

Hand-held Multi-Function Calibrator Model CEP6500

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Applications

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

Special Features

- Highest accuracy in class for testing & calibration
- Simulate & Measure mV, V, mA, Ohms, Hz, Pulse, TIC (8 Types), RTD's (14 Types)
- 24V Loop power supply, mA/V-measuring channel allows complete transmitter calibration (at the same time source and read)
- Easy to read color graphical TFT LCD display
- Rugged design and easy handling



Portable multi-function calibrator model CEP6500

Description

General

The Multi-Function Calibrator CEP6500 provides a feature set unmatched in high accuracy, hand-held calibrators in its price range. The CEP6500 provides the functions and accuracy associated with fixed installation, laboratory instruments, and has everything needed for virtually any calibration task. Measure and source thermocouples, resistance thermometers, current, voltage, frequency and source pulse trains is supported by the CEP6500.

Extensive applications

Due to its multi functionality the CEP6500 offers a wide range of application capabilities. It can be used for testing & calibration in industry (laboratory, production, workshops), in calibration service companies and service industry as well as for quality assurance.

Intuitive handling

Easy to operate short cut keys SCR1 and SCR2 for input selection for measure and source/ measure respectively. It has 9 Membrane Keys.

Additional features

Built-in 250 Ω resistor for HART™ compatibility, 24 V loop power supply, compatibility with smart transmitters and PLCs, are just some of the additional features that make the CEP6500 the single, most indispensable tool available for virtually any calibration task. The CEP6500 is installed with a rugged rubber boot, which ensures shock resistance.

Specifications

General Specification	
Display Mode	3.2" TFT LCD, 262K colour, Graphical 48.6 mm x 64.8, 240 x 320 pixels, white LED backlight
Supported units for RTD/TC type	°C/ °F/ °K
RTD Measurement Current	300 µA
Resistance thermometers	Pt10(385), Pt100(385,3926), Pt500(385), Pt50(385), Pt200(385), Pt400(385), Pt1000(385), Ni120(672), Ni100(672,618), Cu10(427), Cu50(427), Cu100(427)
Maximum Resistance excitation current (simulation-Resistance/ RTD mode)	3 mA (0 ... 6 50 Ω measure/source with I _{exec} 2.0V/ R _{sim} (650 ... 40000))
Settling time (pulsed currents RTD Simulation)	>1 ms
Thermocouples	Type J, K, T, E, R, S, B, N
CJC error (For Thermocouple) Internal Reference Junction	≤ ± 0.5 °C
CJC selection	Manual/ Internal/ External *
Voltage signal	0 to 30VDC
Current signal	0 ... 24 mA
Resistance	0 ... 400 Ω and 400 ... 4000 Ω
Frequency/ Pulse	0.0005 ... 10.00 kHz/ 0 to 999999 pulses
Loop supply voltage	DC 24 V
Response time	Input <1 00ms Output <100ms
Frequency	0 to 12VPP (±0.5V)
Pulse	0 to 12VPP (±0.5V)
Input Impedance	TC/ mV/ V/ Frequency/ Pulse >1 MΩ mA=10 Ω
Load impedance	> 4.7KΩ for TC/mV/N/Pulse/frequency O/P <750Ω for mA O/P
Display update rate	10 readings / sec
Special features	Step/Ramp: Auto/Man functions, Continuity test, Automatic Wire detection, Switch Test, Max/ Min/ Average, filter settings, tare facility, adjustable backlight, alarm annunciation, HART mA Loop Resistor
Data logging	Logged data is stored in a user defined file in internal memory Periodic logging: 150000 readings max
Interface	USB 2.0
Power Supply	
Battery Type	Rechargeable Li-ion battery pack, 3000mAh 3.7V
Operating time	>17 hours for RTD/Ω/TCN/mV measure/source with minimum backlight. >9 hours for mA generation with minimum backlight.(24VDC @12mA)
Low battery indicator	Battery symbol displayed with % power remaining
Physical	
Dimensions (in mm)	185.6 mm (L) x 97.1 mm (W) x 41.3 mm (H)
Housing Material	ABS Plastic
Electrical Terminals	Four nos., 2mm Safety sockets
Weight	<300 grams
Protection	IP20
EMC directive	EN 61326-1 :2013 EN 61326-2-2:2013 EMC Directive 2014/30/EU
Operating temperature	-10 ... +55 °C
Storage Temperature	-20 ... +60 °C
Relative Humidity	30% to 90% non-condensing

