Hand-held pressure indicator
Model CPH6300-S1 (1-channel version)
Model CPH6300-S2 (2-channel version)

WIKA data sheet CT 12.01

Applications

■ Calibration service companies and service industry
■ Measurement and control laboratories
■ Quality assurance
■ Leak testing

Special features

■ Robust and waterproof digital indicator with interchangeable pressure sensors (plug-and-play)
■ Measuring ranges from 0 ... 25 mbar to 0 ... 1,000 bar
■ Pressure type: positive and negative gauge pressure, absolute pressure and differential pressure
■ Accuracy: 0.2 %, optional 0.1 % (incl. calibration certificate)
■ Software and complete service cases (incl. pumps) available

Model CPH6300-S1 hand-held pressure indicator with optional model CPT6200 reference pressure sensor

Description

Extensive application possibilities
Stainless steel pressure sensors with measuring ranges up to 1,000 bar are available for the model CPH6300 hand-held pressure indicator. The robust and waterproof design makes the CPH6300 ideal for use in adverse environments. This digital indicator automatically detects the measuring range of the connected pressure sensor and guarantees a high-precision pressure measurement.

Functionality
The CPH6300 can be used for measuring both gauge and absolute pressure. Differential pressure measurement is possible with the 2-channel version CPH6300-S2, and two model CPT6200 reference pressure sensors possible. The selectable pressure units are bar, mbar, psi, Pa, kPa, MPa, mmHg, inHg, mH_2O and one customer-specific unit.
An integrated data logger and various other functions such as Min, Max, Hold, Tare, zero-point adjustment, Alarm, Power-Off, peak value detection (up to 1,000 measurements/s), average value filter etc. ensure that the CPH6300 can be used for many different applications. The large, backlit display and also a long battery life complete the features of the CPH6300.

Software
In addition to the GSoft data-logger evaluation software for the tabular and graphical representation of the logged data, WIKA-CAL calibration software for calibration tasks is also available. WIKA-CAL also offers, over and above PC-supported calibration, the management of the calibration and instrument data in an SQL database. For data transfer, a USB interface is available.

Complete test and service cases
For maintenance and service applications, various service case systems are available. These include service cases with or without pressure generation, rechargeable battery, battery charger, connection adapter etc.

Certified accuracy
For each reference pressure sensor, 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.

Data sheets showing similar products and accessories:
Hand-held pressure indicator; model CPH6200; see data sheet CT 11.01
Intrinsically safe hand-held pressure indicator (ATEX version); model CPH62I0; see data sheet CT 11.02
Test pumps, hydraulic; CPP series; see data sheet CT 91.05
Hand pump, pneumatic; model CPP30; see data sheet CT 91.06
Calibration software; WIKA-CAL; see data sheet CT 95.10

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Specifications

Model CPH6300 hand-held pressure indicator (complete measuring chain)

Measuring inputs	1 input for CPH6300-S1 2 inputs for CPH6300-S2							
Measuring range	**mbar**	0 ... 25	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400	0 ... 600
Overpressure limit	mbar	500	500	500	1,000	1,500	2,000	2,000	4,000
Burst pressure	mbar	1,000	1,000	1,000	2,000	2,000	2,400	2,400	4,800
Resolution	dependant on pressure range (max. 4 1/2-digit)							
Measuring range	**bar**	0 ... 1.0	0 ... 1.6	0 ... 2.5	0 ... 4.0	0 ... 6.0	0 ... 10	0 ... 16	0 ... 25
Overpressure limit	bar	5	10	10	17	35	35	80	50
Burst pressure	bar	6	12	12	20.5	42	42	96	96
Resolution	dependant on pressure range (max. 4 1/2-digit)							
Measuring range	**bar**	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400	0 ... 600	0 ... 1,000
Overpressure limit	bar	80	120	200	320	500	800	1,200	1,500
Burst pressure	bar	400	550	800	1,000	1,200	1,700	2,400	3,000
Resolution	dependant on pressure range (max. 4 1/2-digit)							
Types of pressure	Relative pressure, {absolute pressure from 0 ... 25 bar abs. and vacuum from -1 ... +24 bar}; differential pressure only with CPH6300-S2 and two model CPT6200 reference pressure sensors connected							
Accuracy of the measuring chain	0.2 % FS (resolution 4-digit); {optional: 0.1 % FS (resolution 4 1/2-digit)}							
Sensor compatibility	Compatible with model CPT6200 reference pressure sensors							

