CalibratorUnit
Sensor box for pressure balance
Model CPU6000-S

Applications

Recording of certificate-relevant data

Special features

- New calibration concept simplifies certificate generation
- Easy operation and set-up
- Acquisition of piston temperature and piston position, to increase the accuracy of the measurement
- Can also be used with other calibration instruments and WIKA-Cal software

CalibratorUnit, sensor box for pressure balance, model CPU6000-S

Description

General information

The CPU6000-S is used for measured value recording of data relevant for calibration certificates. It simplifies the generation of certificates and increases the productivity and quality of the certificate generation process.

The CPU6000-S measures the piston temperature and displays the floating position of the masses. The sensors are fitted directly to the pressure balance to achieve the highest accuracy.

Features

In combination with any pressure balance and the WIKA-Cal software can determine the necessary masses or the reference pressure. Through simple operation and set-up, the calculation of the masses or the pressure is made easier. The CalibratorUnit takes into account all critical influencing factors and thus increases the accuracy of the measurement.

Software and generation of certificates

The generation of the certificate is made in conjunction with the WIKA-Cal software. A USB interface is available for PC connection.

WIKA-Cal software

The WIKA-Cal software calculates the masses for pressure balances or the reference pressure while taking the measured parameters from the CPU6000 into account. The conversion can be carried out in all common pressure units. As an additional parameter, the local gravity can be given for location-independent measurements.

Data sheets showing similar products and accessories:
Pressure balance, pneumatic version to 100 bar [1,500 lb/in²]; model CPB5000; see data sheet CT 31.01
Dead-weight tester, hydraulic version to 1,400 bar [20,000 lb/in²]; model CPB5800; see data sheet CT 31.11
WIKA-Cal calibration software; see data sheet CT 95.10

Specifications

The use of the sensor box is recommended for pressure balances of the CPB5000, CPB5000HP, CPB5600DP and CPB5800 series.

CPU6000-S	
Instrument	
Instrument version	■ Desktop case ■ With integrated wall bracket
Warm-up time	120 minutes
Weight	1.18 kg [2.60 lb]
Measuring range	
Piston temperature	-50 ... +250 °C [-58 ... +482 °F]
Floating position of the masses	■ 4 … 20 mA ■ 20 … 200 mm [0.79 ... 7.87 in]
Communication	
Interface	USB
Voltage supply and performance data	
Auxiliary power	DC 24 V, 750 mA

Accuracy specifications / Repeatability	
Piston temperature	±0.1 °C at 20 °C [±0.18 °F at 68 °F] [1)]
Floating position of the masses	±0.5 mm [±0.02 in]

1) The calibration is performed for the points 18 °C [64.4 °F], 23 °C [73.4 °F] and 25 °C [77 °F] following a warm-up time of 120 minutes.

Connection	
Connection type	
Piston temperature sensor	LEMO socket
Floating position sensor	binder socket
Connection cables	
For piston temperature sensor	■ Cable length: 1 m [3.3 ft] ■ Cable length: 2.5 m [8.2 ft]
For floating position sensor	■ Cable length: 1 m [3.3 ft] ■ Cable length: 2.5 m [8.2 ft]

Operating conditions	
Place of use	Laboratory
Operating altitude	Up to 2,000 m [6,562 ft]
Operating temperature	15 ... 45 °C [59 ... 113 °F]
Storage temperature range	0 ... 70 °C [32 ... 158 °F]
Humidity	35 ... 85 % relative humidity (non-condensing)

Approvals

Logo	Description	Region
CE	**EU declaration of conformity**	European Union
	EMC Directive EN 61326 emission (group 1, class B) and immunity (“basic environment”: Commercial, laboratories, service centres or workshops)	
	RoHS directive	

Optional approvals

Logo	Description	Region
-	**MChS** Permission for commissioning	Kazakhstan

Certificates

Description	
Calibration	■ Without ■ 3.1 inspection certificate per DIN EN 10204 ■ DAkkS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)
Recommended calibration interval	1 year (dependent on conditions of use)

