

RTD Simulators

CL510 Series



Standard

- ✓ Simulate RTD Temperature Outputs
- ✓ High Accuracy
- ✓ Works with All Pulsed Instruments and a Wide Variety of Transmitters
- ✓ Easy Dial Knob Adjusts Output by 0.1°C/°F for CL510-7 Only, Others 1°C/°F
- ✓ Easy Check Switch: User Settable for 0% and 100% Span Adjustments

The OMEGA® CL510 and CL510-7 RTD simulators simulate standard RTD curves over the entire industrial temperature range. Choose between 7 standard RTD curves.

The CL510 Series will simulate RTD resistances into all types of instruments such as transmitters, recorders, controllers, alarms, data acquisition and computer systems. Calibrators are easy to reset and are compatible with pulsed systems and transmitters.

The easy check function allows the user to store 3 output temperatures for real convenience. All settings are saved with the power off.

Specifications

[Unless otherwise indicated, all specifications are rated from a nominal 23°C (73°F), 70% RH for 1 year from calibration]

Range: Pt100, -200 to 850°C; Cu10, -200 to 260°C; Ni110, -100 to 300°C; Ni120, -80 to 260°C

Accuracy: ±(0.015% of setting in Ω + 0.05 Ω)

Typical Accuracies for RTD Curves are:

α = 1.3850, 1.3902, 1.3916,

1.3926: ±0.25°C (±0.5°F)

Cu10 Ω: ±1.5°C (±3°F)

Ni110 Ω, Ni120 Ω:
±0.25°C (±0.5°F)

Allowable Excitation Current:

100 μA to 10.2 mA, steady or pulsed/intermittent/smart

For Accuracies Below

100 μA Add: ±10 μV/excitation current (units are in Ω)

Pulsed Excitation Current

Compatibility: DC to 0.01 second pulse widths

Connections: 4 leads (2 red, 2 black), 70 cm (28") with spade lugs

Output Dial Adjustment

Resolution: 0.1°C or 0.1°F adjustment resolution for CL510-7; 1°C or 1°F adjustment resolution for CL510

Temperature Coefficient:

±0.05 Ω/°C ambient

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 (32 to 95°F)], non-condensing;

10% ≤RH ≤70% [35 to 60°C (95 to 140°F)], non-condensing

Battery: 9V alkaline (included) provides 45 hours of continuous use, with low battery indication

Display: High-contrast graphic liquid crystal 5-digit display with 9.07 mm H (0.357") digits

Dimensions:

125.5 H x 46.2 W x 80 mm L

(4.9 x 1.82 x 3.15")

Weight: 255 g (9 oz)



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.



CL510.

CL510 Single RTD curve simulator with 1° resolution and selectable units in °C or °F

Pt 100 - α Codes	
Code	Value
1	0.003850
2	0.003902
3	0.003916
4	0.003926

CL510-7 multi-type RTD simulator includes 7 RTD curves with 1° resolution and selectable units in °C or °F. Curves included with the CL510-7 are Pt100α = 1.3850, 1.3902, 1.3916, 1.3926 and Cu10, Ni110, Ni120, Ω.

To Order

Model No.	Description
CL510-7	Multi-type RTD simulator (7 RTD curves)
CL510-(*)	Single RTD curve
SC-800	Soft carrying case for CL510

* Insert one RTD code from chart at left.

Comes complete with NIST certification (without test point), operator's manual and 9V battery.

Ordering Example: CL510-7, multi-type RTD simulator with 7 RTD curves.

OCW-2, OMEGACARESM extends standard 3-year warranty to a total of 5 years.