



## 2000 Series Portable DC Calibration

**These versatile and portable calibrators bring laboratory accuracy to process control applications. Current loop (4 – 20 mA) indicators, controllers and recorders can be calibrated with accuracy measured in ppm rather than percentages.**


Thermocouple simulation allows the fine tuning of any measurement or control loop. Temperature measurement is automatically compensated for the cold junction temperature.

The 2000 Series instruments will compute current or voltage output using an equation derived from two data points. This allows the user to enter a temperature, pressure or flow level and the 2000 will output the appropriate current or voltage signal.

The highly versatile 2000MN adds temperature measurement and automatic cold junction compensation to the impressive list of features. It allows the user to read or source in °C or °F for B, E, J, K, N, R, S and T thermocouples.

Compact and economical, the 2000 Series provides the right combination of accuracy and flexibility for most temperature measurement/simulation applications. These portable, precision instruments address a wide cross-section of calibration requirements.

### Quality and Reliability

XITRON Technologies, founded in 1990, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing. XITRON's sophisticated technology provides companies the edge in design verification and product manufacturability. XITRON is ISO 9001:2008 certified. 

- » Excellent performance and flexibility in portable, battery-operated applications
- » DC voltage and current capability, +/- 22 volt, 10ppm accuracy, +/- 22mA, 40ppm accuracy
- » Temperature simulation with 0.01° resolution, 0.015°-0.12° accuracy (90 day)
- » DC resolution down to 10nV or 10pA
- » Temperature measurement with 0.1°-0.2° accuracy (90 day)
- » Auto cold junction compensation
- » NiMH battery operation (8 hours typ.)
- » Standard RS232 interface allows laptop PC control in the field, while the optional IEEE-488 interface supports ATE applications. Additional memory can be added to either interface for 10 user-defined test steps
- » Temperature control loops
- » Thermocouple measurement and simulation
- » Battery status indication

## INDUSTRIES SERVED

Consumer Products » Medical » Automotive » Process Control » Aerospace/Military » 4-20mA Loops » Calibration Labs » Data Acquisition System Test » Engine Control Calibration » Engineering & Test Labs » Industrial Controllers » Instrument Maintenance & Repair



## CONDENSED SPECIFICATIONS

(Contact XiTRON for complete specifications)

### PHYSICAL

SIZE: 4.1" W x 6.3" H x 9.7" D

(104mm x 160mm x 246mm)

WIEGHT: 4.5 lbs

### ENVIRONMENTAL

OPERATING: 0°C to 50°C, less than 90% R.H.(typ) at 40°C (non-condensing)

STORAGE: -30°C to 65°C, less than 95% R.H. at 40°C (non-condensing)

### ISOLATION

Output to Chassis, Ground or Interface: 1500V pk max

### WARRANTY

Two Years

## Calibration

An automatically sequenced Internal Calibration may be performed at any time. This procedure does not require any external equipment or connections. The accuracy specification assumes the use of this procedure at least every five days, or following an ambient temperature change of greater than 5°C.

An automatically sequenced External Calibration may be performed at any time. In order to prevent unauthorized access, an optional password protection scheme is utilized. A one year external calibration cycle is recommended for normal use, however, this may be reduced (e.g. to three months) if increased accuracies are required, or increased (e.g. to two years) if reduced accuracies are required. External Calibration may be performed at any ambient temperature between 10°C and 35°C without degradation of the accuracy specifications, the accuracy figures then being valid for ambient temperatures of up to 5°C from this calibration temperature.

## ORDERING INFORMATION

| PART#           | DESCRIPTION   |
|-----------------|---|
| 822-2000IN      | DC voltage and current calibrator   |
| 822-2000MN      | DC voltage and current calibrator, thermocouple simulator with voltage and temperature measurement and automatic cold junction compensation |
| 822-2000-IE-BAT | IEEE-488 interface  |
| MO              | Operating manual<br>(1 supplied with each instrument)   |
| 822-CC          | Canvas carrying case with charger and lead pocket   |
| SP48            | 48" long low thermal EMF shielded lead set (spade terminals)  |
| PL36            | 36" long low thermal EMF red and black lead set (plugs)   |
| RA              | Single instrument rack adapter kit  |
| RB              | Three instrument rack adapter kit   |
| 822-2000-OPT-NB | No battery option (typically used in ATE applications)  |