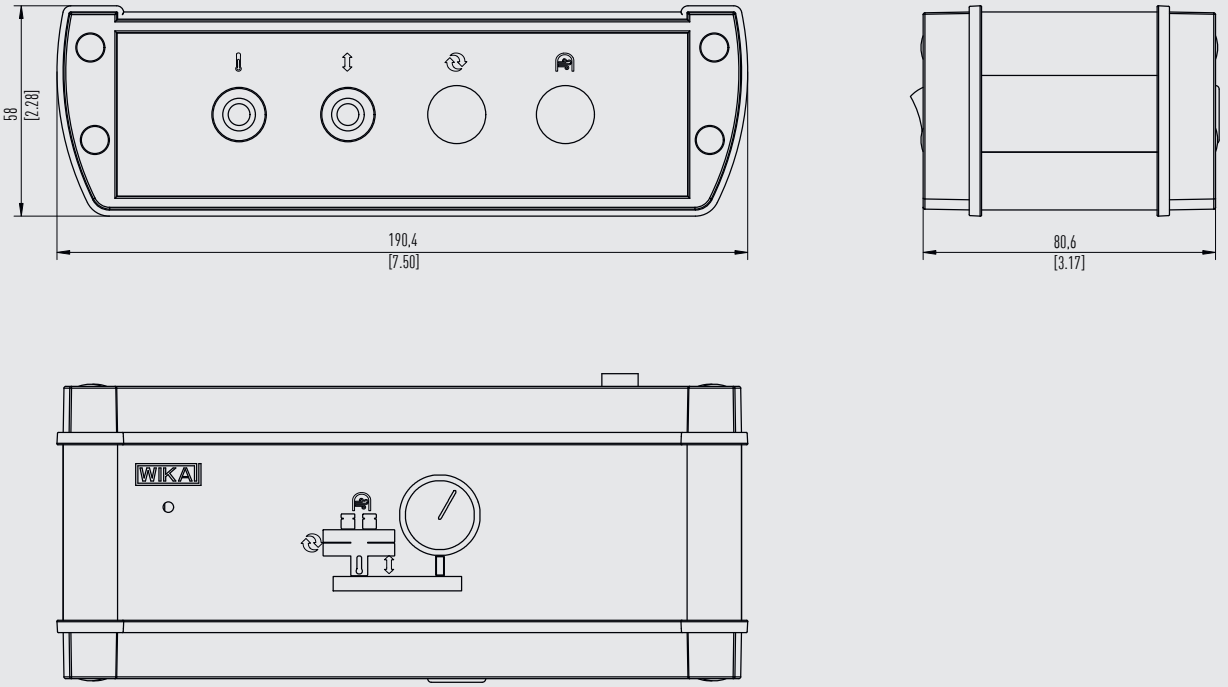
Patents, property rights

Number	Description
DE 102013215351	Sensor box

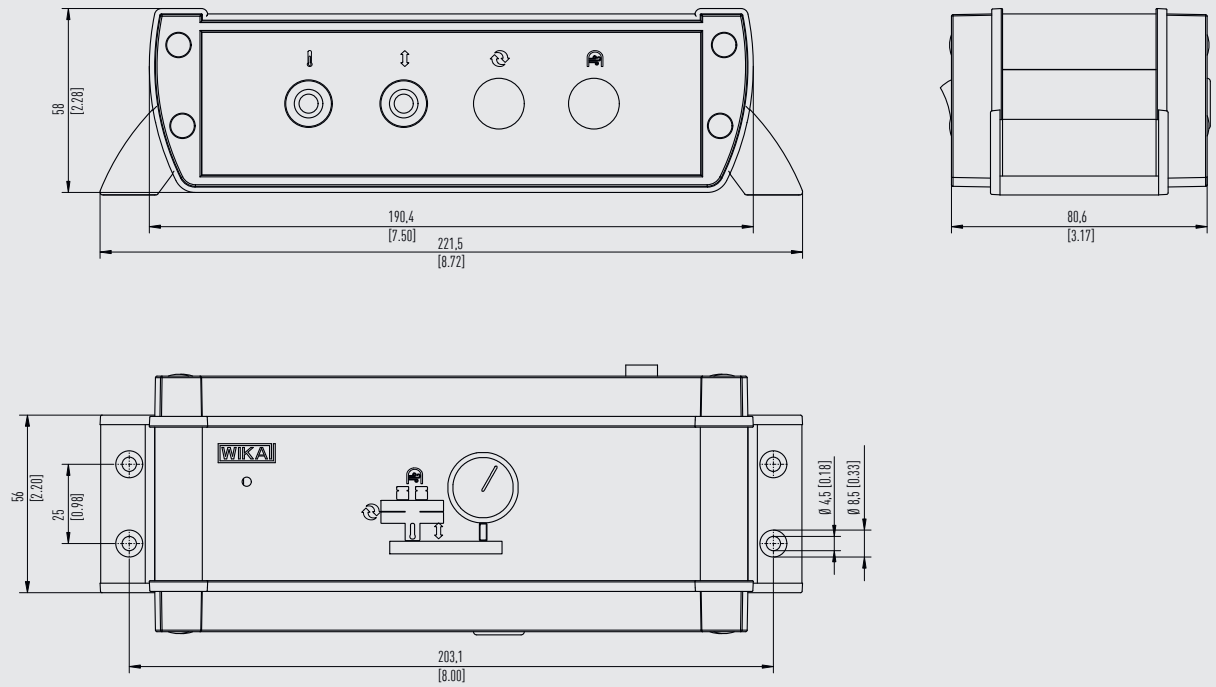
→ For approvals and certificates, see website