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

Digital indicator model CPH6300

Display

Screen	Large 4 1/2-digit LCD screen with backlighting, for the display of two pressure values and additional information
Indication range	-19999 ... 19999 digits, depending on sensors used
Pressure units	bar, mbar, psi, Pa, kPa, MPa, mmHg, inHg, mH_2O and a customer-specific unit, pre-set to kg/cm^2 (depending on the measuring range, selectable)

Functions

Measuring rate	4/s ("slow"); 1,000/s ("fast"); > 1,000/s unfiltered (peak value detection), selectable
Memory	Min/Max, integrated data logger
Functions via key press	Backlighting, Min/Max memory, Hold, Tare, Zero-point adjustment, Logger (Start/Stop)
Menu functions	Min/Max Alarm (acoustic/visual), Sea level (barometric air pressure), Power-Off function, measuring rate, average value filter
Average filter	1 ... 120 seconds, adjustable
Data logger	Discrete value logger: up to 1,000 recordings (with measuring point input, 40 settable measuring point texts or measuring point nos.) incl. time via key press Cyclic logger: automatic recording of up to 10,000 values incl. time Cycle time: selectable from 1 ... 3,600 seconds
Real-time clock	integrated clock with date
Leak testing/sealing tests	Pressure rate display, logging via data logger

Voltage supply

Power supply	2 x 1.5 V AAA batteries
Battery life	> 500 hours of operation (1 sensor with a measuring rate of 4/s)
Battery status indication	Icon in display

Digital indicator model CPH6300

Permissible ambient conditions	
Operating temperature	-25 ... +50 °C
Storage temperature	-25 ... +70 °C
Relative humidity	0 ... 95 % r. h. (non-condensing)
Communication	
Interface	USB via interface cable
Analogue output	DC 0 ... 1 V; configurable (selectable via menu alternative to serial interface)
Case	
Material	impact-resistant ABS plastic, membrane keypad, transparent screen, silicone protective casing
Ingress protection	IP 65, IP 67 (both ingress protection ratings are met)
Electrical connection	Sensor cable: bayonet connector, 7-pin Interface connector: bayonet connector, 4-pin
Dimensions	see technical drawings
Weight	approx. 250 g (incl. batteries and protective casing)

Reference pressure sensor model CPT6200

Pressure connection [1]	G ½ B; {flush diaphragm (G 1 for 0.1 up to 1.6 bar) or various connection adapters on request}
Material	
Wetted parts	Stainless steel or Elgiloy®, (> 25 bar additionally with NBR seal) [2] Flush diaphragm version: stainless steel {Hastelloy C4}; O-ring: NBR {FKM/FPM or EPDM}
Internal transmission fluid	Synthetic oil, (only for measuring ranges up to 16 bar or flush diaphragm) {Halocarbon oil for oxygen applications}; {Listed by FDA for food industry}
Sensor specifications	
Accuracy per year	≤ 0.2 % of span at reference conditions [3]
Compensated range	0 ... 80 °C
Mean temperature coefficient	≤ 0.2 % of span/10 K (outside of reference conditions)
Permissible ambient conditions	
Medium temperature [1]	-30 ... +100 °C [4]
Operating temperature	-20 ... +80 °C
Storage temperature	-40 ... +100 °C [4]
Relative humidity	0 ... 95 % r. h. (non-condensing)
Case	
Material	Stainless steel
Connection to the CPH6300	via 1 m connection cable (plug-and-play); optional: up to 5 m
Ingress protection	IP 67
Dimensions	see technical drawing
Weight	approx. 220 g

{} Items in curved brackets are optional extras for an additional price.
1) As an oxygen version, a flush diaphragm model is not available. In an oxygen version, the model CPT6200 is only available in gauge pressure ranges ≥ 0.25 bar, with media temperatures between -10 … +50 °C and using stainless steel or Elgiloy® wetted parts.
2) For pressure measuring ranges 0 ... 25 mbar, 0 ... 40 mbar and 0 ... 60 mbar all wetted parts are made of stainless steel, silicium, aluminium, gold, silicone.
3) Reference conditions: 15 ... 25 °C
4) For pressure measuring ranges 0 ... 25 mbar, 0 ... 40 mbar and 0 ... 60 mbar the medium temperature and storage temperature are limited to +80 °C.

