

Portable Temperature Calibrator Model CEP3000

WIKA Data Sheet CT 82.01

Applications

- Calibration service companies/service industry
- Instrument and control workshops
- Industry (Laboratories, workshops und production)
- Quality assurance

Special Features

- High accuracy up to ± 0.4 °C for Thermocouple Type J and ± 0.3 °C for 4W Pt100 (385) RTD (all errors incl.)
- Measures and simulates Thermocouples (11) and RTDs (10) plus YSI 400 thermistor
- RTD simulation works with all pulsed (smart) transmitters
- Store up to 9 setpoints for each output function
- Shock protected case, rugged design



Portable Temperature Calibrator Model CEP3000

Description

General

The Portable Temperature Calibrator CEP3000 is an ideal device to handle all of your temperature calibration needs in a truly rugged, low-cost package. It combines virtually all widely used thermocouples and RTDs in one device - you'll never have to worry about finding a temperature device you can't calibrate. This is especially true when calibrating "smart" or pulsed RTD transmitters, where many other calibrators fail to work or operate at reduced accuracy specs.

Extensive applications

There is a wide range of application capabilities for the CEP3000. It can be used for calibration in industry (laboratory, production, workshops), in calibration service companies and service industry as well as for quality assurance.

Performance

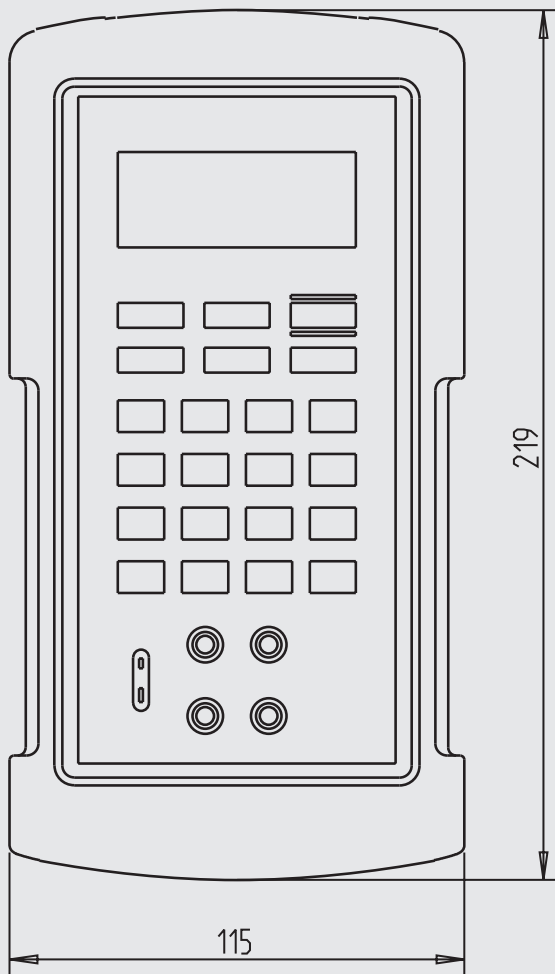
The temperature calibration capability of the CEP3000 includes thermocouples and RTDs. Furthermore it is possible to calibrate resistance with the CEP3000. In thermocouple and RTD mode the unit can read and source any of 11 different thermocouples and 10 RTD types.

The CEP3000 has also a setpoint function. Up to 9 setpoints can be set in a non-volatile memory for each output function. The setpoints can be recalled separately, but also automatic stepping for some or all stored setpoints is possible.

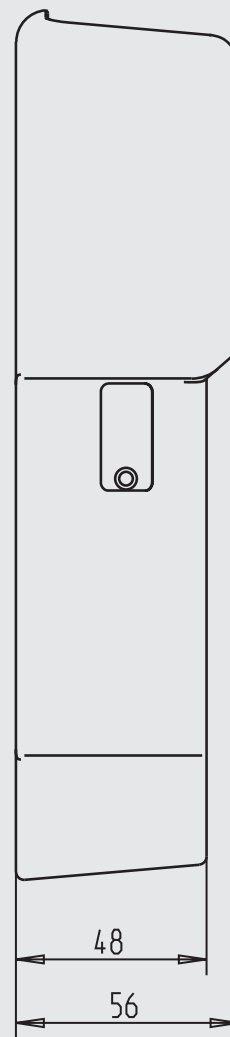
In addition, this instrument impresses with its easily-read display (backlighting selectable), its durable housing and its simple, clear operation.

