MODEL 510/511

RTD SIMULATORS

The Practical Instrument Electronics' Models 510 and 511 RTD Simulators simulate standard RTD curves over the entire industrial temperature range. Choose between seven standard RTD curves. The Model 510 can also be supplied with a custom curve for your specific application such as Pt 200, 500, 1000 with up to 0.1° resolution.

The Model 510/511 will simulate RTD resistances into all types of instruments such as transmitters, recorders, controllers, alarms, data acquisition, and computer systems. Rest easy knowing these calibrators are 100% compatible with pulsed systems and transmitters like the Rosemount 3144 Transmitter.

The Model 510/511 is a superior replacement for decade boxes, so there is no need to lug a decade box around or be prone to error by reading RTD tables incorrectly. The Models 510 and 511 have better accuracy, functions and compatibility than many higher priced RTD calibrators.

The EZ-Check™ function allows the user to store three output temperatures for ease of use. This will save time for repetitive calibrations by instantly recalling the three stored temperature values. Three output settings can be stored, and all settings are saved, even with the power off.

Features

- **Simulate RTD Temperature Outputs**
  Calibrate directly in temperature for your RTD curve.
  Adjustable output for full temperature range.
- **Several Manufacturers' RTD Curves Available**
  Platinum, Copper & Nickel.
  Accurate to ±0.25°C (±0.5°F) with up to 0.1° Resolution available on the Model 511.
- **Works with a wide variety of transmitters including popular Rosemount and Honeywell Models**
  Compatible with devices using pulsed excitation currents including PLCs, DCS, recorders, and all others.
- **EZ-Dial™ Knob**
  Easily adjust output by 0.1° (Model 511) or 1° (Model 510).
  Pressing down and turning will select a faster dialing speed.
- **EZ-Check™ Switch**
  User settable EZ-Check™ for 0% and 100% span adjustments.
  Store new EZ-Check™ values by pressing the EZ-Dial Knob.
- **Uses a standard 9V Alkaline Battery**
  Superior battery life of 45 hours under typical continuous usage.
  Easy access to battery compartment.
- **Lightweight, Rugged and Reliable**
  Small, tough and protected to 60V.

Models pictured above left:
Model 510: Single curve, 1° resolution, selectable °C or °F
Model 511: Multi type 7 curves, 0.1° resolution with selectable °C or °F and Ω with 0.01Ω resolution
(Pt 100: α = 1.3850, 1.3902, 1.3916, 1.3926 and Cu10, Ni110, Ni120, Ω)

Haven Automation Limited

Exclusive UK and Ireland Distributors to Practical Instruments Electronics (PIE)

General Specifications

(Unless otherwise indicated all specifications are rated from a nominal 23°C, 70% rh for 1 year from calibration)

Operating Temperature Range	-25 to 60°C (-10 to 140°F)
Storage Temperature Range	-25 to 60°C (-10 to 140°F)
Relative Humidity Range	10 %≤rh ≤90% (0 to 35°C), Non-condensing 10 % ≤rh ≤70% (35 to 60°C), Non-condensing
Size	4.9 X 3.15 X 1.82 inches (125.5 X 80 X 46.2 mm)
Weight	9.1 oz (258g)
Battery	9V Alkaline provides 45 hours of continuous use
Miscellaneous	Low battery indication with nominal 1 hour of operation left Protection to 60V DC or AC peak up to 30 seconds in duration High contrast graphic liquid crystal display with 0.357" (9.07 mm) high digits

RTD Curve Simulation Specifications (ITS-90 Curves)

Accuracy	±(0.015% of Setting in Ω + 0.05Ω)
Typical accuracies for RTD curves are:	
Pt100	±0.25°C (±0.5°F)
Cu10Ω	±1.5°C (±3°F)
Ni110Ω, Ni 120Ω	±0.25°C (±0.5°F)
Allowable Excitation Current	100 µA to 10.2 mA, steady or pulsed/intermittent/smart
For Accuracies Below 100µA add	±10µV/Excitation Current (units are in Ω)
Pulsed Excitation Current Compatibility	DC to 0.01 second pulse widths
Output Dial Adjustment Resolution	0.1°F or 0.1°C Adjustment Resolution for Model 511 1°C or 1°F Adjustment Resolution for Model 510
Temperature Coefficient	±0.05Ω/°C Ambient

Available Options

Option:	*Part Number:*
Carrying Case	020-0201
UKAS Calibration Certificate	

Authorised Representative:

ORDERING INFORMATION

Model 510 RTD Source (Single Type/1° resolution)

Order Code:
- Model 510-Pt100-1 (∝ =1.3850)
- Model 510-Pt100-2 (∝ =1.3902)
- Model 510-Pt100-3 (∝ =1.3916)
- Model 510-Pt100-4 (∝=1.3926)
- Model 510-Cu10
- Model 510-Ni110
- Model 510-Ni120

Model 511 Multi-Type RTD Source (7 Types, Ω / 0.1° resolution)

Order Code: Model 511

Warranty

Practical Instrument Electronics (PIE) equipment is guaranteed against defective material and workmanship (excluding batteries) for a period of three years from the date of shipment. Claims under guarantee can be made by returning the equipment prepaid to Haven Automation Ltd. The equipment will be repaired, replaced or adjusted at our option. The liability of Practical Instrument Electronics (PIE) is restricted to that given under their guarantee. No responsibility is accepted for damage, loss or other expense incurred through sale or use of our equipment. Under no condition shall Practical Instrument Electronics, Inc. or Haven Automation Ltd. be liable for any special, incidental or consequential damage.

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UKAS CALIBRATION 0295

ISO 9001 SGS UKAS QUALITY MANAGEMENT No. Q1160

INSTITUTE OF MEASUREMENT AND CONTROL COMPANION COMPANY

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