

# Precision Loop Calibrator Model CEP1000

WIKA Data Sheet CT 81.01

## Applications

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

## Special Features

- Very high accuracy up to  $\pm 0,015$  % of reading
- Simulates, powers and measures two-wire-transmitters
- High resolution of 0,001 mA
- „% Error“ function eliminates manual error calculation
- Automatic calibration through Step and Ramp function



Precision Loop Calibrator Model CEP1000

## Description

### General

The Precision Loop Calibrator CEP1000 provides significantly extended performance when compared to any competitive calibrator. With an accuracy of 0.015 % of reading, with 0.001 mA resolution, the CEP1000 has the highest accuracy in its class. Features such as a “% ERROR” function, which eliminates manual error calculation and allows the display of the actual versus ideal error at any calibration point, put the CEP1000 way beyond similar instruments. The CEP1000 can simulate, power, and measure two-wire transmitters. With automatic Step and Ramp functions, the CEP1000 enables remote calibration of 4 ... 20 mA devices.

### Intuitive Handling

A handful of clearly marked keys provide access to the full functionality of the unit. A pair of cursor keys allows rapid selection of the decade to be modified, while a large knob allows precise and rapid adjustment to any value needed. A single MODE key cycles through and selects the source, simulate, and measure modes.

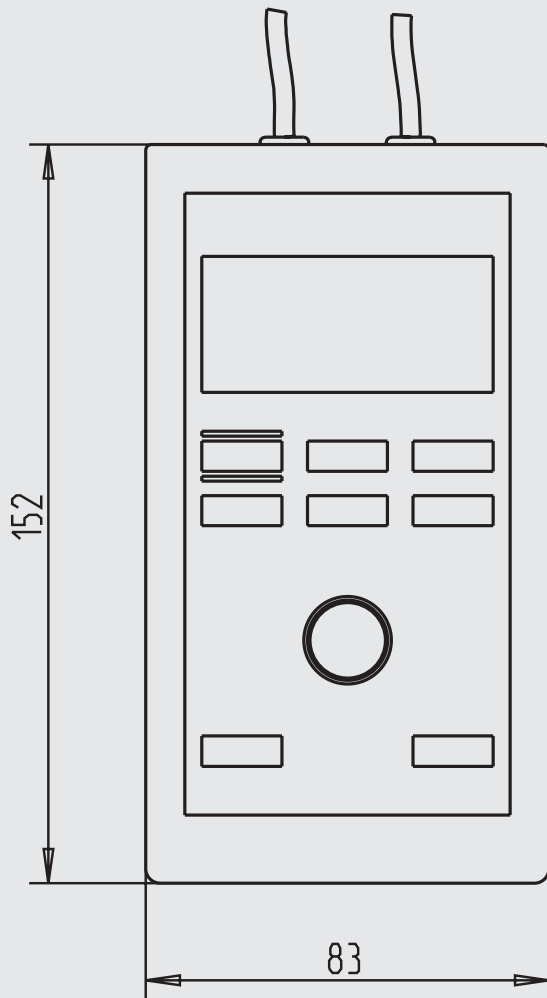
### Powerful Features

The CEP1000 provides innovative, powerful features to make your calibration job easier. To enable remote calibration of devices and processes, the CEP1000 features automatic STEP and RAMP output modes, which automate either a discrete 4-8-12-16-20-16-12-8-4 mA stair step output, or two speeds of a linear 4-20-4 mA ramp output, respectively. To further aid remote calibration, the CEP1000 features a Minimum/Maximum value recall function. Holding the “% ERROR” key while turning the large knob provides instant feedback of the difference between the ideal and actual current values. Instant verification of whether the device is within its accuracy range is provided.

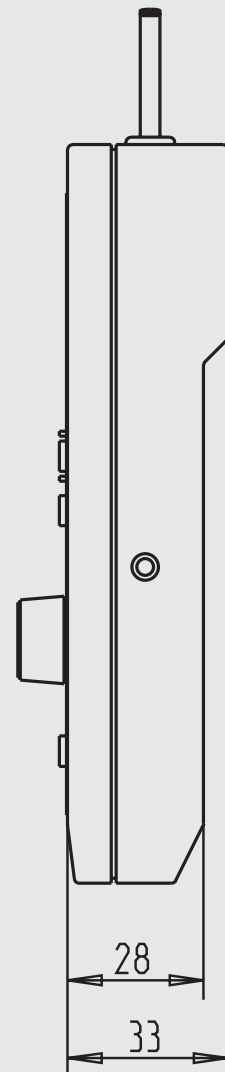
The “LOOP POWER” key supports a 24 V supply power. In addition an integrated 250  $\Omega$  HART™ resistor facilitates calibration of HART™ devices.

