Calibration software
Model WIKA-Cal

WIKA data sheet CT 95.10

Applications

- Creation of calibration certificates for mechanical and electronic pressure measuring instruments
- Fully automatic calibration with pressure controllers
- In combination with the CPU6000 series CalibratorUnit, for the recording of certificate-relevant data
- Determination of the required mass loads for pressure balances
- Calibration of gauge pressure measuring instruments with absolute pressure references and vice versa

Special features

- Multicalibration of up to 16 test items possible
- Templates possible for the creation of calibration certificates and logger protocols, as well as customised layouts
- Interface available to external test equipment management software
- Easy operation of the software and supporting videos available on YouTube under "WIKA Group"
- SQL database independent from Microsoft® Access®

WIKA-Cal calibration software

Description

Creating calibration certificates or logger protocols
The WIKA-Cal calibration software serves for the creation of calibration certificates or logger protocols for pressure measuring instruments. Calibration certificates can be created with the Cal-Template and logger protocols can be created with the Log-Template. A demo version is available for free download from the home page. To switch from the demo version to a licenced version, a USB dongle with a valid licence must be purchased.

The preinstalled demo version changes automatically to the selected version when plugging in the USB dongle and remains available as long as the USB dongle is connected to the PC.

User-friendly and flexible through templates
A template is a document template. Immediately after selecting the template, all documents will be clearly displayed in a database.
When the user creates a new document with the template, he/she will be guided through the creation process in a document view.
Meanwhile, the software retrieves previously created information from an SQL database and adds further data during the certificate creation.

WIKA

Smart in sensing

Data sheets showing similar products and accessories:
CalibratorUnit; models CPU6000-W, CPU6000-S and CPU6000-M; see data sheet CT 35.02
Modular pressure controller; model CPC6050; see data sheet CT 27.62
Industrial pressure controller; model CPC4000; see data sheet CT 27.40

The process of the certificate creation adapts to the requirements of the user. Through the rules for the template, the user only sees the required or possible entries. If only one entry is possible, this is selected directly and it proceeds to the next step.

This process increases the quality and productivity of document creation. Incorrect entries are eliminated and through the automatic selection, the process is accelerated. The complexity is reduced to a minimum through the selection limitations and clearly displayed in the document overview.

The result of the document view is stored in the database and is made available in a PDF/A and a template-specific format such as XML or CSV. If the document was not completed, the document remains available in the document overview and can also be saved or printed with a "Preview" annotation as a PDF/A document.

Specifications

System requirements	
Minimum system requirements	x64 processor: Intel® Pentium® 4 or AMD Athlon® 64
	■ Windows® 10 ■ Windows® 11
	■ 1 GB RAM and 1 GB free hard disc space (no installation possible on portable flash storage media) ■ 1,024 x 768 pixel screen resolution (1,280 x 800 pixel recommended) with 16-bit colour depth and 256 MB VRAM ■ For fully automatic calibrations, at least one RS-232-COM port per instrument is required for communication.
	Without the activation USB dongle, the software only works in demo mode.
Interfaces	■ USB ■ IEC-625-Bus ■ Bluetooth® 2.1 ■ RS-232 ■ Ethernet

Software features			
Menu languages	■ German ■ English ■ French ■ Italian	■ Spanish ■ Portuguese ■ Dutch ■ Swedish	■ Polish ■ Romanian ■ Russian ■ Greek	■ Japanese ■ Chinese
	→ More languages are due with software updates		
Functions	■ Creating and archiving test reports with the templates Cal, Cal Light, Cal Demo, Log and Log Demo ■ Tools for mass calculator with the CPU6000 and unit converter ■ Object manager allows for an intelligent use of laboratory and equipment data and facilitates the standardised testing process ■ Archiving of customer-specific test reports in the SQL database ■ Automatic reading and controlling of measuring instruments by means of communication types		

Communication with products			
Current products			
Digital pressure gauges	■ CPG1200 ■ CPG1500		
Hand-helds and calibrators	■ CPH6200 ■ CPH62I0	■ CPH6300 ■ CPH7000	■ CPH8000
Precision pressure measuring instruments	■ CPT2500 ■ CPT6020	■ CPT6100 ■ CPT6140	■ CPT6180 ■ CPT9000	■ CPG2500
Pressure controllers	■ CPC2000 ■ CPC3050	■ CPC4000 ■ CPC6050	■ CPC7000 ■ CPC8000-I (II)	■ CPC8000-H

Communication with products				
Pressure balances (dead-weight testers)	■ CPB3500 ■ CPB3800 ■ CPB3800HP	■ CPB5000 ■ CPB5000HP	■ CPB5600DP ■ CPB5800	■ CPB6000 ■ CPD8500
Digital multimeters (For readout of pressure sensors)	■ Agilent 34401A ■ Agilent 34410A ■ Agilent 34461A	■ Agilent 34465A ■ Agilent 3458A	■ CPU6000-M ■ CPH7000	■ Keithley 196A ■ Keithley 2000
Multiplexers	■ Agilent 34970A ■ HBM MGCplus	■ Keysight DAQ970A ■ Netscanner 9816		
Accessories	■ CPU6000-W ■ CPU6000-S			
Discontinued products	■ CPG500 ■ CPG1000 ■ CPH6000 ■ CPH6400	■ CPH6600 ■ CPH7600 ■ CPH7650	■ PASCAL100 ■ PASCAL ET ■ CPG8000-I (II)	■ CPC3000 ■ CPC6000 ■ CPD8000

