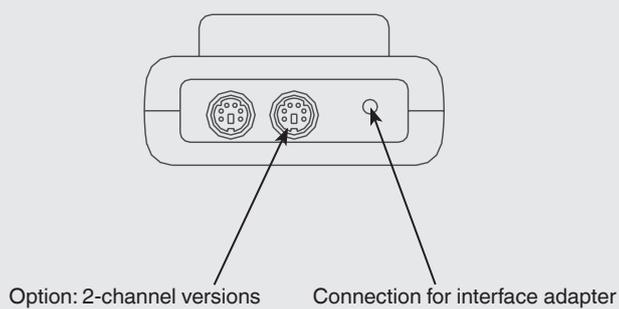


Pressure sensor CPT6200

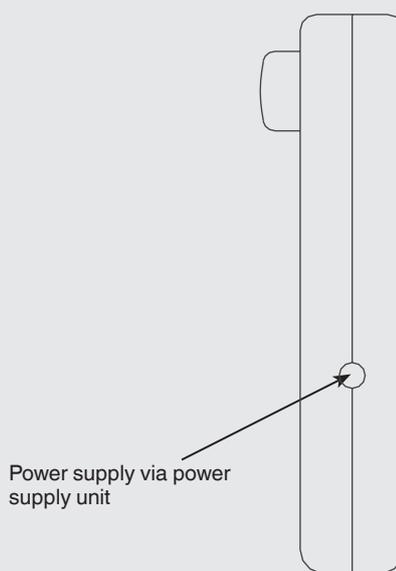


Electrical connections to the digital instrument

Top view



Side view (left)



Specifications CPH6200 hand-held indicator (complete measuring chain)

| Input | | 1 input for CPH6200-S1 | | | | | 2 inputs for CPH6200-S2 | | | | | |
|------------------------------|-----|--|------|------|-----|-----|-------------------------|------|------|------|------|----|
| Pressure range* | bar | 0.1 | 0.16 | 0.25 | 0.4 | 0.6 | 1.0 | 1.6 | 2.5 | 4.0 | 6.0 | 10 |
| Over pressure safety | bar | 1 | 1.5 | 2 | 2 | 4 | 5 | 10 | 10 | 17 | 35 | 35 |
| Burst pressure | bar | 2 | 2 | 2.4 | 2.4 | 4.8 | 6 | 12 | 12 | 20.5 | 42 | 42 |
| Resolution (max.) | | depending on pressure range | | | | | | | | | | |
| Pressure range* | bar | 16 | 25 | 40 | 60 | 100 | 160 | 250 | 400 | 600 | 1000 | |
| Over pressure safety | bar | 80 | 50 | 80 | 120 | 200 | 320 | 500 | 800 | 1200 | 1500 | |
| Burst pressure | bar | 96 | 250 | 400 | 550 | 800 | 1000 | 1200 | 1700 | 2400 | 3000 | |
| Resolution (max.) | | depending on pressure range | | | | | | | | | | |
| Type of pressure | | gauge {absolute 0.25 up to 16 bar and vacuum on request} | | | | | | | | | | |
| Accuracy (measurement chain) | | 0.2 % FS +/- 1 digit at reference temperature of 20 °C; optional: 0.1 % | | | | | | | | | | |
| Display | | Large LCD display for display of 2 values and additional information | | | | | | | | | | |
| Range of display | | max. -19999 up to 19999 digit, depending on sensors used | | | | | | | | | | |
| Units | | can be selected: mbar, bar, Pa, kPa, MPa, mmHg, inHg or psi (dependent on range) | | | | | | | | | | |

Specifications CPH6200 digital instrument

| | | |
|-------------------------|--------|---|
| Functions via key press | | Min-, Max-memory, Hold, Tare, Offset-correction, Logger (Start/Stop) |
| Functions via Menu | | Min-, Max-alarm (acoustic/visual), Sealevel (barom. air pressure), Power-Off-Function, measurement rate: 4/sec ("slow"); > 1000/sec ("fast"); > 1000/sec unfiltered ("peak-detect") [via "peak-detect" and min-/max-memory: pressure peaks of 1,5 msec can be detected] |
| Data logger | | - discrete value logger: up to 99 recordings incl. time via key press - cyclic logger: automatic recording up to 10000 values incl. time, cycle time: selectable from 1 ... 3600 seconds |
| Interface (serial) | | USB or RS-232 interface via special interface cable |
| Analogue output | | 0 ... 1 V; configurable (alternative instead of serial interface via menu selectable) |
| Power supply | | 9 V-zinc-carbon battery, alternative: 9 V rechargeable battery or mains supply |
| Power consumption | | cycle time slow: < 1.6 mA, fast: < 7.0 mA, Low-Power-Logger-Fct.: < 0.3 mA |
| Permissible | | |
| ■ Working temperature | °C | 0 ... 50 |
| ■ Air humidity | % r.h. | 0 ... 95 relative humidity without moisture condensation |
| ■ Storage temperature | °C | -20 ... +70 |
| Housing | | Impact-resistant ABS, membrane keyboard, transparent panels |
| Weight | g | approx. 160 |
| CE-conformity | | |
| ■ EMC directive | | 2004/108/EC, EN 61326 Emission (Group 1, Class B) and Immunity (portable equipment) |

