# Calibration software
# Model WIKA-CAL



## Applications

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

## Special features

- Templates for the creation of calibration certificates and logger protocols
- New calibration concept for easy certificate creation
- Easy operation and setting up the software
- SQL database independent from Microsoft® Access®

**WIKA-CAL calibration software**

## Description

### General information

The WIKA-CAL calibration software is used for creating calibration certificates or logger protocols for pressure measuring instruments and is available as a demo version for a cost-free download. Calibration certificates can be created with the Cal-Template and logger protocols can be created with the Log-Template. 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.

### Templates

A template is a prepared document. In the WIKA-CAL software, one can create documents such as calibration certificates or logger protocols.

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 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.



Data sheets showing similar products and accessories:
CalibratorUnit; models CPU6000-W, CPU6000-S and CPU6000-M; see data sheet CT 35.02
Pneumatic precision pressure controller; model CPC6000; see data sheet CT 27.61
High-End pressure controller; model CPC8000; see data sheet CT 28.01
Pneumatic pressure balance; model CPB5000; see data sheet CT 31.01
Hydraulic pressure balance; model CPB5800; see data sheet CT 31.11

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 jumps 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<br><br>Microsoft® Windows® XP with Service Pack 3, Windows® 7 with Service Pack 1 or Windows® 8 [1)]<br><br>1 GB RAM and 1 GB free hard disc space (no installation possible on portable Flash storage media)<br><br>1024 x 768 pixel screen resolution (1280 x 800 pixel recommended) with 16 Bit colour depth and 256 MB VRAM<br><br>Without the activation USB key, the software works only in demo mode.<br><br>For fully automatic calibrations, at least one RS-232-COM port per instrument is required for communication. |
| Language versions | German, English |
| Possible communication interfaces | USB, RS-232, GPIB IEC-625 bus, Bluetooth® 4.0 |
| Features | Creating and archiving test reports with the templates CalAuto, CalManual, Cal Demo, Log, Log Demo<br><br>Tools for mass calculation with the CPU6000 and unit calculator<br><br>Objectmanager allows for an intelligent use of laboratory and equipment data and facilitates the standardised testing process<br><br>Archiving of customer-specific test reports in the SQL database<br><br>Automatic reading and controlling of measuring instruments by means of communication types |
| Communication types | CPH6000, CPH6200, CPH62I0, CPH6300, CPH6400, CPH65I0, CPH6600, CPH7000, CPH7600, CPG500, CPG1000, CPT6100, CPT6180, CPG2500, CPC2090, CPC2000, CPC3000, CPC6000, CPC8000-I (II), CPC8000-H, CPG8000-I (II), CPT2500, CPA8001, pressure transmitter via digital multimeter Agilent 34401A or Keithley 196A, CPU6000-W, CPU6000-S, CPU6000-M |

1) Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

## 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 calibration certificate and contain the same functions and calculations. The template has many additional features. For example, the company logo, the address, the contact or individual labelling can be customised by the user.

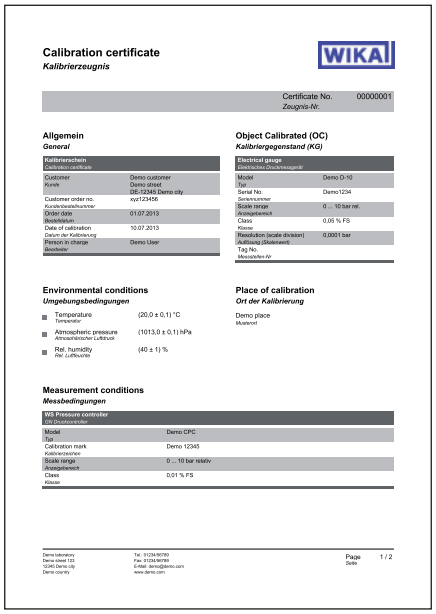
After creating a calibration certificate, the user will be guided through the document and, due to the database, can only make predefined entries. For this, tables are automatically adjusted and dynamically expanded as required. In this way, for example, several references under measurement conditions 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 first 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 programme such as Microsoft® Excel® and thus be used for a customer-specific certificate.



Calibration certificate
*Kalibrierzeugnis*

WIKA

Certificate No. 00000001
*Zeugnis-Nr.*

**Allgemein**
***General***

| Kalibrierschein | |
|---|---|
| Customer<br>*Kunde* | Demo customer<br>Demo street<br>DE-12345 Demo city |
| Customer order no.<br>*Kundenbestellnummer* | xyz123456 |
| Order date<br>*Bestelldatum* | 01.07.2013 |
| Date of calibration<br>*Datum der Kalibrierung* | 10.07.2013 |
| Person in charge<br>*Bearbeiter* | Demo User |

**Object Calibrated (OC)**
***Kalibriergegenstand (KG)***

| Electrical gauge | |
|---|---|
| Model<br>*Typ* | Demo D-10 |
| Serial No.<br>*Seriennummer* | Demo1234 |
| Scale range<br>*Anzeigebereich* | 0 ... 10 bar rel. |
| Class<br>*Klasse* | 0,05 % FS |
| Resolution (scale division)<br>*Auflösung (Skalenwert)* | 0,0001 bar |
| Tag No.<br>*Messstellen-Nr.* | |

**Environmental conditions**
***Umgebungsbedingungen***

- Temperature *Temperatur* (20,0 ± 0,1) °C
- Atmospheric pressure *Atmosphärischer Luftdruck* (1013,0 ± 0,1) hPa
- Rel. humidity *Rel. Luftfeuchte* (40 ± 1) %

