

Thermocouple Calibrator PCE-TTC 30



PCE-TTC 30 Thermocouple Calibrator

Thermocouple Calibrator to simulate and measure thermocouples, current and voltage / Li-Ion battery / Continuity tester / Ramp function

The thermocouple calibrator PCE-TTC 30 can be used to simulate different thermocouples as well as mV. Thus, the thermocouple calibrator can be used for many thermometers and temperature displays with thermocouple connection. The PCE-TTC 30 thermocouple calibrator simulates the most popular thermocouples, including K, T, S. The simulator for thermocouples has an accuracy of 0.3°C / 0.54°F, making it easy to accurately calibrate thermometers.

In addition to direct specification of temperatures or extra-low voltages up to 250 mV, the thermocouple calibrator can be operated in ramp mode. Here, the user can decide whether the ramp should be run indefinitely or at defined intervals. The miniature USB interface can be used to load the thermocouple calibrator. Furthermore, recorded data can be transmitted via this interface to a PC.

- ▶ Simulation and measurement mode
- ▶ Battery operation
- ▶ For thermocouples E, J, K, T, B, R, S, N, mV
- ▶ 24 V supply for current loops
- ▶ HART compatible
- ▶ Manual mode & ramp function
- ▶ Continuity test
- ▶ Data logger function

Specifications

Voltage DC V

Measuring range	Resolution	Accuracy
0 ... 30V	0.001V	± 0.02% of reading + 2 Dgt

Current DC mA

Measuring range	Resolution	Accuracy
0 ... 24-mA	0.001-mA	± 0.02% of reading + 2 Dgt

Measurement / Simulation

Thermocouples	Measuring range	Resolution	Accuracy
E	-200 ... 1200°C / 0.1°C / 0.18°F -328 ... 2192°F		± 0.3°C / 0.54°F
J	-200 ... 1200°C / 0.1°C / 0.18°F -328 ... 2192°F		± 0.3°C / 0.54°F
K	-200 ... 1372°C / 0.1°C / 0.18°F -328 ... 2501°F		± 0.3°C / 0.54°F
T	-200 ... 400°C / 0.1°C / 0.18°F -328 ... 752°F		± 0.3°C / .54°F
B	450 ... 1800°C / 0.1°C / 0.18°F 842 ... 3272°F		± 0.3°C / .54°F
R	0 ... 1750°C / 32 0.1°C / 0.18°F ... 3182°F		± 0.3°C / .54°F
S	0 ... 1750°C / 32 0.1°C / 0.18°F ... 3182°F		± 0.3°C / .54°F
N	-200 ... 1300°C / 0.1°C / 0.18°F -328 ... 2372°F		± 0.3°C / .54°F
mV	10 ... 80 mV	0.001 mV	± 0.02% of reading+ 2μV
	-10 ... 250 mV	0.01 mV	± 0.02% of reading + 0.02 mV

Note: The specifications refer to the temperature standard ITS-90

General specifications

Display modes	Measurement: mA / V / thermocouple / mV Simulation: thermocouple / mV
Temperature units	°C / °F / K
Cold junction compensation error	≤ ± 0.5°C / 0.9°F
Maximum input voltage	30V DC
Temperature coefficient	<30 ppm
Input impedance measurement	Thermocouple / mV / V:> 1 MΩ Current measurement: 10 Ω
Response time	<100 ms
Impedance	> 4.7 kΩ with thermocouple / mV
Refresh rate display	10 Hz
Isolation	500V DC
Data storage	Internal memory 150000 readings
Interface	USB 2.0

Subject to change

Display	2.4" TFT LCD 240 x 320 pixels LED illuminated
Output voltage current loop	24V DC / 24mA
HART mA loop resistance	250 Ω \pm 20%
Special features	Step and ramp function Automatic and manual mode \sqrt{x} , x2: For the measuring function
Continuity test	Adjustable threshold up to 100 Ω
Power supply	3.7V / 2300mAh Li-ion battery
Charging time	about 5 h
Power adapter	Input: 100 ... 240V AC / 50/60 Hz Output: 5V / 1 A DC
Battery life	Approx. 15 h: Simulation and measurement with low LCD illumination Approx. 8 h: Measurement with low LCD illumination
Dimensions	162 x 82 x 40 mm
Weight	About 300 g / < 1 lb
Degree of protection	IP20
Operating conditions	Battery operation: 0 ... 55°C / 32 ... 131°F, 30 ... 90% RH Main operation: 0 ... 45°C / 32 ... 113 °F, 30 ... 90% RH
Storage conditions	-20 .. 60°C / -4 ... 140°F, 30 ... 90% rh non- condensing
Heating time	About 15 minutes

Subject to change