Dimensions in mm [in]

Model CPU6000-S without wall bracket

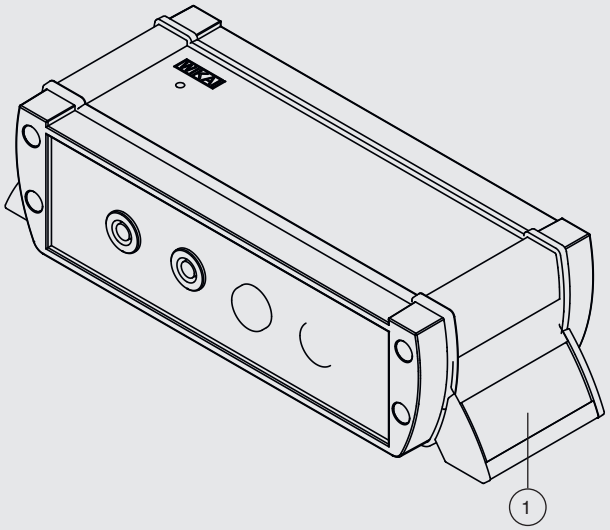


Model CPU6000-S with wall bracket

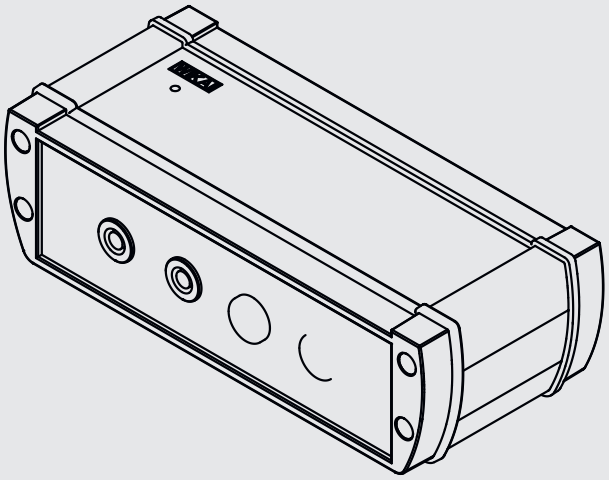


Isometric view

Model CPU6000-S with wall bracket



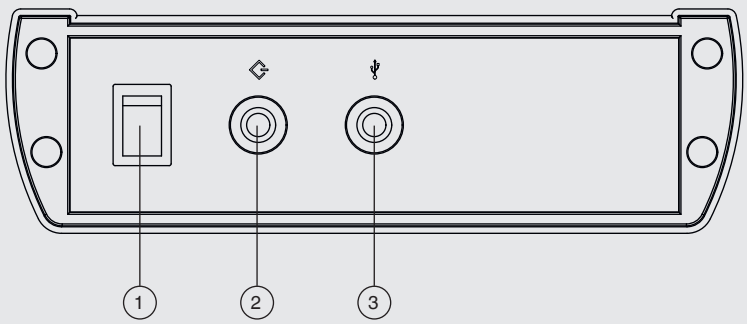
Model CPU6000-S without wall bracket



(1) Screw holes closed with decorative strips

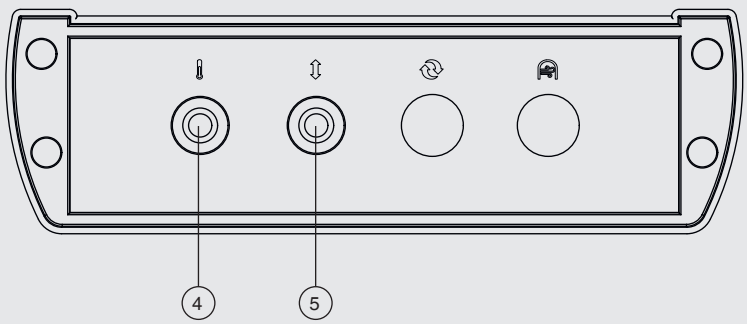
Pin assignment of the CPU6000-S

Top



(1) On/Off switch
(2) DC 24 V mains connection
(3) USB interface connector
(4) Piston temperature sensor connector
(5) Floating position sensor connector

Lower mount



Typical application

The CPU6000-S can be combined with pressure balances from all manufacturers. The sensor technology of the instrument has been optimised for installation into CPB series pressure balances.

