

Temperature dry-well calibrator Model CTD9100-ZERO

WIKA data sheet CT 41.30



Applications

- Simple calibration of thermometers at 0 °C (32 °F)
- Tempering of thermocouple cold junctions
- Test benches and calibration laboratories

Special features

- Low-cost
- Low weight and compact design
- Simple operation



Temperature dry-well calibrator model CTD9100-ZERO

Description

Versatile in application

Nowadays, fast and simple testing of thermometers is a “must” when it comes to the operational safety of machines and plants. The portable calibrators of the CTD9100 family are particularly suited for on-site calibrations and extremely user-friendly. Due to their compact design and their low weight, the instruments can be taken and used almost anywhere.

Special application

Regular monitoring of temperature probes helps to reduce failures and production downtimes.

These temperature dry-well calibrators not only calibrate, but they can also temper. In a simple way, a lasting cold junction temperature can be generated and thus the calibration of thermocouples is simplified. The complex method of water fixed-point cells and the risk of freezing and damage in transport are avoided.

The freezing-point calibrator can deliver not only the zero point in °C, but also, through the active cooling, it can deliver other test temperatures.

Features

This instrument concept combines a stable temperature source with a precise Pt100 temperature measurement, which enables industrial temperature probes to be calibrated even more efficiently and in shorter times.

Due to its design and the control, an even temperature distribution is achieved within the block. On this basis, the temperature can be taken as homogenous and not as distributed over the seven test bores. This homogenous temperature distribution reduces the influences on measurement uncertainty.

Easy to use

The CTD9100-ZERO represents the current state of the art with respect to measurement accuracy, functionality and the safe operation of the instrument. The operating position is defined as upright, since this achieves the optimum temperature distribution.

The calibration temperature, adjusted simply using two keys on the controller, can be very quickly controlled. The set

temperature of the heating block is displayed on a large, 4-digit, high-contrast LED display. Thus reading errors are virtually eliminated.

For easy reading of the temperature, the display is not only large, but, in addition, is also angled by 35°.

Specifications	CTD9100-ZERO
Display	
Temperature range	-10 ... 0 ... +100 °C (14 ... 32 ... 212 °F)
Accuracy ¹⁾	0.05 K at 0 °C (32 °F), otherwise 0.1 K
Stability ²⁾	< 0.05 K
Resolution	0.1 °C
Temperature distribution	
Gradients, axial ³⁾	< 0.05 K
Temperature control	
Heating time	15 min from -10 °C to +100 °C (from 14 °F to 212 °F)
Cooling time	5 min from 23 °C to 0 °C (from 73 °F to 14 °F) 10 min from 100 °C to 0 °C (from 212 °F to 14 °F)
Stabilisation time ⁴⁾	depending upon usage and area of application
Metal block	
Immersion depth	150 mm (5.91 in)
Test bores	7 bores with Ø 6.5 mm (0.26 in)
Block material	Aluminium
Voltage supply	
Power supply ⁵⁾	AC 100 ... 240 V, 50/60 Hz
Power consumption	225 VA
Power cord	for Europe, 230 V
Fuse	3.15 A slow blow fuse (at 250 V AC)
Communication	
Interface	RS-485
Case	
Dimensions (W x D x H)	160 x 230 x 320+50 mm (6.3 x 9.1 x 12.6+2 in)
Weight	7 kg (15.5 lbs)

1) Is defined as the measuring deviation between the measured value and the reference value.

2) Maximum temperature difference at a stable temperature over 30 minutes.

3) The gradient is understood to be the temperature change in the test well over the first 40 mm from the bottom of the insert.

4) Time before reaching a stable value.

5) AC 115 V power supply must be specified on the order, otherwise an AC 230 V one will be delivered.

The measurement uncertainty is defined as the total measurement uncertainty ($k = 2$), which contains the following shares: accuracy, measurement uncertainty of reference, stability and homogeneity.

CE conformity, approvals, certificates

CE conformity

EMC directive	2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (industrial application)
Low voltage directive	2006/95/EC, EN 61010-1 and EN 61010-2-10, safety requirements for electrical equipment for measurement, control and laboratory use

Approvals

EAC	Import certificate, Eurasian Economic Community
GOST	Metrology/measurement technology, Russia

Certificate

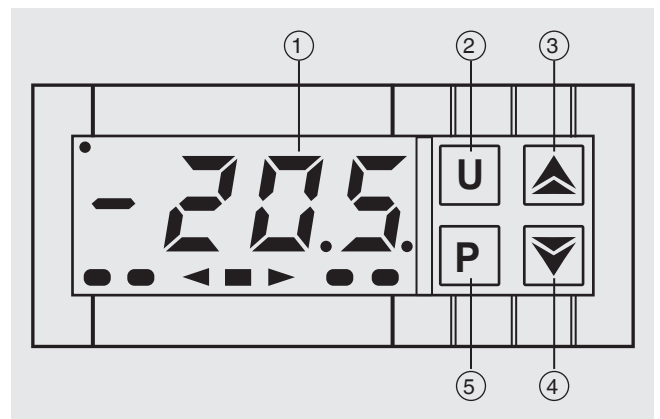
Calibration	Standard: 3.1 calibration certificate per DIN EN 10204 Option: DKD/DAkkS calibration certificate
Recommended recalibration interval	1 year (dependent on conditions of use)

Approvals and certificates, see website

Display and control panel

- Frequently used set points can be stored in four memory locations.
- The U key is used to retrieve stored set temperatures.
- The arrow keys are used to change the set temperatures.
- The P key is used to confirm the changes.

- ① Temperature display
- ② Recall key
- ③ Increase key
- ④ Decrease key
- ⑤ Programming key



Scope of delivery

- Temperature dry-well calibrator model CTD9100-ZERO
- Power cord 1.5 m (5 ft) with safety plug
- Operating instructions
- 3.1 calibration certificate per DIN EN 10204

Options

- Display in Fahrenheit °F
- DKD/DAkkS calibration certificate only at zero point

Accessories

- Interface cable with integrated RS-485 to USB 2.0 converter
- Transport case
- Power cord for Switzerland
- Power cord for USA/Canada
- Power cord for UK

Ordering information

Model / Unit / Calibration / Transport case / Power cord / Additional ordering information

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