Specifications CPT6200 reference pressure sensor

| | | |
|--------------------------------|----|--|
| Pressure connection* | | G½ B; {flush diaphragm (G1 for 0.1 up to 1.6 bar) or various connection adapters on request} |
| Material | | |
| ■ Wetted parts | | Stainless steel or Elgiloy®, (> 25 bar with NBR seal) |
| ■ Internal transmission fluid | | flush diaphragm version: stainless steel {Hastelloy C4}; O-Ring: NBR ¹⁾ {FKM/FPM or EPDM} Synthetic oil, (only for pressure ranges up to 16 bar or flush diaphragm) {Halocarbon oil for oxygen applications}; {Listed by FDA for food industry} |
| One year stability | | 0.2 % of span at reference conditions |
| Permissible | | |
| ■ Medium temperature* | °C | -25 ... +100 |
| ■ Ambient temperature | °C | -20 ... +80 |
| ■ Storage temperature | °C | -40 ... +80 |
| Protection class | | IP 67 (Sensor) / IP 54 (Plug) |
| Compensated range | °C | 0 ... 70 |
| Temperature coefficients | | |
| ■ Mean TC of zero signal | | 0.2 % / 10 K (< 0.4 for pressure ranges < 250 mbar) |
| ■ Mean TC of span | | 0.2 % / 10 K |
| CE-conformity | | |
| ■ Pressure equipment directive | | 97/23/EC |
| ■ EMC directive | | 2004/108/EC, EN 61326 Emission (Group 1, Class B) and Immunity (portable equipment) |
| Connection to CPH6200 | | via 1 m cable (plug & play); on request: up to 5 m |
| Weight | g | approx. 220 |

1) O-ring made of FKM/FPM or EPDM for flush diaphragm with integrated cooling element.

* In an oxygen version, a flush diaphragm model is not available. In an oxygen version model CPH6200 is only available in gauge pressure ranges ≥ 0.25 bar with media temperatures between -20 ... +60 °C and using stainless steel or Elgiloy® wetted parts.

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

Mode of operation for hand-held pressure indicators CPH6200-S1 and CPH6200-S2

1- and 2-channel version for external pressure sensors

Display

An arrow points to the chosen measurement unit

Main display: shows the measured value of CH1 (channel 1)