Cal-Template: calibration certificate

With the Cal-Template, calibration certificates for mechanical and electronic pressure measuring instruments can be created. The calibration certificates have a format derived from the WIKA DAkkS calibration certificate and contain the same functions and calculations. The template has many additional features. Thus, for example, customer-specific information such as the company logo, the address, the contact or individual labelling can be adjusted by the user. It is therefore flexible and can be used to meet the needs of the customer.

After creating a calibration certificate, the user will be guided through the document and, due to the database, can only make predefined entries. For this, tables are automatically adjusted and dynamically expanded as required. In this way, for example, several references under measuring conditions or several tables under measuring results can be given.

The number of pages and headings on subsequent pages are added automatically. The selection of valid options is constantly updated so that only the inputs specified in the template settings can be made.

With the calibration of a new instrument, during the certificate creation, the database is filled with new data. If the instrument is being recalibrated and the serial number is given, all the data that was generated by the previous calibration is automatically completed by the software.

If only one selection is possible (e.g. only one accuracy specification as a result of the model selected earlier), this is immediately selected and it jumps to the next step.

On completion of the calibration certificate, it is saved as a PDF/A. The contents of the certificate and additional data, which has been determined through the measurement, are available optionally in XML format. The XML file can be read by another program such as Microsoft® Excel® and thus be used for a customer-specific certificate.
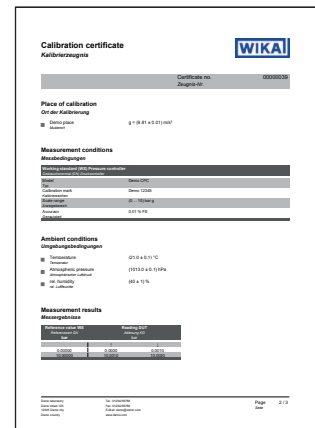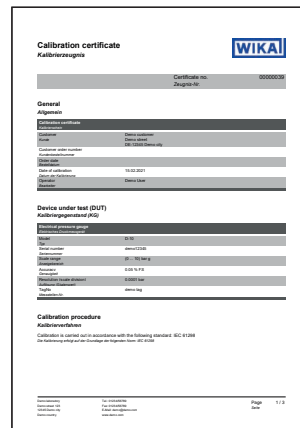

Example of a calibration certificate created from Cal-Template

Multicalibration

The "Multicalibration" licence available for an additional charge can be ordered in addition to Cal Light or Cal Full. With this, it is possible to calibrate, incl. documentation, up to 16 test items simultaneously. The prerequisite is that the test items are of the same instrument model, measuring range and accuracy. During the parallel calibration, the measuring window for each test item can be viewed via a table view.

The multicalibration is available for electrical and mechanical measuring instruments. In both cases, with multicalibration, the display is in accordance with the standard, i.e. the reference pressure is approached with the standard and the pressure values of the calibration items are adjusted. For pressure balances (dead-weight testers), multicalibration is not possible.

For pressure sensors, it is possible to use either several multimeters (such as model CPU6000-M, for example) or a multiplexer to which all multimeters will be connected. As multiplexers, Agilent 34970A, Netscanner 9816 and HBM MGCplus are supported. The correct cabling is the responsibility of the operator.
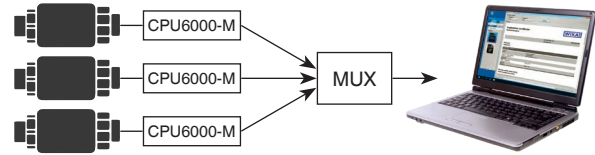
Pressure sensors, model CPU6000-M multimeter, multiplexer and PC with WIKA-Cal software
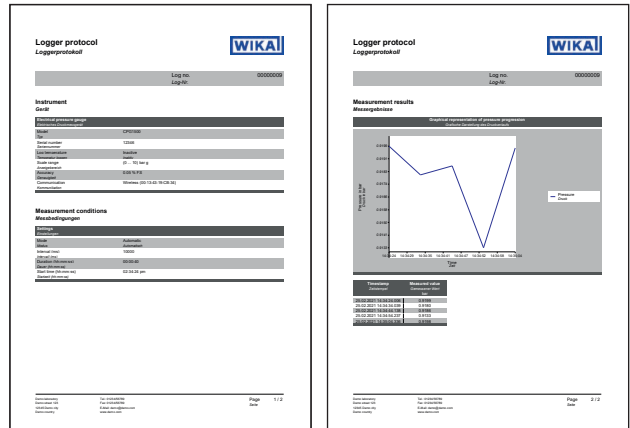
Cal Demo	Cal Light	Cal Full
■ Fully automatic calibration ■ Limitation to two measuring points	■ Semi-automatic calibration ■ No limitation of the measuring points approached	■ Fully automatic calibration ■ No limitation of the measuring points approached ■ Prerequisite for complete use of full Cal version is automatic pressure control

	Multi	
	■ Simultaneous calibration of several calibration instruments (up to 16 test items) ■ Purchase complementary to Cal Light or Cal Full	

- Creation of 3.1 inspection certificates per DIN EN 10204
- Calibration reports can be exported to Excel® template or XML file
- Calibration of gauge pressure measuring instruments with absolute pressure references and vice versa

Log-Template: logger protocol

The Log-Template can generate logger protocols, which can be used for recording data.

