

Simulates All RTD Temperature Outputs



The only simulator with internal climate isolation.

INTRODUCTION

Calibrate all your RTD inputs.

The new Foil RTD Simulators can simulate RTD's in all types of instruments, such as transmitters, controllers and data acquisition, process control, lab equipment etc. Connect an RTD Simulator and instantly read the temperature printed on each simulator.

Better than a decade box - faster, easier and much less expensive

Each RTD Simulator is a complete compact simulator for check-out and calibration of all RTD instruments in the field, shop or control room. The long term stability conditions of the RTD Simulator are regulated with respect to temperature and humidity.

Each RTD Simulator based on the Bulk Metal® Foil technology comes with built-in climate control (CC) feature.

CLIMATE CONTROL (CC)

Two predictable and opposing physical phenomena within the composite structure of the resistive alloy and its substrate are the key to the low absolute Temperature Coefficient of Resistance (TCR) capability of a Bulk Metal® Foil device.

- Resistivity of the resistive alloy changes directly with temperature in free air (resistance of the foil increases when temperature increases.)
- The Coefficient of Thermal Expansion (CTE) of the alloy and the substrate to which the foil alloy is cemented are different resulting in a compressive stress on the resistive alloy when temperature increases (resistance of the foil decreases due to compression caused by the temperature increases).

The TCR is achieved by matching two opposing effects-the inherent increase in resistance due to temperature increase vs. the compression-related decrease in resistance due to that same temperature increase. The two effects occur simultaneously resulting in an unusually low predictable, repeatable, and controllable TCR.

Due to VPG's Bulk Metal Foil design, this TCR characteristic is accomplished automatically, without selection, and regardless of the resistance value or the date of manufacture-even if years apart!

FEATURES

- Any simulation temperature within the range -200°C to $+850^{\circ}\text{C}$ is available.
- Accurate to $\pm 0.01^{\circ}\text{C}$.
- Temperature coefficient of resistance (TCR) of $\pm 1\text{ppm}/^{\circ}\text{C}$ over temperature range of -55°C to $+125^{\circ}\text{C}$, 25°C ref.
- Resistance tolerance: to $\pm 0.005\%$ (50ppm).
- Resistance range: 10Ω to $5\text{K}\Omega$ (for higher or lower values, please contact us).
- Other types of RTD connectors available, please let us know your requirements.
- Also multiple pre-determined temperature references available in one handy device as below.
- Un-mounted units also available.
- Made in Wales, U.K.



Custom configuration using Charcroft Foil RTD Simulators