Specifications

Input and Output Signal	Measuring Range	Resolution	Accuracy
Current signal			
Output	0 ... 24.000 mA	0.001 mA	+/-0.02% of reading + 2 count
Input	0 ... 24.000 mA	0.001 mA	+/-0.02% of reading + 2 count
Voltage signals			
Output	0 ... 12.000 V DC	0.001 V	+/-0.02% of reading + 2 count
Input	0 ... 30.000V	0.001 V	+/-0.02% of reading + 2 count
Resistance			
Output	0 ... 400 Ω	0.01Ω	±0.02% of reading ± 0.02Ω
	400 ... 4000 Ω#	0.1Ω	±0.02% of reading ± 0.15Ω
Input	0 ... 400 Ω	0.01Ω	4 wire connection: 0.02% of reading +/- 0.01 Ω
	400 ... 4000 Ω#	0.1Ω	4 wire connection: 0.02% of reading +/- 0.1 Ω
Frequency			
Output	0.0005 to 0.5Hz 0.5 to 50 Hz 50 to 500 Hz 500 to 5000 Hz	0.00001 Hz 0.0001 Hz 0.001 Hz 0.01 Hz	
Input	0.0143 to 9.9999 10 to 99.999Hz 100 to 999.99Hz 1000 to 9999.9 Hz 10000 to 50000 Hz 5000 to 10000 Hz	0.0001 Hz 0.001 Hz 0.01 Hz 0.1 Hz 1 Hz 0.1 Hz	
Pulse			
Output	0 ... 999999 pulses	1 Pulse	
Voltage signals in mV	-10.000 to 80.000 mV	0.001 mV	±0.02% of reading ± 4uV
	-10.00 to 250.00 mV	0.01mV	±0.02% of reading ± 0.02mV
Thermocouples			
Type B	450 ... 1800 °C	0.1 °C	0.5 °C
Type E	-200.0 to 1000.0 °C	0.1 °C	0.3 °C
Type J	-200.0 to 1200.0 °C	0.1 °C	0.3 °C
Type K	-200.0 to 1372.0 °C	0.1 °C	0.3 °C
Type N	-200.0 to 1300.0 °C	0.1 °C	0.3 °C
Type R	0.0 to 1750.0 °C	0.1 °C	0.5 °C
Type S	0 to 1750.0 °C	0.1 °C	0.5 °C
TypeT	-200.0 to 400.0 °C	0.1 °C	0.5 °C
Resistance Thermometers			
Pt10 to Pt1000	-200 to 200 °C	Pt10 to Pt400: 0.01 °C Pt500, Pt1000: 0.1 °C	4 wire Measurement: ±0.15°C Simulation*: ±0.15°C
	200 to 600 °C		4 wire Measurement: ±0.2 °C Simulation*: ±0.25 °C
	600 to 850 °C		4 wire Measurement: ±0.3 °C Simulation*: ±0.35 °C
Ni100	-60 to 180 °C	0.01 °C	4 wire Measurement: ±0.1 °C
Ni120	-80 to 260 °C	0.01 °C	Simulation*: ±0.15 °C
Cu10 to Cu100	-200 to 260 °C	0.01 °C	4 wire Measurement: ±0.2°C Simulation*: ±0.8°C

For 4 wire Resistance measurement 0.01 Ω resolution available in 0 to 1600 Ω range

* Accuracy is valid with an excitation current > 0.2 mA (0 .. 400 ohm), > 0.1 mA (400 .. 4000 ohm)

Scope of Delivery

- CEP6500
- User Guide
- 3 Sets of 4mm to 4mm banana cable
- 3 Sets of 4mm Crocodile cable
- 1 Test lead Cu-Cu (Miniature TC Plug Cu type to 4mm test lead)
- 5 VDC@1A Charging Adaptor
- USB A Male to USB mini B Male cable for PC communication and charging



**Complete service case model CEP6500
and additional accessories**

Options

- NISO 17025 Accredited Calibration Certificate
- Optional Carry Case
- Data logging Software

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