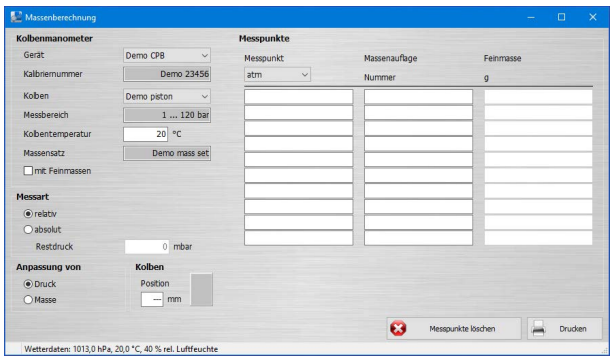
WIKA-Cal software with mass calculation tool
With the WIKA-Cal software and a CPB series pressure balance, the masses to be applied and the corresponding reference pressure can be determined.
The pressure balance data can be entered into the database manually or imported automatically via an online XML file.
The mass calculation tool can be used to calculate the masses required to reach the target pressure.

With the CPU6000-S, the piston temperature can be measured and these can be taken into account in the calculations. As an additional parameter, the local gravity can be given for location-independent measurements.

Model CPB5800 pressure balance with sensor box, model CPU6000-S and PC with WIKA-Cal software

Floating position sensor
With the floating position sensor, in conjunction with the CPU6000-S, the displacement of the masses can be displayed in WIKA-Cal. Through the automatic detection of the floating position, the software can automatically move to the next calibration point.

For details of the WIKA-Cal calibration software, see data sheet CT 95.10.



WIKA-Cal software with mass calculation tool

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 free download.
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.

- The user is guided through the calibration or logger process
- Management of calibration data and instrument data
- Intelligent preselection via SQL database
- Menu languages: German, English, Italian, French, Dutch, Polish, Portuguese, Romanian, Spanish, Swedish, Russian, Greek, Japanese, Chinese
  More languages are due with software updates
- Customer-specific complete solutions possible

WIKA-Cal is a calibration software for making calibrations with a pressure balance (dead-weight tester) easier. With the calibration certificate, an xml file can be requested, which can be imported and contains the relevant information:

- Piston parameters (or pressure range)
- Mass set parameters with the individual masses and identifier for different mass sets. Additionally, there is the option to enter user-defined values for the mass sets.

To make the calibration process more reliable and accurate, WIKA-Cal also offers a wide range of additional input parameters, with options such as:

- Input of the local gravity for the test item to compensate with the gravity at the calibration location during calibration
- Conversion of units and determination of the required masses
- Compensation of the pressure difference by entering the height difference between reference and test item

The supported instruments are continuously expanded and even customer-specific adaptations are possible.

For further information, see data sheet CT 95.10

Two WIKA-Cal licences are available together with one CPB series pressure balance

The WIKA-Cal calibration software is available for online calibrations together with a PC. The scope of software functions depends on the selected licence.

Cal-Template (demo version)	Cal-Template (light version)	Cal-Template (full version)
Fully automatic calibration	Semi-automatic calibration	Fully automatic calibration
Limitation to two measuring points	No limitation of the measuring points approached	
■ Creation of 3.1 inspection certificates per DIN EN 10204 ■ Calibration data can be exported to Excel® template or XML file ■ Calibration of pressure measuring instruments		
Ordering information for your request for a single licence:		
Is available for a cost-free download	WIKA-CAL-LZ-Z-Z	WIKA-CAL-CZ-Z-Z

Accessories for CPU6000		Order code
Description		CPU6000-A
-	**Floating position sensor for CPU6000-S** **Cable version** With cable length 1 m [3.3 ft] Accuracy ±0.5 mm [±0.02 in]	-1-
	With cable length 2.5 m [8.2 ft] Accuracy ±0.5 mm [±0.02 in]	-2-
-	**Floating position sensor for CPU6000-S** **Build-in version** With cable length 1 m [3.3 ft] Accuracy ±0.5 mm [±0.02 in]	-3-
	With cable length 2.5 m [8.2 ft] Accuracy ±0.5 mm [±0.02 in]	-4-
	**Piston temperature sensor for CPU6000-S** **Cable version** With cable length 1 m [3.3 ft]	-5-
	With cable length 2.5 m [8.2 ft]	-6-
	**Piston temperature sensor for CPU6000-S** **Build-in version** With cable length 1 m [3.3 ft]	-7-
	With cable length 2.5 m [8.2 ft]	-8-
	**USB interface cable**	-B-
	**DC 24 V power supply unit, 750 mA**	-C-
Ordering information for your enquiry:		
	1. Order code: CPU6000-A **2. Option:**	⇓ **[ ]**

Scope of delivery

- Sensor box for pressure balance, model CPU6000-S
- DC 24 V power supply unit, 750 mA
- USB interface cable
- Calibration certificate
- Operating instructions

Ordering information

CPU6000 / Package / Piston temperature sensor / Floating position sensor / Interface cable / Calibration / Accessories / Further approvals / Additional ordering information

WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
info@wika.de
www.wika.de