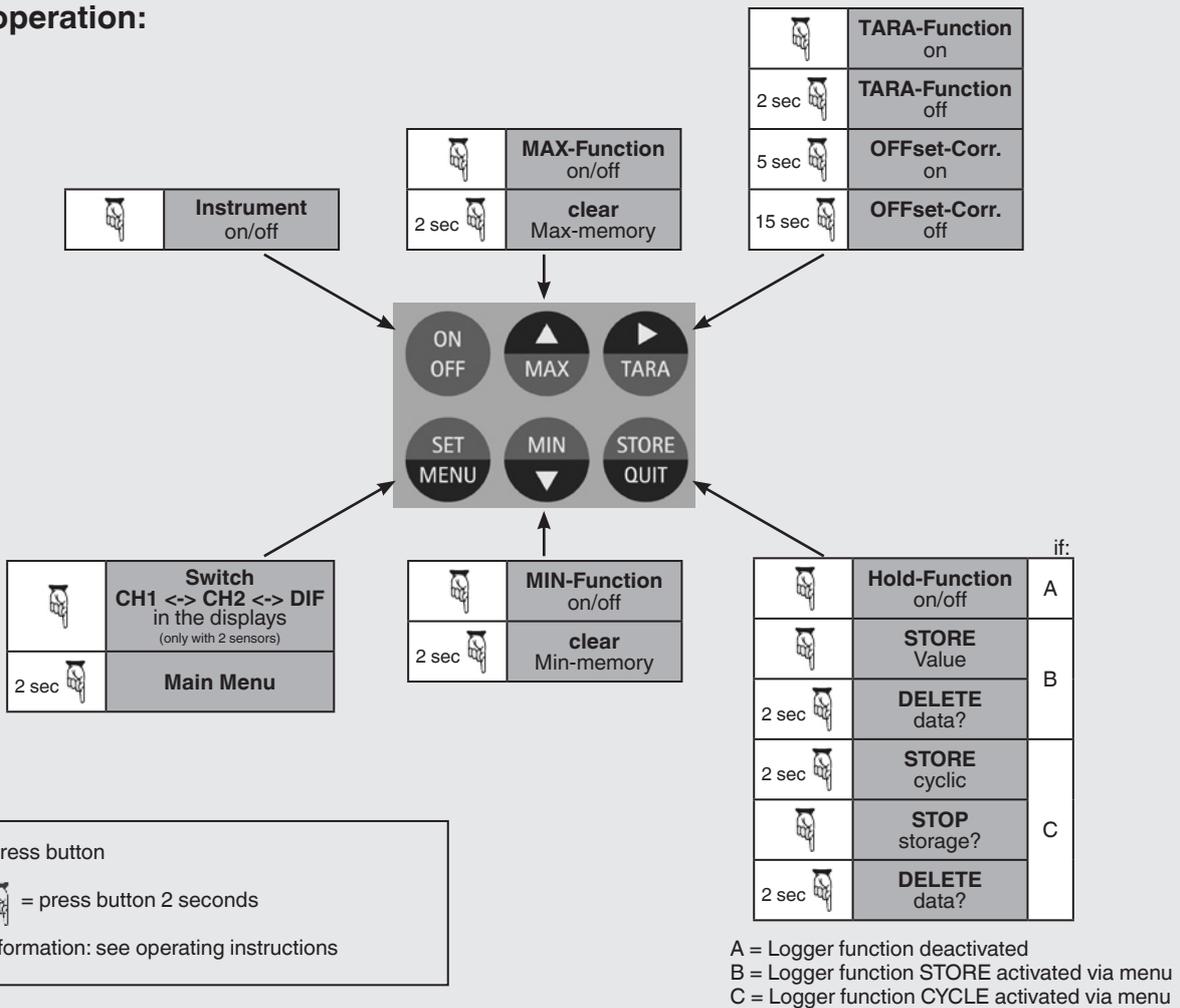
Secondary display shows the ...

- Measured value of CH2 or DIF (CH1-CH2) if it is a 2 channel version
- Values of Min, Max or Hold function if it is a 1 channel version

An arrow above

- **Logg:** appears when logger function is chosen via the menu, flashes when logger is running
- **Tara:** indicates that the tare function is active
- **SL:** indicates that the sea level function is active

Basic operation:



Complete test and service cases



Calibration case with model CPH6200 hand-held pressure indicator for pressures consisting of:

- Plastic service case with foamed insert
- Hand-held pressure indicator model CPH6200
- 9 V spare battery
- Various seals
- Sensor cable
- Space for different CPT6200 reference pressure sensors

Basic version I

Available pressure ranges: see specification on page 3.

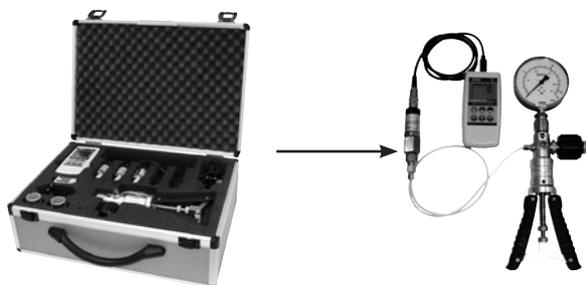


Calibration case for pressure and/or temperature (can be supplied to requirements) consisting of:

- Transport case with foamed insert and available space for max. 2 hand-held pressure indicator/thermometer, different CPT6200 reference pressure sensors, 2 temperature probes, 1 power supply unit, charger and rechargeable battery or battery

Equipment freely selectable

Further specifications see data sheet CT 51.01.

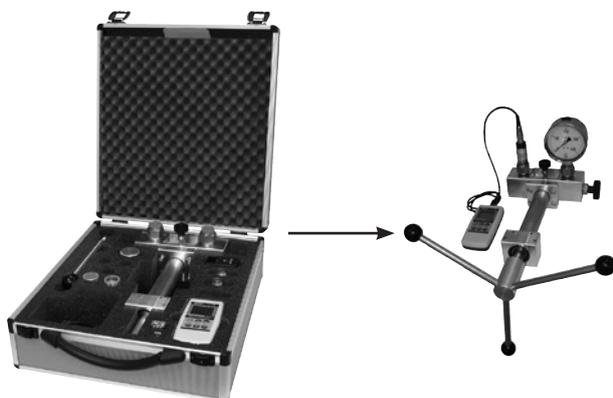


Calibration case with model CPH6200 hand-held pressure indicator and model CPP30 hand test pump for pressures -0.95 up to +35 bar consisting of:

- Transport case with model CPH6200 hand-held pressure indicator
- Pneumatic hand test pump model CPP30 -0.95 ... +35 bar
- Various seals
- Sensor cable
- Rechargeable battery and charger
- Space for different CPT6200 reference pressure sensors

Basic version incl. pneumatic pressure generation

Available pressure ranges: see specification on page 3.



