

Portable | TC | Tempo 2000 Series | DC Calibration | Simulation | Meas.

PORTABLE V/A/T

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.

Quality and Reliability
Vitrek, founded in 1990, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing.
Vitrek's sophisticated technology provides companies the edge in design verification and product manufacturability. Vitrek is ISO 17025 Accredited.

The 2000 Series instruments may 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.

Temperature measurement may automatically compensated for the cold junction temperature.

Simulates DC output of pressure transducers for calibrating systems.

- > 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.)

**CALIBRATOR** 

- > Battery powered portability for Flight Line use.
- Standard RS232 interface allows laptop PC control in the field, while the optional IEEE-488 interface supports ATE applications.
- > Temperature control loops
- > Thermocouple measurement and simulation
- > Battery status indication

# **INDUSTRIES SERVED**

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

25
Years Industry
EXPERTISE



# Test Like You MEAN IT







# ORDERING INFORMATION

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PART#	DESCRIPTION
2000IN	DC Voltage and Current Calibrator, includes T5 and RS-BAT (RS232 Interface)
2000MN	DC Voltage and Current Calibrator, Thermocouple Simulator with Voltage and Temperature Measurement and Automatic Cold Junction Compensation. Includes T5 and RS-BAT (RS232 Interface)
822-2000-IE-BAT	IEEE-488 Interface
UG2000	Additional Operating Manual Set
CC-2000	Canvas Carrying Case with Charger and Lead Pocket
SP48-2000	48" Long Low Thermal EMF Shielded Lead Set (Spade Terminals)
PL36-2000	36" Long Low Thermal EMF Red and Black Lead Set (Plugs)
SG2000	Additional Operating Manual
RA-2000	Single Instrument Rack Adapter Kit
RB-2000	Three Instrument Rack Adapter Kit
RC-2000	Two Instrument Rack Adapter Kit
2000I OPT NB	No Internal Battery Option, at time of order. (Typically used in ATE applications).
2000M OPT NB	No Internal Battery Option, at time of order. (Typically used in ATE applications).

# **Condensed Specifications**

(Contact Vitrek for complete specifications)

### **PHYSICAL**

SIZE: 4.1" W x 6.3" H x 9.7" D (104mm x 160mm 246mm) Weight: 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.

Unit is supplied with one Vitrek T5 universal external power supply, 100-240 Vrms, 50-60Hz, with a 2.5mm 12 VDC output plug and a three-prong IEC320 AC Inlet receptacle, plus a three-prong AC power cord.

## WARRANTY

Two Years

# **Self-Calibration**

An automatically sequenced Internal Self-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.



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Please visit www.vitrek.com for ordering information.