CE conformity, approvals, certificates

CE conformity CPH6300	
EMC directive	2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (portable equipment)
CE conformity CPT6200	
Pressure equipment directive	97/23/EC
EMC directive	2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (portable equipment)
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 CPH6300-S1

86

163

42
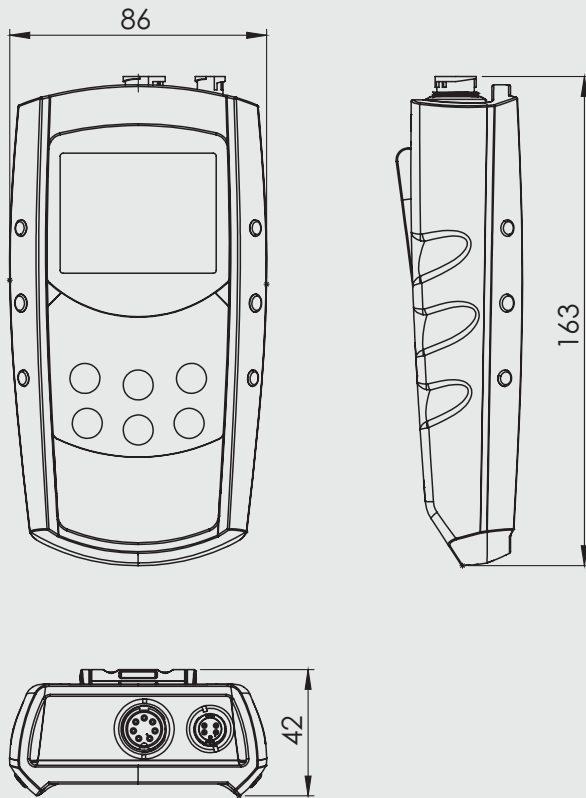
Digital indicator CPH6300-S2

86

163

42
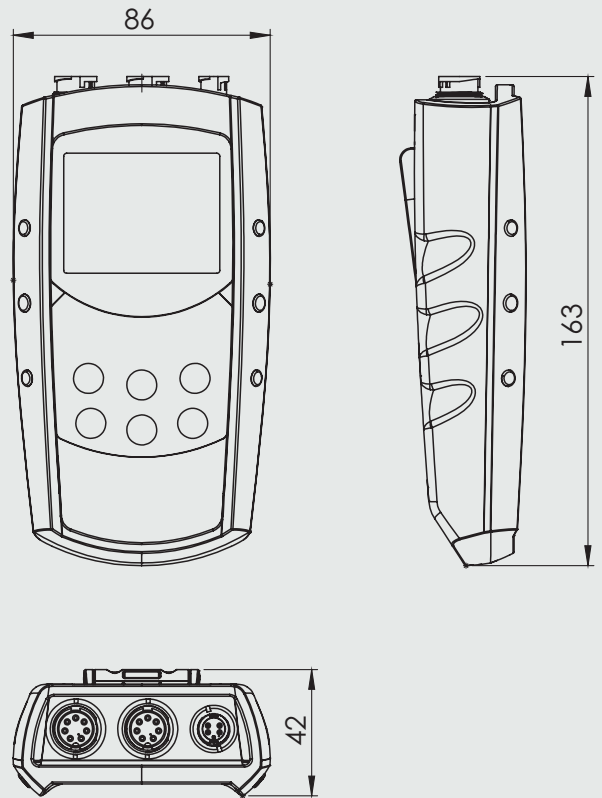
Reference pressure sensor CPT6200

88.5

27

Ø 27

28.5 +0.3

20

3

3

Ø 6

Ø 17.5

G1/2B
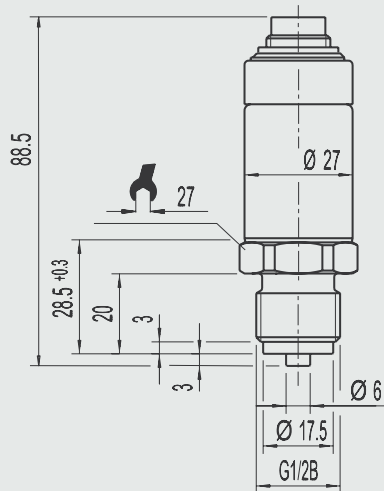
Electrical connections

Model CPH6300-S1

Top view

Channel 1   Connection for
            interface adapter
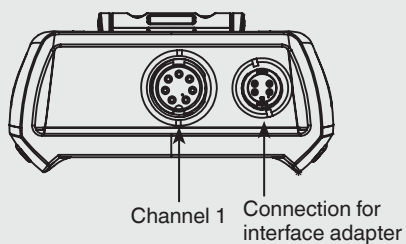
Model CPH6300-S2

Top view

Channel 1   Channel 2   Connection for
                        interface adapter
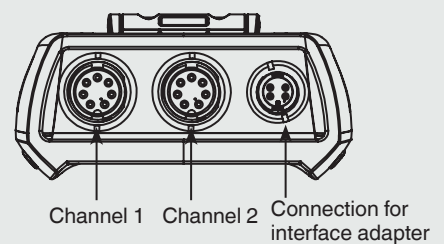
Operation of the models CPH6300-S1 and CPH6300-S2

1- and 2-channel version with external pressure sensors

Screen
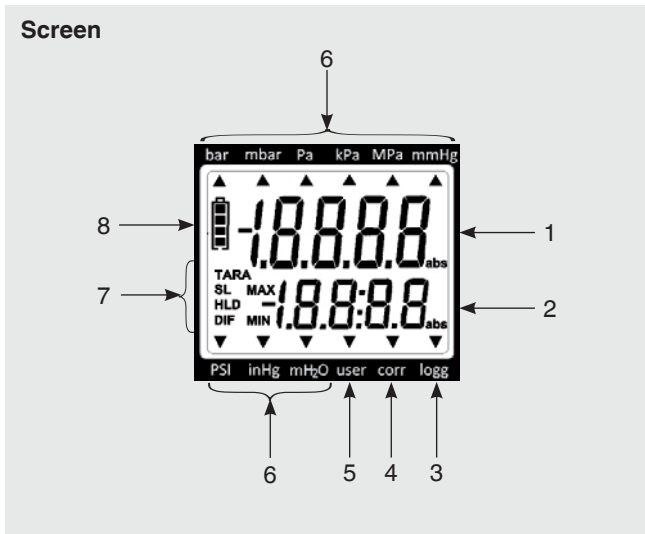
1 **Main display:** current measured value for sensor 1
2 **Secondary display:** current measured value for sensor 2 or differential value between sensor 1 and sensor 2
3 **logg arrow:** logger is ready
   arrow blinking: automatic recording (Logg CYCL) active
4 **corr arrow:** zero point or slope correction has been made
5 **user arrow:** measured value is specified in the freely-configurable user unit
6 Display arrows for **measured value units**
7 Display elements for the display of the Min/Max values, as well as the Tare function and sea-level correction
8 Battery status indication

Keyboard

	Instrument on	
	Illumination on	
2 sec.	**Instrument** off	

	MAX function on/off	
2 sec.	MAX value **Delete**	

	TARE function on	
2 sec.	**TARE function** off	
5 sec.	**Zero-point adjustment** on	
10 sec.	**Zero-point adjustment** off	

	Change the secondary display **CH1 <-> CH2 <-> DIF** (only for 2-channel)	
2 sec.	**Main menu** Enter configuration	

	MIN function on/off	
2 sec.	MIN value **Delete**	

		if:
	Hold function on/off	A
	Store value	B
2 sec.	Clear memory	B
2 sec.	**Store cyclically**	
2 sec.	**Stop** store?	C
2 sec.	Clear memory	C