**Place of calibration**
***Ort der Kalibrierung***

Demo place
*Musterort*

**Measurement conditions**
***Messbedingungen***

| WS Pressure controller<br>*DK Druckcontroller* | |
|---|---|
| Model<br>*Typ* | Demo CPC |
| Calibration mark<br>*Kalibrierzeichen* | Demo 12345 |
| Scale range<br>*Anzeigebereich* | 0 ... 10 bar relativ |
| Class<br>*Klasse* | 0,01 % FS |

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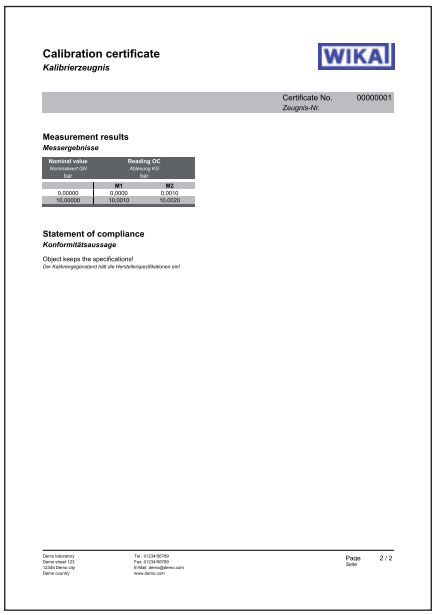

Calibration certificate
*Kalibrierzeugnis*

WIKA

Certificate No. 00000001
*Zeugnis-Nr.*

**Measurement results**
***Messergebnisse***

| Nominal value<br>*Nominalwert QN*<br>bar | Reading OC<br>*Ablesung KG*<br>bar | |
|---|---|---|
| | M1 | M2 |
| 0,00000 | 0,0000 | 0,0010 |
| 10,00000 | 10,0010 | 10,0020 |

**Statement of compliance**
***Konformitätsaussage***

Object keeps the specifications!
*Der Kalibriergegenstand hält die Herstellerspezifikationen ein!*

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**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.

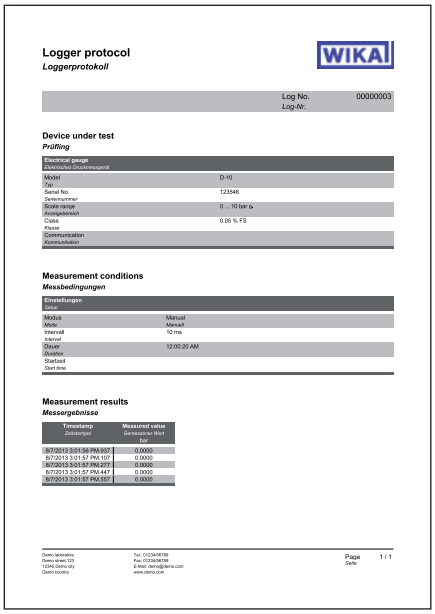

**Cal**
Generation of calibration certificates with no limitations on measuring points, with automatic initiation of pressures via a pressure controller.

## 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 CSV data for processing in another programme, such as Microsoft® Excel®.



**Logger protocol**
***Loggerprotokoll***

WIKA

Log No. 00000003
*Log-Nr.*

**Device under test**
***Prüfling***

| Electrical gauge<br>Elektronisches Druckmessgerät | |
|---|---|
| Model<br>Typ | D-10 |
| Serial No.<br>Seriennummer | 123546 |
| Scale range<br>Anzeigebereich | 0 ... 10 bar |
| Class<br>Klasse | 0.05 % FS |
| Communication<br>Kommunikation | |

**Measurement conditions**
***Messbedingungen***

| Einstellungen<br>Setup | |
|---|---|
| Modus<br>Mode | Manuell<br>Manuell |
| Intervall<br>Interval | 10 ms |
| Dauer<br>Duration | 12:00:20 AM |
| Startzeit<br>Start time | |

**Measurement results**
***Messergebnisse***

| Timestamp<br>Zeitstempel | Measured value<br>Gemessener Wert<br>bar |
|---|---|
| 8/7/2013 3:01:36 PM 937 | 0.0000 |
| 8/7/2013 3:01:57 PM 107 | 0.0000 |
| 8/7/2013 3:01:57 PM 277 | 0.0000 |
| 8/7/2013 3:01:57 PM 447 | 0.0000 |
| 8/7/2013 3:01:57 PM 597 | 0.0000 |

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**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.

## Typical application

**Calibrate pressure transmitter automatically with WIKA-CAL and pressure controller**
Pressure transmitters can be calibrated automatically with the WIKA-CAL calibration software and a pressure controller of the models CPC3000, CPC6000 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 about the various pressure controllers see data sheets CT 27.55, CT 27.61 and CT 28.01


**WIKA-CAL with pressure controller model CPC3000, pressure transmitter and CalibratorUnit model CPU6000-M**

**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 item is read automatically, but also the masses to be applied for the measuring point are determined. The programme displays, for each measuring point, which masses have to be applied and thereby corrects the pressure value, depending on the environmental 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 of the different pressure balances see data sheets CT 31.01, CT 31.06, CT 31.11, CT 31.51 and CT 31.56

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

## Scope of delivery

USB key with selected templates (Cal Light, Cal, Log)

**Ordering information**
Model / Cal-Template calibration certificate / Log-Template logger protocol





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