

Temperature Dry Well Calibrators

Type: CCD91



Description

Nowadays, fast and simple examination of thermometers is a "must", especially if it concerns the working reliability of plant and machinery. The portable calibrators of the CCD91 family are particularly suited to local calibration tasks. They are extremely user-friendly. Due to their compact design and their low weight, the devices can be taken almost anywhere to be used.

The new equipment concept connects a stable heat source with precise Pt100 temperature measurement. Thus industrial temperature sensors can be calibrated even more efficiently. Regular examination of temperature sensors helps to recognise failures promptly and shorten downtimes.

The temperature dry well calibrators of the CCD91 series work with temperature-controlled metal blocks and interchangeable inserts.

The calibration temperature, adjusted simply using two buttons on the controller, can be controlled very quickly. The actual and set temperatures of the heated block are displayed simultaneously on a large, 4-digit, high-contrast LED screen. Thus reading errors are virtually eliminated.

Thermometers with different diameters can be fitted into the calibrator using inserts, drilled to suit. A new block design with improved temperature homogeneity at the calibrator's lower range leads to smaller measurement uncertainties. The large, 150 mm insertion depth clearly reduces stem conduction errors.

Features

- Various temperature ranges
- Measurement uncertainties from 0.15 K to 0.8 K
- Compact design
- Simple operation

Ranges

Three instruments for the temperature range from -30 °C to +650 °C

- Type CCD91X999001 for Temperature range from -30 °C to +165 °C
- Type CCD91X999002 for Temperature range from 40 °C to 450 °C
- Type CCD91X999003 for Temperature range from 40 °C to 650 °C

Applikations

Simple on-site calibration
Power generation
Measurement and control laboratories
Machine building

Models: Dry Well Calibrators CCD91

**Three instruments for the temperature range
from -30 °C to +650 °C**



Temperature dry well calibrator control elements

The calibrator's temperature controller is found on the front panel:

- Actual and set temperatures can be read simultaneously with a 0.1 K resolution.
- Up to four frequently used set values can be stored in memory and retrieved quickly.
- Individual temperatures can be set simply using the two arrow keys.

The mains connection socket, power switch and fuse holders are found on the underside of the instrument, to the centre and front.

**Model CCD91X999001
Temperature range from -30 °C to +165 °C**

This calibrator works with Peltier elements and so can also achieve test temperatures below ambient. Due to its capacity for active cooling, it is often used in the bio, pharmaceutical and food industries.

**Model CCD91X999002
Temperature range from 40 °C to 450 °C**

The CCD91X999002 is used in the medium temperature range to 450 °C. It generates its temperature with electrical resistance heating. As against the other models, it has an enlarged insert with Ø 60 mm. Thus it can calibrate several temperature sensors simultaneously or be used for the calibration of thermometers with differing diameters, without the need for insert changes.

**Model CCD91X999003
Temperature range from 40 °C to 650 °C**

This model is for high-temperature applications. It also makes use of electrical resistance heating to generate the temperature.

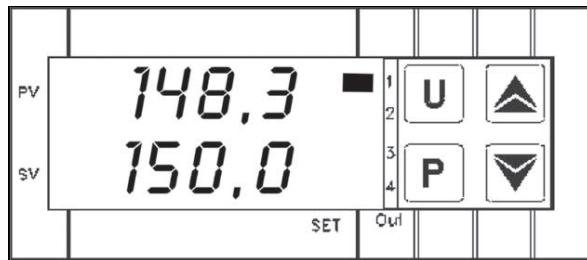
For high-temperature tests, e.g. with exhaust measurements on test stands or in energy production, the CCD91X999003 is the correct choice.

Technical Specifications

Models	CCD91X999001	CCD91X999002	CCD91X999003
Temperature range	-30°C ... +165°C	40°C ... 450°C	40 °C ... 650°C
Accuracy	0,15 ... 0,25 K	0,3 ... 0,5 K	0,3 ... 0,8 K
Stability	+/- 0,05 K	+/- 0,05 K at 100°C +/- 0,1 K at 450°C	+/- 0,05 K at 100 °C +/- 0,1 K at 600°C
Display resolution	0,1 °C	0,1 °C	0,1°C
Gradient, axial	< 0,04 K up to 100°C 0,06 K at 165°C	< 0,05 K up to 100°C 0,2 K at 459°C	< 0,2 K up to 100°C 0,5 K at 600°C
Heating up time	12 min from 20°C to 165°C	14 min from 20°C to 450°C	28 min from 20°C to 600°C
Cooling down time	7 min from +20°C to -20°C	58 min from 450°C to 100°C	60 min from 600°C to 100°C
Insertion depth	150 mm	150 mm	150 mm
Insert dimensions	28 x 150 mm	60 x 150 mm	25 x 150 mm
Digital interface	RS-485	RS-485	RS-485
Power supply	AC 100 ... 240 V, 50/60 Hz	AC 230 V, 50/60 Hz	AC 230 V/115V, 50/60 Hz)
Power consumption	375 VA	2000 VA	1000 VA
Power suppla cable	For Europe, 230 V	For Europe, 230 V	For Europe, 230 V
Dimensions, H x D x W	215 x 305 x 425 mm	150 x 270 x 400 mm	150 x 270 x 400 mm
Mass	11 kg	7,5 kg	8 kg

Accessories

Models	CCD91X999001	CCD91X999002	CCD91X999003
Inserts	28 x 150	60 x 150	28 x 150
• Standard diameters in 0,5mm increments	1,5 mm ... 25 mm	1,5 mm ... 55 mm	1,5 mm ... 25 mm
• 2 bores	1 x 3,2 mm and 1 x 6,3 mm		
• 6 bores	2 x 3,2 mm, 1 x 4,2 mm, 1 x 6,3 mm, 1 x 8,4 mm and 1 x 9,9 mm		
• 9 bores	-	2 x 8,5mm, 3 x 6,3mm 2 x 4,3mm and 2 x 3,2mm	-
To customer specification	On request	On request	On request
Interface adapter for			
RS-485 to USB 2.	X	X	X
Calibration software	X	X	X
Carry case	X	X	X



CCD91 Display and control panel

- Set and actual temperature are displayed concurrently on a dual LED display.
- Up to four frequently used set points can be stored in the instrument memory.
- The U-key is used to retrieve stored set temperatures.
- The arrow keys are used to change the set temperature.
- Display and operation of the CCD91 temperature calibrator _ The P-key is used to confirm the changes.

Scope of supply

- Temperature dry well calibrator
- Power lead 1.5 m with safety plug
- Insert with 6.5 mm inside diameter
- Insert replacement tools
- Operating instructions in English or German language
- 3.1 calibration report according to DIN EN 10 204

Options

- Instrument versions for 115 VAC
- Display in Fahrenheit °F
- DKD calibration certificate

Accessories

- Calibrator operating software
- Inserts, undrilled and drilled to specification
- Digital interface cable with integral RS-485 / USB 2.0 converter
- Carry case, robust design
- Power lead for Switzerland
- Power lead for USA/Canada

Subject of technical changes