

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 softwares
- Easy operation of the software and supporting videos available at "WIKA Group - YouTube"
- SQL database independent from Microsoft® Access®

Description

Creation of calibration certificates or logger protocols

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 pre-installed 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.



WIKA-Cal calibration software

User-friendly and flexible through templates

A template is a prepared document. Immediately after selecting the template, all documents will be clearly displayed in a database.

When the user generates 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 generation.

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The process of the certificate generation 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	
Minimum system requirements	Intel® Pentium® 4 or AMD Athlon® 64
	Microsoft® Windows® Vista, Windows® 7, Windows® 8 and Windows® 10
	1 GB RAM and 1 GB free hard disc space (no installation possible on portable flash storage media)
	1024 x 768 pixel screen resolution (1280 x 800 pixel recommended) with 16-bit colour depth and 256 MB VRAM
	Without the activation USB dongle, the software only works in demo mode. For fully automatic calibrations, at least one RS-232-COM port per instrument is required for communication. If an SQL server is to be installed locally, .NET Framework 3.5 is required and, for Win7 and newer, also 4.x.
Language versions	German, English, French, Italian, Spanish, Portuguese, Dutch, Swedish, Polish, Romanian, Russian, Greek, Japanese, Chinese More languages will be due with software updates
Features	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 interfaces	USB, RS-232, IEC-625-Bus, Ethernet and Bluetooth® 2.1
Communication with current products	
Digital pressure gauges	CPG500, CPG1500
Hand-helds and calibrators	CPH6000, CPH6200, CPH6210, CPH6300, CPH6400, CPH7000, CPH7650
Precision pressure measuring instruments	CPT2500, CPT6020, CPT6100, CPT6140, CPT6180, CPT9000, CPG2500
Pressure controllers	CPC2000, CPC4000, CPC6050, CPC7000, CPC8000-I (II), CPC8000-H
Pressure balances (dead-weight testers)	CPB3500, CPB3800, CPB3800HP, CPB5000, CPB5000HP, CPB5600DP, CPB5800, CPB6000, CPB6000DP, CPD8500
Digital multimeter (for reading pressure sensors)	CPU6000-M, Agilent 34401A, 34410A, 34461A, 3458A, Keithley 196A und Keithley 2000, CPH6000, CPH7000, CPH7650
Accessories	CPU6000-W, CPU6000-S
Communication with discontinued products ¹⁾	CPG1000, CPH6510, CPH6600, CPH7600, PASCAL100, PASCAL ET, CPG8000-I (II), CPC3000, CPC6000, CPD8000

1) WIKA-Cal also communicates with discontinued products.

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Cal-Template calibration certificate

With the Cal-Template, calibration certificates for mechanical and electronic pressure measuring instruments can be generated. The calibration certificates have a format derived from the WIKA DKD/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 generation, 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.

The screenshot shows a Wika calibration certificate template. It includes sections for 'General' (Algemein), 'Device under test (DUT)' (Kalibriergegenstand (ZUG)), and 'Calibration procedure' (Kalibrierverfahren). The 'General' section contains fields for certificate number, date, and customer information. The 'Device under test' section includes fields for device name, serial number, and manufacturer. The 'Calibration procedure' section contains a table for recording measurement results.

The screenshot shows another part of the Wika calibration certificate template. It includes sections for 'Measurement conditions' (Messbedingungen) and 'Measurement results' (Messergebnisse). The 'Measurement conditions' section contains fields for ambient conditions, measurement point, and measurement range. The 'Measurement results' section contains a table for recording measurement results.

Calibration certificate created from Cal-Template

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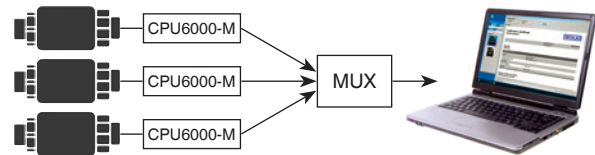
 Cal Demo	 Cal Light	 Cal Full
<ul style="list-style-type: none"> ■ Fully automatic calibration ■ Limitation to two measuring points 	<ul style="list-style-type: none"> ■ Semi-automatic creation of calibration certificates for mechanical and electronic pressure measuring instruments ■ No limitation of the measuring points approached 	<ul style="list-style-type: none"> ■ Fully automatic calibration ■ No limitation of the measuring points approached ■ Prerequisite for complete use of full Cal version is automatic pressure control
 Multi		
<ul style="list-style-type: none"> ■ Simultaneous calibration of several calibration instruments (up to 16 test items) ■ Purchase complementary to Cal Light or Cal Full 		
<ul style="list-style-type: none"> ■ Creation of calibration certificates 3.1 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 		

Multicalibration

The additionally charged “Multicalibration” licence can be ordered in addition to Cal Light or Cal. 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 WIKI-Cal software

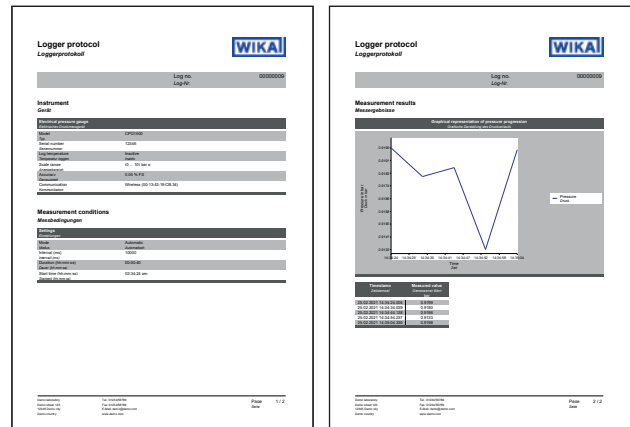
Log-Template logger protocol

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 arrives at the end with a completed protocol from the logged data as a PDF/A document.

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

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Logger protocol created from log template

Log Demo	Log
<ul style="list-style-type: none"> ■ Limitation to five measured values 	<ul style="list-style-type: none"> ■ No limitation of the measuring points approached
<ul style="list-style-type: none"> ■ Live measurement 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 ■ Possibility of exporting measuring results as a CSV file 	

Typical application

Calibrating pressure sensor automatically with WIKA-Cal and 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, please refer to the corresponding data sheets.



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

Calibrate 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 of the CPU6000 see data sheet CT 35.02

For details on the different pressure balances, please refer 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 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.



Model CPH7000 process calibrator and PC with WIKA-Cal software

Ordering information for your enquiry for a single licence	
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 your enquiry 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 your enquiry 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) together with Log-Template (full version)	WIKA-CAL-C1-L-Z

Scope of delivery

USB dongle with selected templates (Cal Light, Multi Cal, Cal and Log)

Ordering information

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

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