# Measurements International

*Metrology is Our Science, Accuracy is Our Business™*

# 1310B-T AccuRes Resistance Standard

*Developed for Temperature Laboratories*


## Featuring

- Combines Primary Level Resistors with Scanner and Temperature Controlled Chamber
- Touch screen controller shows cal value and drift information
- Designed for use as temperature reference standards
- 10 Ω, 25 Ω, 100 Ω, 200 Ω, 400 Ω and 1000 Ω Internal

## Overview

The 1310B-T family was designed to meet the requirements of automated DVM and calibrator calibration. Built around a low-thermal scanner, and temperature controlled enclosure the 1310B-T provides 11 high-stability standard reference resistors 10 Ω, 25 Ω, 100 Ω, 200 Ω, 400 Ω and 1000 Ω Internal Standards, covering the full range of resistance standards required for precision calibration.

Additionally, the system includes two external channels that function as a connection hub for external standard connections.

The 1310B-T from Measurements International provides temperature laboratories with the ultimate reference standards.

| Feature | Benefit |
|---|---|
| 10 Ω, 25 Ω, 100 Ω, 200 Ω, 400 Ω and 1000 Ω Internal Standards | Complete line of commonly used temperature standards |
| User Friendly Touch Screen Interface. | Resistor Tracking and history graph. |
| Internal resistance elements in a temperature-controlled chamber. | Excellent stability and extremely low-temperature coefficients. |
| One box for all temperature lab applications | Customers only need to buy one piece of equipment that contains all the required standards. |
| Built for temperature calibration | Best stability < 2.5 µΩ/Ω/Year. |
| Built-in 4-terminal scanner. | Combining multiple instruments into one simple to use instrument (resistors, air bath, scanner). |
| Two external extra channels. | Connect to the resistance value of your choice. |
| Front panel or GPIB controlled. | Simplifies operation for the user. |
| Internally mounted temperature sensor PT100. | Users can connect to the front panel and monitor internal oven. |

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## Specifications: Rev 0

| Nominal Resistance (Ω) | Tolerance (± µΩ/Ω) (± ppm) | 24-Hour Stability (± µΩ/Ω) (± ppm) | 12-Month Stability (± µΩ/Ω) (± ppm) | Temperature Coefficient (± µΩ/Ω/°C) (± ppm/°C) | Max. Voltage (V) |
|---|---|---|---|---|---|
| 10 | 10 | 0.01 | 2.5 | 0.005 | 1.0 |
| 25 | 10 | 0.01 | 2.5 | 0.005 | 1.58 |
| 100 | 10 | 0.01 | 2.5 | 0.005 | 3.16 |
| 200 | 10 | 0.01 | 2.5 | 0.005 | 4.47 |
| 400 | 10 | 0.01 | 2.5 | 0.005 | 6.32 |
| 1000 | 10 | 0.01 | 2.5 | 0.005 | 10.0 |
| **Internal Temperature Stability** | | | ± 0.1 °C Over a 1-Year Period | | |
| **Ambient Temperature Range** | | | 23 °C ± 5 °C | | |
| **Ambient Humidity Range** | | | 20 to 70 % RH | | |
| **Warranty** | | | Standard 2-Year Parts & Labour | | |

### Scanner Specifications

| | |
|---|---|
| **Operation** | Four-Terminal |
| **Error Contribution** | < 20 nV |
| **Contact Configuration** | Relay – Two Coil Latching |
| **Max Carrying/Switching Current** | 4/2 A @ < 30 V (DC) |
| **Maximum Working/Switching Voltage** | 1000/220 V @ < 100 mA (DC) |
| **Contact Resistance** | < 0.05 Ω |
| **Expected Relay Life** | $10^8$ Operations |
| **Insulation Resistance** | > $10^{12}$ Ω |

**Dimensions (L × W × H):**
572 x 445 x 203 (mm)

**Weight:**
9 kg

**Shipping Weight:**
13 kg

**Mains Power:**
85 to 264 $V_{ac}$ - 47 to 440 Hz


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