



# INFORMATION & SPECIFICATIONS DATA SHEET

TEMPERATURE & PROCESS INSTRUMENTS INC.

## TC100 Hand Held Thermocouple/mV Calibrator

The TC100 Thermocouple Calibrator provide high accuracy and measurement of ten common thermocouples, as well as mV. The TC100's accuracy of  $\pm 0.3^\circ\text{C}$  for Type J T/Cs includes all errors, at resolutions of  $0.01^\circ\text{C}$  or  $^\circ\text{F}$  in measure mode, and  $0.1^\circ\text{C}$  or  $^\circ\text{F}$  in source mode. Features including MIN/MAX recall in measure mode, three setpoints per thermocouple range, a large knob for decade control of the output in source mode, and the ability to accept bare thermocouple wires in addition to mini-plug inputs, makes the TC100 an accurate, easy-to-use instrument for all your thermocouple calibration needs.

### Features

- ▶ High accuracy –  $\pm 0.3^\circ\text{C}$  (Type J T/C – all errors combined)
- ▶ Ten (10) common T/C types plus mV (see chart below)
- ▶ Accepts both T/C mini-plug and bare T/C wires
- ▶ Simple decade control of output
- ▶ Three (3) setpoints for each T/C type
- ▶ MIN/MAX recall in measure mode
- ▶ Input protection to 240 VAC
- ▶ Supplied in full rubber protective boot



Accepts Mini Thermocouple Connectors and Bare Wire Leads

Thermocouple Source/Measure		
Type	Range	Accuracy
J	-210°C to -100°C (-364°F to -148°F)	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )
	-100°C to +1200°C (9-148°F to +2192°F)	$\pm 0.3^\circ\text{C}$ ( $\pm 0.5^\circ\text{F}$ )
K	-200°C to -100°C (-328°F to -148°F)	$\pm 0.6^\circ\text{C}$ ( $\pm 1.1^\circ\text{F}$ )
	-100°C to +1000°C (-148°F to +1832°F)	$\pm 0.35^\circ\text{C}$ ( $\pm 0.63^\circ\text{F}$ )
T	+1000°C to +1372°C (1832°F to +2502°F)	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )
	-200°C to -150°C (-328°F to -302°F)	$\pm 0.7^\circ\text{C}$ ( $\pm 1.3^\circ\text{F}$ )
E	-150°C to +400°C (-302°F to +752°F)	$\pm 0.3^\circ\text{C}$ ( $\pm 0.5^\circ\text{F}$ )
	-200°C to -100°C; (-328°F to -148°F)	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )
R	-100°C to +1000°C (-148°F to +1832°F)	$\pm 0.3^\circ\text{C}$ ( $\pm 0.6^\circ\text{F}$ )
	0°C to 250°C (932°F to +482°F)	$\pm 1.8^\circ\text{C}$ ( $\pm 3.2^\circ\text{F}$ )
S	250°C to +1767°C (+482°F to +3212°F)	$\pm 1.0^\circ\text{C}$ $9\pm 1.8^\circ\text{F}0$
	0°C to 250°C (32°F to +482°F)	$\pm 1.8^\circ\text{C}$ ( $\pm 3.2^\circ\text{F}$ )
B	250°C to +1767°C (+482°F to +3212°F)	$\pm 1.0^\circ\text{C}$ ( $\pm 1.8^\circ\text{F}$ )
	600°C to 1000°C (+1112°F to +1832°F)	$\pm 1.7^\circ\text{C}$ ( $\pm 3.1^\circ\text{F}$ )
L	1000°C to 1820°C (+1832°F to +3308°F)	$\pm 1.2^\circ\text{C}$ ( $\pm 2.2^\circ\text{F}$ )
	-200°C to -100°C (-328°F to -148°F)	$\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )
U	-100°C to +900°C (-148°F to +1652°F)	$\pm 0.4^\circ\text{C}$ ( $\pm 0.7^\circ\text{F}$ )
	-200°C to 0°C (-328°F to 32°F)	$\pm 0.7^\circ\text{C}$ ( $\pm 1.3^\circ\text{F}$ )
C	0°C to +600°C (32°F to 1112°F)	$\pm 0.3^\circ\text{C}$ ( $\pm 0.6^\circ\text{F}$ )
	0° to 1000°C (32°F to 1832°F)	$\pm 0.4^\circ\text{C}$ ( $\pm 0.7^\circ\text{F}$ )
C	1000°C to +1800°C (1832°F to 3272°F)	$\pm 0.7^\circ\text{C}$ ( $\pm 1.3^\circ\text{F}$ )
	+1800°C to +2316°C (3272°F to 4200°F)	$\pm 1.2^\circ\text{C}$ ( $\pm 2.2^\circ\text{F}$ )



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## TC100 Hand Held Precision Thermocouple/mV Calibrator

### Specifications

- Thermocouple Types and Ranges:** See Table above
- CJC Temp. Offset:**  $\pm 0.05^{\circ}\text{C}/^{\circ}\text{C}$  outside of  $23 \pm 5^{\circ}\text{C}$
- Warm-up Time:** 1 minute to specification
- Operating Temperature:**  $-10^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $131^{\circ}\text{F}$ )
- Storage Temperature:**  $-20^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $158^{\circ}\text{F}$ )
- Power Requirements:** 9 Vdc Battery, 9V alkaline; 006P/IEC 6F22/NEDA1604
- Mechanical Dimensions:** 5.7" H x 3.15" W x 1.43" D (144.7 x 80.0 x 36.3 mm)
- Output Voltage**
- Range:** -10 to +75.000 mV
- Resolution:** 1mV
- Accuracy:**  $\pm 0.007\%$  of reading,  $\pm 5$ micro volts
- Output Impedance:**  $> 1$  Ohm
- Input Voltage**
- Range:** -10 to +75.000 mV
- Resolution:** 1mV
- Accuracy:**  $\pm 0.007\%$  of reading,  $\pm 5$ micro Volts
- Input Impedance:**  $> 1$  MegOhm

\* All specification based on 25 °C unless otherwise noted



Order Information		
Part Number	Description	Price
LC100	LC100 Precision Thermocouple/mV Calibrator	\$777.00
<b>Accessories</b>		
	<b>Description</b>	
80000	AC Adapter/Charger	\$24.00
80007	9 Volt NiCad Battery	\$26.00
80164	LCA-05A Carrying Case	\$25.00

Each instrument includes include Protective Rubber Boot, Batteries, Test Leads, Instruction Manual and NIST Calibration Certificate.

\* Price Subject to change without notice, please visit our web site for the latest pricing and specifications



### Companion LC100 4 to 20 Milliamp Calibrator

The LC100 Precision Process Milliamp Loop Calibrator provides significantly extended performance when compared to many competitive calibrators. With an accuracy of 0.015% of reading, with 0.001 mA resolution, the LC-100 has the highest accuracy in its class. Unique 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 LC100 way beyond similar instruments. The LC100 can simulate, power, and measure two-wire transmitters. With automatic Step and Ramp functions, the LC100 enables remote calibration of 4 to 20mA devices. Prices Start at \$625.00

Ordering is easy fast and secure just go to our web site at:

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