Dimensions in mm

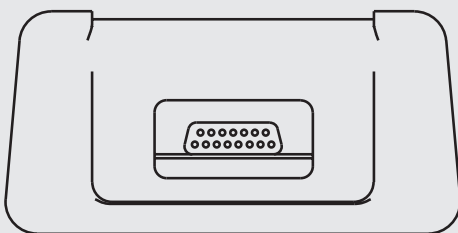
Front view



Side view



Top view



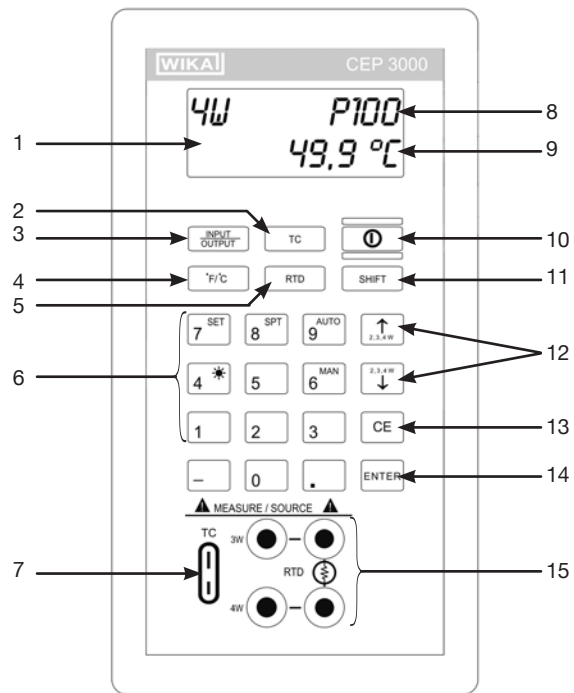
Specifications

Model CEP3000

Display	2-line with 8 places and character size 10 mm
Input	
Number and type	four banana plug entrances for resistance thermometers and a thermocouple plug entrance
Resistance thermometers	Pt100 (385, 3926, 3916), Pt200, Pt500, Pt1000, Ni120, Cu10, Cu50, Cu100, YSI400
Thermocouples	Type J, K, T, E, R, S, B, L, U, N, P
Voltage signal	-10 ... +75 mV
Resistance	0 ... 400 Ω and 400 ... 3200 Ω
RTD IEX-Range	0.01 ... 3 mA
RTD frequency response	10 ms – works with all pulsed transmitters
Setpoint setting	9 for each type of thermocouple and 9 for each resistance thermometer
Automatic step function	available
Direct keyboard entry	available
Power supply	4 AA alkaline batteries, 6 V DC
■ Battery life	30 hours
■ Low battery indicator	displayed icon near the end of battery life
Permissible	
■ Operating temperature	-10 ... +50 °C
■ Storage Temperature	-40 ... +60 °C
Case	
■ Ingress protection	IP 52
EMC	Tested to EN 55 022 class A and EN 55 024
Dimensions	220.9 x 106.6 x 58.4 mm
Weight	approx. 849 g

Input and output signal	Measuring range	Absolute uncertainty	
		MIN	MAX
Voltage signals in mV	-10.00 ... +75.00 mV	0.015 % ± 20 μV	
Thermocouples (all errors incl.)			
Type J	-200 ... +1200 °C	0.4 ... 0.6 °C	
Type K	-200 ... +1370 °C	0.5 ... 0.8 °C	
Type T	-200 ... +400 °C	0.5 ... 0.8 °C	
Type E	-200 ... +950 °C	0.4 ... 0.5 °C	
Type R	-20 ... +1750 °C	1.3 ... 2.4 °C	
Type S	-20 ... +1750 °C	1.4 ... 2.4 °C	
Type B	600 ... 1800 °C	1.3 ... 2.1 °C	
Type L	-200 ... +900 °C	0.4 ... 0.45 °C	
Type U	-200 ... +400 °C	0.45 ... 0.7 °C	
Type N	-200 ... +1300 °C	0.6 ... 1.1 °C	
Type P	0 ... 1390 °C	1.2 °C at 1000°C	
RTD			
Pt100 (385)	-200 ... +800 °C	0.33 °C	
Pt100 (3926)	-200 ... +630 °C	0.3 °C	
Pt100 (3916)	-200 ... +630 °C	0.3 °C	
Pt200 (385)	-200 ... +630 °C	0.8 °C	
Pt500 (385)	-200 ... +630 °C	0.3 ... 0.4 °C	
Pt1000 (385)	-200 ... +680 °C	0.2 ... 0.3 °C	
Ni120 (672)	-80 ... +260 °C	0.2 °C	
Cu 10	-100 ... +250 °C	2.2 °C	
Cu 50	-180 ... +200 °C	0.5 °C	
Cu 100	-180 ... +200 °C	0.3 °C	
YSI 400	15 ... 50 °C	0.05 °C	
Resistance			
Output	5 ... 3200 Ω	0.1 ... 1.0 Ω	
Input	0 ... 3200 Ω	0.1 ... 1.0 Ω	

- 1) Display
- 2) Toggles through all available TC types
- 3) Input/Output, toggles the function selected from measurement mode to source mode
- 4) Toggle between °C and °F
- 5) Toggles through all available RTD types
- 6) Numeric keys
- 7) TC connector, input/output
- 8) Mode annunciators
- 9) Temperature display
- 10) On/Off
- 11) Shift, acts as a second, function key to all keys that have an associated second function
- 12) 2, 3 or 4 wire, allows small changes to be made on an output value
- 13) Clear entry, allows the user to clear a value
- 14) Enter
- 15) RTD connectors, input/output



Scope of supply

- Portable Temperature Calibrator CEP3000
- Operation instructions
- Test leads, 2 sets (red/black)
- Calibration certificate 3.1 per DIN EN 10 204
- 4 AA NiMH batteries
- Protective rubber boot

Option

- DKD calibration certificate

Accessories

- Rechargeable battery kit, incl. 4 NiMH batteries, quick charger, power cord, adapters
- Battery set, 4 NiMH batteries
- AC mains adapter / charger
- Thermocouple wire kit J,K,T,E with mini plugs
- Thermocouple wire kit R/S, N, B with mini plugs
- Test leads, 1 set (red/black)

Products and Services within our Calibration Technology Program

- DKD calibration services for pressure
- Repair of all makes of calibration units
- Portable pressure measuring devices for test and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD calibration services for temperature
- Temperature dry-well calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for test and calibrating tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and seminars

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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