Calibration case with model CPH6200 hand-held pressure indicator and model CPP1000-L hand spindle pump for pressures up to 1,000 bar consisting of:

- Transport case with model CPH6200 hand-held pressure indicator
- Hydraulic hand spindle pump model CPP1000-L up to 1,000 bar
- Various seals
- Sensor cable
- Rechargeable battery and charger
- Space for different CPT6200 reference pressure sensors

Basic version incl. hydraulic pressure generation

Available pressure ranges: see specification on page 3.

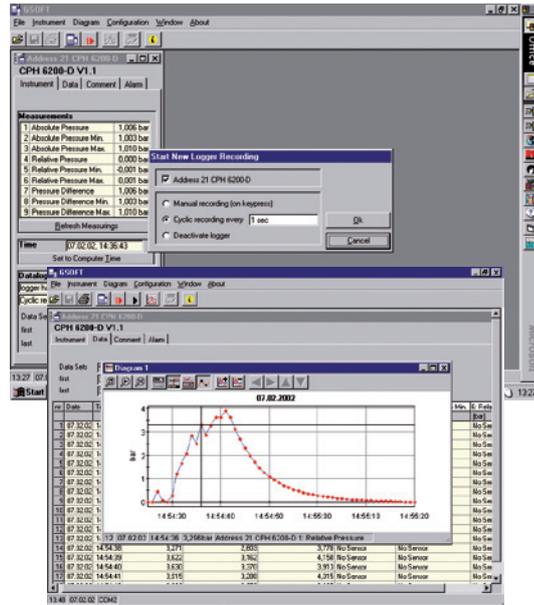
Data logger evaluation software GSoft

The data logger evaluation software GSoft allows stored data from the internal data logger (of a hand-held pressure indicator model CPH6200/CPH6210 or of a hand-held thermometer model CTH6200) to be displayed as a table or chart on a PC.

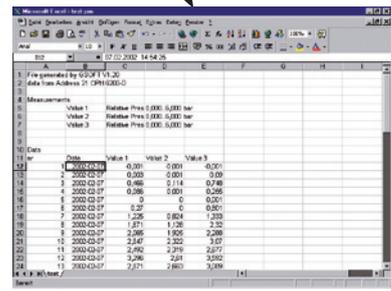
- Easy operation due to self-explanatory icon buttons
- Data of a pressure and temperature hand-helds in one diagram possible (2 separate y-Axes)
- Zoom function available
- Remote operation via PC possible
- Data can be exported to Excel®, etc.
- Language: English/German/French/Spanish

System requirements

- IBM compatible PC (Pentium™)
- At least 20 MB hard disc capacity available
- CD-ROM drive
- At least 32 MB main memory
- Windows™ 95, 98, 2000, XP Vista, Windows 7 or NT 4.0 (with Service Pack 3.0) or better
- Mouse
- One unassigned serial interface or one USB-Port (via interface cable)

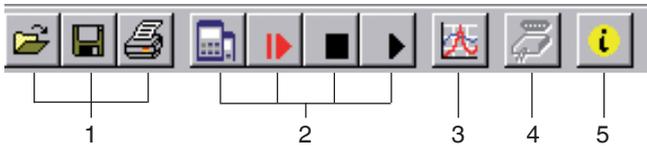


Data export to an Excel® file for example



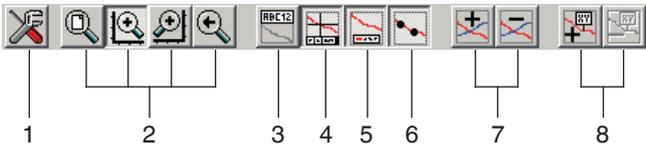
Easy operation with self-explanatory icon buttons

Main toolbar



1. File functions: open, save, print
2. Logger functions: start communication, start logger, stop, read logger data
3. Data display: create chart
4. Interface configuration
5. Program information

Diagram toolbar



1. Settings: grind and colour settings, manual zoom
2. Zoom: all, left or right y-Axes (via mouse), back
3. Rename chart
4. Cursor on/off (Info footer)
5. Legend on/off
6. (Measurement points) on/off
7. Add/erase measuring series
8. Comment-labels to a measuring point: add, delete

Calibration software EasyCal

WIKA calibration software has been developed for the calibration of mechanical and electronic pressure gauges according to ISO 9000 (periodical calibration tests).