= press button

2 sec. = press button for 2 seconds

For more information: see operating instructions

A = Logger functions deactivated
B = Logger function STORE activated via menu
C = Logger function CYCLE activated via menu

Complete test and service cases
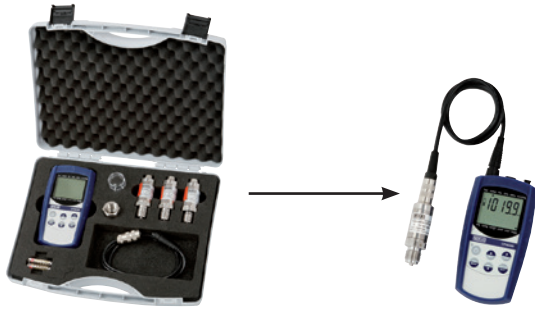
Basic version

Calibration case with model CPH6300 hand-held pressure indicator for pressure, consisting of:

■ Plastic service case with foam insert
■ Hand-held pressure indicator model CPH6300
■ Two AAA batteries
■ Sealing set
■ Sensor cable
■ Spaces for several CPT6200 reference pressure sensors

For available measuring ranges: see specifications.

Basic version incl. pneumatic pressure generation

Calibration case with model CPH6300 hand-held pressure indicator and model CPP30 hand test pump for pressures of -0.95 ... +35 bar, consisting of:

■ Plastic service case with foam insert
■ Hand-held pressure indicator model CPH6300
■ Model CPP30 pneumatic hand test pump; -0.95 ... +35 bar
■ Sealing set
■ Sensor cable
■ Spaces for several CPT6200 reference pressure sensors

For available measuring ranges: see specifications.

Basic version incl. hydraulic pressure generation

Calibration case with model CPH6300 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:

■ Plastic service case with foam insert
■ Hand-held pressure indicator model CPH6300
■ Model CPP700-H or CPP1000-H hydraulic hand test pump, 0 ... 700 bar or 0 ... 1,000 bar
■ Sealing set
■ Sensor cable
■ Spaces for several CPT6200 reference pressure sensors

For available measuring ranges: see specifications.

GSoft data-logger evaluation software

The GSoft data-logger evaluation software is used to display the logger data from the model CPH6300 hand-held pressure indicator on a PC in tabular form and as chart.

■ Easy operation with self-explanatory toolbars
■ Data from the pressure and temperature hand-helds (CTH6200) can be displayed in a single chart (two separate y-axes)
■ Charts offer a zoom function
■ Operation of the logger function via PC (remote control)
■ Data can be exported (Excel®, etc.)
■ Languages: German, English, French, Spanish and Czech

System requirements
■ IBM compatible PC (Pentium®)
■ At least 20 MB free hard disc space
■ CD-ROM drive
■ At least 32 MB RAM
■ Windows® operating system 95, 98, NT 4.0 (with Service Pack 3.0 or higher), 2000, XP, Vista or 7
■ Mouse
■ USB port (via interface cable)

To operate the GSoft software with the CPH6300, GSoft Version 3.0 or later is needed.
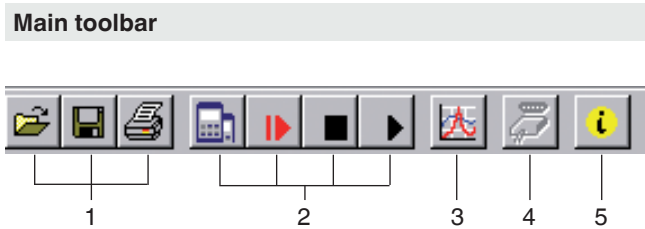Free updates are available for download on www.wika.com.
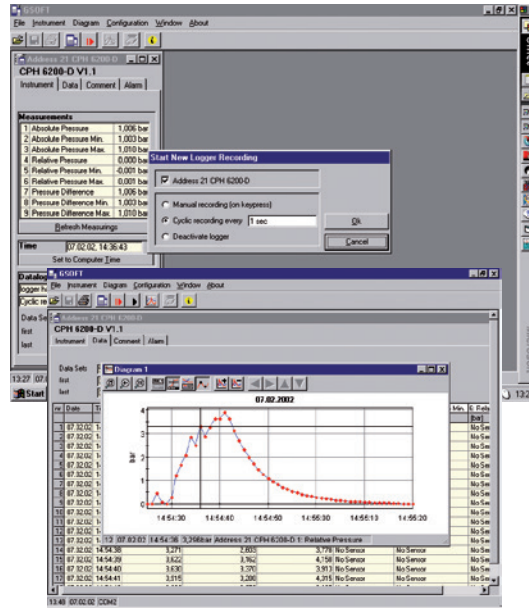
Data export e.g. in an Excel® file
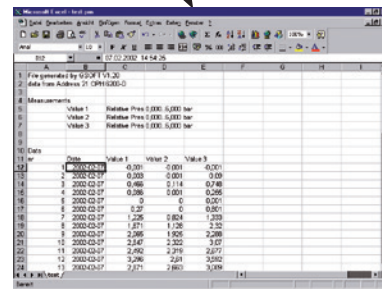
Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

