



# INFORMATION & SPECIFICATIONS DATA SHEET

TEMPERATURE & PROCESS INSTRUMENTS INC

## LC100 Precision 4 to 20mA Process Loop 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.

### Intuitive Interface

The LC100 mA Loop Calibrator provides a highly intuitive user interface. 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, with immediate feedback from the LCD display. A single MODE key cycles through and selects the source, simulate, and measure modes.

### Powerful Features

The LC100 provides innovative, powerful features to make your calibration job easier. A handful of clearly marked keys provide access to the full functionality of the unit. To enable remote calibration of devices and processes, the LC100 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. One or more simple pushes of the AUTO key (1) are all that are needed to access this time-saving function. To further aid remote calibration, the LC-100 features a Minimum/Maximum value recall function. In the measure mode, holding the AUTO/(MAX) key (1) provides a direct readout of the maximum value achieved, while holding the 25%/(MIN) key (4) provides a direct readout of the minimum value achieved. Holding the % ERROR key (2) while turning the large knob provides instant feedback of the difference between the ideal and actual current values required for a given device response. Instant verification of whether the device is within its accuracy range is provided. No more calculations are necessary!



**Built in 250 Ohm resistor facilitates calibration of HART® devices**

### Features

- ▶ Very high accuracy  $\pm 0.015\%$  of reading
- ▶ Very high resolution 0.001mA/0.001V
- ▶ % Error function eliminates manual error calculation
- ▶ Extended adjustment range digital knob and user-selectable decade output allow both large and incremental (0.001 mA step) output changes
- ▶ Reads 0 to 28.000 VDC
- ▶ Remote calibrations through Automatic Step and Ramp functions
- ▶ Loop power measurements capability
- ▶ Simulates, powers, and measures two-wire transmitters
- ▶ Five preset outputs (4, 8, 12, 16, 20mA)
- ▶ Fuseless input protection up to 250 VAC
- ▶ Supplied in full rubber boot



LC100 Large easy to read LCD Display



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## LC100 Precision 4 to 20mA Process Loop Calibrator with built in 250 Ohm resistor for calibration of HART® Devices

### Specifications\*

**Input Current Range:** 0.000 to 24.000 mA; -25.00 to +125.00 %

**Voltage (Reading):** 0 to 28 VDC

**Input Protection:** Fuseless, up to 250 VAC

**Output Source/Simulate Range:** 0.000 to 24.000 mA -25.00 to +125.00 %

### Drive Capability

**Without Hart™:** 1200 Ohm

**With Hart™:** 950 Ohm

**Loop Supply Voltage:** 24 VDC

**Range Select:** Decade; incremental to 0.001 mA steps

**Resolution:** 1µA

**Accuracy:** ±0.015% of reading ± 2µA

### Environmental

**Operating Temperature:** -10°C to +55°C (-14°F to 131°F)

**Storage Temperature:** -20°C to +70°C (-4°F to 158°F)

**Power Requirements:** 9 VDC

**Battery 9V**, one required; included **Mechanical**

**Dimensions:** 5.7" H x 3.15" W x 1.43" D (144.7 x 80.0 x 3.63 mm); without boot

**Weight:** 12 ounces (340 gms)



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

Order Information		
Part Number	Description	Price
LC100	LC100 Precision mA Loop Calibrator	\$640.00
<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 TC100 Thermocouple/mV Temperature Calibrator

The TC100 Thermocouple Calibrator provide high accuracy and measurement of ten common thermocouples, as well as mV. The TC100's accuracy of ±0.3 °C for Type J T/Cs includes all errors, at resolutions of 0.01 °C or °F in measure mode, and 0.1 °C or °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 T/C wires in addition to mini-plug inputs, makes the TC100 an accurate, easy-to-use instrument for all your thermocouple calibration needs. Prices start at \$777.00.

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

<http://www.tnp-instruments.com>

and Click on the Online Store Link, for your convenience we accept the following credit cards



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