

# RTD Simulators

Recognized as the industry standard for the test, analysis and calibration of virtually any RTD system or readout because of "no adder accuracy"

THE FINEST  
RTD SIMULATION  
INSTRUMENTS  
AVAILABLE ANYWHERE

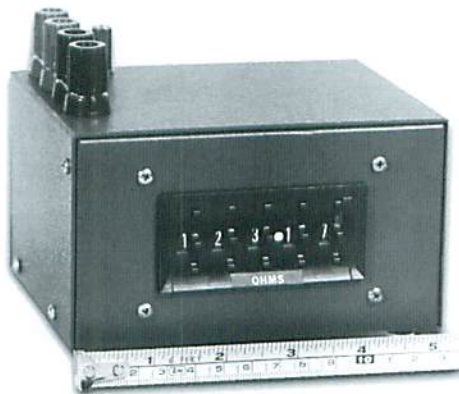


## MODEL RTD-100X

The pinnacle of the GR "Standards Lab" line. Absolute Accuracy  $\pm 0.005\%$

This superb instrument is literally in a class by itself among RTD simulators. It is the ultimate refinement of GR's RTD-100, the instrument that pioneered the concept of "no adder accuracy".

The RTD-100X provides an absolute accuracy of  $\pm 0.005\%$  over its entire resistance range. There is no need to even attempt to calculate or compensate for the error contribution due to contact resistance or "O" resistance because there is no "O" resistance. The unique shunt decade design (Waidner-Wolf) reduces these errors to a level of insignificance. When the RTD-100X replaces the RTD in the system, any temperature-equivalent resistance can be selected on the error-free in-line making it possible to check or calibrate all of the other elements in the system. The usable resistance range of 10 to 1111.10  $\Omega$  is ideally suited for use with DIN PT-100, PT-100 ANSI, PT-50 and NI-120 systems.



## MODEL RTD-100

Absolute Accuracy  $\pm 0.01\%$

The flagship of the GR line prior to the introduction of the RTD-100X, the RTD-100 is identical to the 100X except for its absolute accuracy of  $\pm 0.01\%$ .

## MODEL RTD-500/1000

Absolute Accuracy  $\pm 0.005\%$

The instrument is similar in design and performance to the RTD-100 but is specifically engineered for use with the new, higher accuracy 1000  $\Omega$  platinum RTDs.

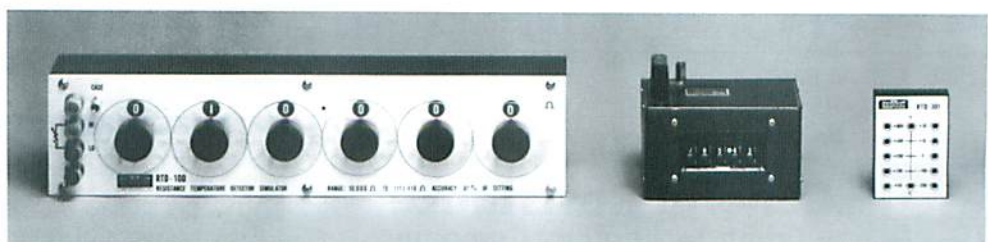
## MODEL RTD-200

A combination of GR superiority...and low instrument cost

The RTD-200 is the most modestly priced of the "shunt decade design" instruments. Although absolute accuracy is lower by design than the "top of the line" models, the RTD-200 also offers GR's exclusive "no adder accuracy" and is the right unit for the job in a wide range of applications. Its absolute accuracy of  $\pm 0.02\%$  over its entire range of 20-1121.1  $\Omega$  ohms, moreover, is often more accurate than the  $\pm 0.01\%$  basic accuracy offered by many resistance decade units. This is because its overall accuracy statement of  $\pm 0.02\%$  is absolute and includes all "O" resistance and contact resistance inaccuracies.



Innovators and manufacturers of ultra-precision test instruments used as laboratory standards and for critical process monitoring.





## SPECIFICATIONS—TABLE I

	RTD-100X	RTD-100	RTD-1000/500	RTD-200
Resistance Range	10.000 to 1111.110	10.000 to 1111.110	100.00 to 11,111.10	20.00 to 1121.10
Number of Decades	6	6	6	5
Resolution (least significant decade)	0.001Ω	0.001Ω	0.01Ω	0.01Ω
Absolute accuracy setting*	±0.005%	±0.01%	±0.005%	±0.02%
Maximum current for rated accuracy				
10.000 to 99.999	75mA	75mA	—	50mA
100.000 and up	25mA	25mA	25mA	15mA
Switch life rating (operations)(typical)	>100,000	>100,000	>100,000	>50,000
Resistor tempco (ppm/°C)	3 typ./5 max			
Resistor stability (ppm/24 hrs.—ppm/1yr.)	±10—±35			
Maximum power rating (milliwatts)	100			
Breakdown voltage (VRMS)	750			
Operating temperature range (°C)	-55 to +75°C			
Dimensions—inches (mm)	4h x 17w x 3½d (102 x 432 x 79)			3h x 5w x 4d

\*Including "0" resistance, contact resistance, etc.

### RTD-303

Designed for on-line test and calibration of RTD systems dedicated to the measurement of particular process temperatures.

- Shirt-pocket portable (4 oz., no line, no battery).
- You pick the temperatures that suit your own application.
- High accuracy with ±0.01% absolute tolerance 3ppm/°C resistors.

Precision wirewound resistors are used to simulate up to 10 discrete temperatures. RTD-303 has customer specified temperatures, R values, specifications and alphas. Any characteristic is available. RTD-303 provides 10 temperatures of your choosing.

#### SPECIFICATIONS—TABLE II

	RTD-303
Accuracy of simulation	All resistors .01%
Tempco (ppm/°C)	±3 typical/±5 maximum
Dissipation factor	¼ W at each temperature
Operating temperature range	55°C to +55°C (-65°F to +130°F)
Connectors	Standard banana jacks
Dimensions—inches (mm)	2½ x 3½ x ¾ (63 x 89 x 22)
Weight	4 oz. (115 gms)

**Any 10 Customer Specified Temperatures**

### RTD SIMULATION INSTRUMENTS

The most extensive, sophisticated and accurate line of RTD simulators available anywhere.

When accuracy is paramount, it is strongly recommended that you choose from one of the top four instruments listed below.

These are the only instruments on the market today that are based upon the Waidner-Wolf shunt-type circuit. The Waidner-Wolf shunt decade is significantly more accurate than normal decades because it eliminates all "0" and contact resistance effects.

Study this Selection Guide. Choose the accuracy, resolution and resistance range required. Whatever you require there is a GR simulator designed to do the job.

#### SELECTION GUIDE:

Model No.	Critical specification
RTD-100X (table model)	Overall accuracy ±0.005%; Resolution 0.001Ω; Range 10 to 111.110Ω; For any RTD material
RTD-100 (table model)	Overall accuracy ±0.01%; All other specs the same as RTD-100X (above)
RTD-500/1000 (table model)	Overall accuracy ±0.005%; Resolution 0.01Ω; Other specs the same as RTD-100
RTD-200 (table model)	Overall accuracy ±0.02%; Resolution 0.01Ω; Range 20.00 to 1121.10Ω
RTD-303 (shirt pocket portable)	10 temperatures of customer's choice



**General Resistance**  
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