- Calibration assistant that guides you through the calibration
- User-friendly menu
- Automatic generation of calibration steps according to EN 837-1
- Certificates 3.1 in accordance with EN 10204
- Customised test protocols possible (Access Report Designer)
- Archiving of calibration data as well as instrument administration via access database
- Language: English/German/French/Spanish

Demo-Version available (free of charge)

Calibration assistant - Step 4

Test cycle 1000001

Please define the calibration cycle.

Test cycle (13 Measuring points)

| | |
|--------|--------|
| 0.0000 | 4.5000 |
| 0.5000 | 5.0000 |
| 1.0000 | 5.5000 |
| 1.5000 | 6.0000 |
| 2.0000 | |
| 2.5000 | |
| 3.0000 | |
| 3.5000 | |
| 4.0000 | |

Calibration method

Head at the standard

Head at the calibration object

Temperature

Temperature 21.0 °C

Derive automatically

Calibration Sheet: Calibration item: 2123456, Standard: Simulation WIKA 691

| Set value | Calibration object | | Pressure standard | | Absolute | | Relative | |
|-----------|--------------------|-----|-------------------|--------|----------|--------|----------|--|
| | Set/Down | Up | Down | Up | Down | Up | Down | |
| bar | bar | bar | bar | bar | bar | % | % | |
| 0.0000 | 0.0000 | | | 0.0060 | | 0.0060 | 0.1000 | |
| 0.5000 | 0.5000 | | | 0.4910 | | 0.0090 | 0.1500 | |
| 1.0000 | 1.0000 | | | 1.0000 | | 0.0000 | 0.0000 | |
| 1.5000 | 1.5000 | | | 1.4700 | | 0.0300 | 0.5000 | |
| 2.0000 | | | | 1.9700 | | | | |
| 2.5000 | | | | | | | | |
| 3.0000 | | | | | | | | |
| 3.5000 | | | | | | | | |
| 4.0000 | | | | | | | | |
| 4.5000 | | | | | | | | |
| 5.0000 | | | | | | | | |
| 5.5000 | | | | | | | | |
| 6.0000 | | | | | | | | |

Calibration method

Read of the standard

Read of the calibration item

Instrument adjustment

Set pressure value automatically

Set pressure value manually

Read measured value automatically

Enter measured value manually

Calibration

Start

Pause

Control

Measure

Accept value

Zero

Status

Active

Pause

Control

Measure

Accept value

Zero

Manual value adjustment

Step size

Bar

OK

Cancel

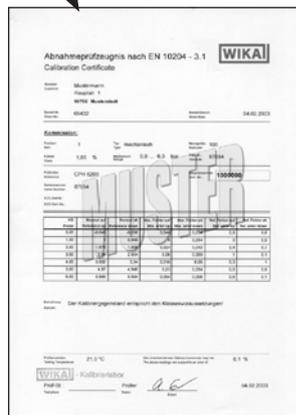
Simulation

Signal

Hold time

0

Seconds



Scope of supply

- CPH6200 incl. 9 V-battery
- One sensor connection cable per channel
- Calibration certificate 3.1 per DIN EN 10204
- Choice of sensors

Options

- CPH6200-S2: 2-channel version
(Differential pressure measurement between 2 connected CPT6200 pressure sensors possible)
- CPH6210: Intrinsically safe version
(see data sheet CT 11.02)
- DKD/DAkkS certificated accuracy of 0.2 % or 0.1 %
- Sensors for oxygen applications



Intrinsically safe version CPH6210-S1

Accessories

Pressure adapters

- Various pressure adapters
- Quick-connect process connection system "Minimess"

Power supply

- Power supply unit
- Rechargeable battery and charger

Pressure generation

- Pneumatic test pumps
- Hydraulic test pumps
- Integral reservoir and pressure hoses

Service cases

- Test and measuring cases
- Various calibration cases incl. test pump

Software

- Data logger evaluation software GSoft for CPH6200/CTH6200
- Calibration software EasyCal light for the CPH6200

Products and services within our calibration technology program

- DKD/DAkkS calibration services for pressure
- Repair of calibration units of all makes
- Portable pressure measuring devices for test and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD/DAkkS calibration services for temperature
- Dry well temperature calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for test and calibration tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and seminars

The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