As with the Cal-Template, the user is guided through the document view and receives a complete protocol of logged data as a PDF/A document at the end.

The data in the PDF/A document is also available as a CSV file for processing in another program, such as Microsoft® Excel®.

Example of a logger protocol created from Log-Template

Log Demo	**Log**
■ Limitation to five measuring points	■ No limitation of the measuring points approached ■ However, limitation of the values to be displayed in the table in the protocol to 500 measured values (limitation only refers to the indication)

■ Live measured value recording for a certain period of time with selectable interval, duration and start time
■ Creation of logger protocols with graphic and/or tabular representation of the measuring results in PDF format
■ Logging of up to 3 instruments possible simultaneously in one protocol
■ Possibility of exporting measuring results as CSV file

Typical application

Calibrating pressure sensors automatically with WIKA-Cal and a pressure controller

Pressure sensors can be calibrated automatically with the WIKA-Cal calibration software and a pressure controller of the models CPC2000, CPC4000, CPC6050, CPC7000 and CPC8000.

The current or voltage signal from the test item will be read from a multimeter such as an Agilent 34401A or Keithley 196A over the GPIB or RS-232 interface and converted to a pressure value with WIKA-Cal.

The measurement is started after a few clicks and the certificate is created with a complete analysis of the measurement uncertainty and a graph.

→ For details on the different pressure controllers can be found to the corresponding data sheets.

WIKA-Cal with model CPC4000 pressure controller, pressure sensor with model CPU6000-M CalibratorUnit

Calibrating electrical pressure measuring instruments with WIKA-Cal, CPU6000 and pressure balance

Pressure balances offer the highest accuracy as references for the calibration of pressure measuring instruments. With WIKA-Cal, not only the test items are read automatically, but also the masses to be applied for the measuring points are determined. The program displays, for each measuring point, which masses have to be applied and thereby corrects the pressure value, depending on the ambient conditions and the piston temperature, to achieve the highest accuracy. With the different products of the CPU6000 series, these conditions can be measured and read automatically, so that many entries before and during each calibration are eliminated.

→ For details on the CPU6000, see data sheet CT 35.02
→ For details on the different pressure balances can be found to the corresponding data sheets.

Model CPU6000-W, CPU6000-S, CPB5800 and PC with WIKA-Cal software

Automatic calibration with digital dead-weight tester model CPD8500

In combination with a pressure controller for automatic pressure control, fully automatic calibration is possible with the model CPD8500 digital dead-weight tester. It is no longer necessary to apply the masses by hand.

→ For details of the model CPD8500 digital dead-weight tester, see data sheet CT 32.05

Model CPU6000-W, CPC6050, CPD8500 and PC with WIKA-Cal software

Switch test with model CPH7000 process calibrator

With the model CPH7000 process calibrator, it is possible to download the stored switch tests from the instrument and to document them directly in a protocol through WIKA-Cal. This specific switch test functionality is currently only available for the CPH7000.
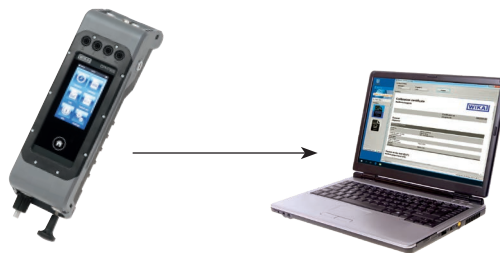
→ For details on the model CPH7000 process calibrator, see data sheet CT 15.51

Model CPH7000 process calibrator and PC with WIKA-Cal software

Ordering information for a single licence	Order code
Cal-Template (light version)	WIKA-CAL-LZ-Z-Z
Cal-Template (full version)	WIKA-CAL-CZ-Z-Z
Log-Template (full version)	WIKA-CAL-ZZ-L-Z
Ordering information for a pair licence	
Cal-Template (light version) together with Log-Template (full version)	WIKA-CAL-LZ-L-Z
Cal-Template (full version) together with Log-Template (full version)	WIKA-CAL-CZ-L-Z
Ordering information for the multicalibration licence	
Cal-Template (light version) without Log-Template	WIKA-CAL-L1-Z-Z
Cal-Template (light version) together with Log-Template (full version)	WIKA-CAL-L1-L-Z
Cal-Template (full version) without Log-Template	WIKA-CAL-C1-Z-Z
Cal-Template (full version) together with Log-Template (full version)	WIKA-CAL-C1-L-Z

Ordering information

Model / Cal-Template calibration certificate / Multicalibration for Cal-Template / Log-Template logger protocol / Additional ordering information

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