Easy operation with self-explanatory icon buttons

Main toolbar

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

Charts toolbar
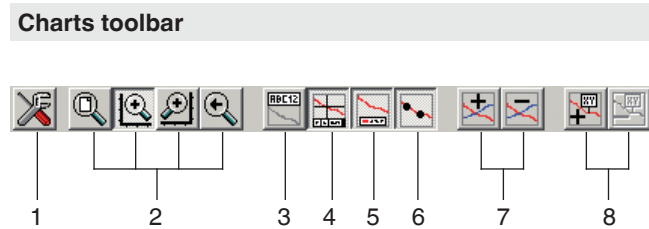
1. Settings: grid and colour settings, manual zooms
2. Zoom: all, left or right y-axes (via mouse), back
3. Rename chart
4. Cursor on/off (Info footer)
5. Legend on/off
6. (Measuring point) Symbols on/off
7. Measurement series (add/delete)
8. Comments on measuring points (add/delete)

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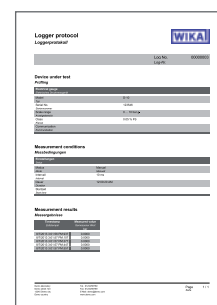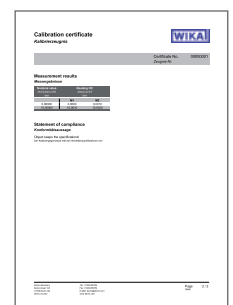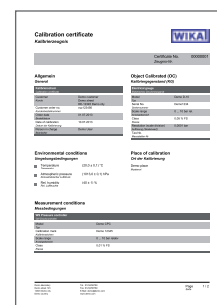
Log Demo
Creation of data logger test reports, limited to 5 measured values.

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

Scope of delivery

■ Hand-held pressure indicator model CPH6300-S1 incl. two AAA batteries
■ One sensor connection cable per channel
■ 3.1 calibration certificate per DIN EN 10204
■ Choice of sensors

Options

■ Hand-held pressure indicator model CPH6300-S2: 2-channel version (differential pressure measurement possible via two connected model CPT6200 reference pressure sensors)
■ DKD/DAkkS certified accuracy
■ Sensors for oxygen applications

Accessories

Connection adapters
■ Various pressure adapters
■ MINIMESS® quick-connect process connection system

Voltage supply
■ Rechargeable battery and battery charger

Connection cables
■ USB interface cable

Pressure generation
■ Pneumatic test pumps
■ Hydraulic test pumps

Model CPH6300-S2 hand-held pressure indicator with two model CPT6200 reference pressure sensors

Test cases
■ Various calibration cases incl. pressure generation

Software
■ GSoft data-logger evaluation software
■ WIKA-CAL calibration software

Ordering information

CPH6300 / Instrument version / Additional cable for reference pressure sensor / Rechargeable battery and battery charger / Software / Interface cable / Test pump / Carrying case / Additional order information

CPT6200 / Unit / Pressure range / Accuracy / Process connection / Special design features / Type of certificate / Additional order information

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