## Dimensions in mm

Front view



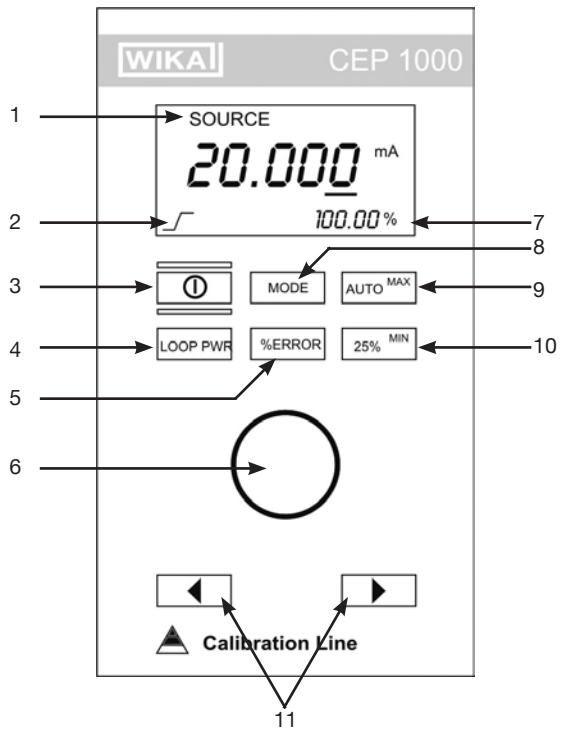
Side view



**Specifications****Model CEP1000**

Input		
Current range		0.000 ... 24.000 mA -25.00 % ... +125.00 %
Voltage range		0.000 ... 28.000 V DC
Input protection		Fuseless, up to 250 V AC
Output		
Current range		0.000 ... 24.000 mA -25.00 % ... +125.00 %
Uncertainty		± 0.015 % of reading ± 2 µA
Resolution		1 µA, 1 mV
Drive Capability		
■ Without HART™-resistor		1200 Ω
■ With HART™-resistor		950 Ω
Loop supply voltage		24 V DC
Range select		Decade; incremental to 0.001 mA steps
Auto step / ramp		available
Auto “%-Error” function		available
Built-in resistor for HART™ Commu- nications		available
Permissible		
■ Operating temperature		-10 ... +55 °C
■ Storage Temperature		-20 ... +70 °C
Display		5 1/2-digit with character size 9 mm and %-announcement
Range		mA, V, %
Recording options		MIN-/MAX-storage
Power supply		9 V DC battery, optional over AC Adapter
■ Battery life		12 hours (12 mA into 250 Ω continuous)
■ Low battery indicator		displayed icon near the end of battery life
EMC		Tested to EN 55 022 class A and EN 55 024
Ingress protection		IP 52
Calibration		3.1 calibration certificate per DIN EN 10 204 (option: DKD-calibration certificate)
Dimensions		144.7 x 80.0 x 36.3 mm
Weight		approx. 340 g

- 1) Mode annunciators
- 2) Step/Ramp annunciators
- 3) On/Off
- 4) Loop power key: applies 24 V DC loop power in mA measure mode
- 5) % Error key: allows user to display the actual vs. ideal error at any calibration point
- 6) Digital „Knob“: for output control
- 7) Simultaneous % display: 4 mA = 0.00 %, 20 mA = 100.00 %
- 8) Mode key
- 9) Auto Step/Ramp: selects between step and ramp (slow or fast)
- 10) 25 % key steps output: 4, 8, 12, 16, 20 mA
- 11) Cursor control: keys select decade to be controlled



## Scope of supply

- Precision Loop Calibrator Model CEP1000
- Operation instructions
- Neoprene case
- Calibration certificate 3.1 per DIN EN 10 204
- 9 V battery

## Accessories

- 9 V NiCd battery (rechargeable)
- AC mains adapter / charger (Europe)
- AC mains adapter / charger (Japan)
- AC mains adapter / charger (UK)
- AC mains adapter / charger (USA)

## Option

- DKD calibration certificate

## Products and Services within our Calibration Technology Program

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>■ DKD calibration services for pressure</li> <li>■ Repair of all makes of calibration units</li> <li>■ Portable pressure measuring devices for test and calibration tasks</li> <li>■ Precision pressure measuring units and pressure controllers</li> <li>■ Primary standards for pressure</li> <li>■ Testing technology system solutions</li> </ul> | <ul style="list-style-type: none"> <li>■ DKD calibration services for temperature</li> <li>■ Temperature dry-well calibrators</li> <li>■ Calibration baths and furnaces</li> <li>■ Temperature measuring instruments for test and calibrating tasks</li> <li>■ Precision thermometers</li> <li>■ Primary standards for temperature</li> <li>■ Consulting and seminars</li> </ul> |
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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.

