

TECHNICAL DATA



The R2815 Temperature Calibrator has been designed to source and measure 11 thermocouple types (A, B, C, D, E, J, K, N, R, S, T) and 5 RTD (3-wire) types, including Pt100, Pt200, Pt500, Pt1000, and Cu50. It also measures volts and ohms, with exceptional accuracy supported by internal cold junction compensation.

Features

- Accurately sources and measures 11 thermocouple types, including A, B, C, D, E, J, K, N, R, S, T
- Supports 5 RTD (3-wire) types, including Pt100, Pt200, Pt500, Pt1000 and Cu50
- Source and measure Volts and Ohms
- Internal cold junction compensation for improved accuracy
- Easy to read 6-digit LCD display
- Zero adjustment button
- Built-in LED flashlight
- User selectable unit of measure (°F/°C)
- Low battery indicator and auto shut off
- Includes test leads, alligator clips, thermocouple adapter and batteries

Specifications

Display	6-Digit LCD
Backlit Display	Yes
Kick Stand	Yes
Magnetic Hanger Compatible	Yes (R5900 sold separately)
Built-In Flashlight	Yes
Zero Adjustment Button	Yes
Power Supply	3 AA Batteries
Battery Life	Approx. 20 hours
Cold Junction Compensation	Yes
Auto shut off	Yes (up to 60 minutes/off)
Low Battery Indicator	Yes
Replaceable Test Leads	Yes
Product Certifications	CE
Operating Temperature	32 to 122°F (0 to 50°C)
Operating Humidity Range	0 to 85%
Storage Temperature	14 to 122°F (-10 to 50°C)
Dimensions	7.5 x 3.5 x 2.1" (191 x 90 x 53mm)
Weight	17.6oz (500g)

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Applications

- Ideal for calibrating devices that use thermocouples as input signals (e.g., meters, controllers, transmitters, data loggers, and recorders)
- Essential for applications requiring precise thermocouple temperature measurements, including:
 - Chemical production
 - Petroleum refineries
 - Manufacturing
 - Power production
 - Steel and iron industries

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Measuring Function

Output	Range	Measurement Range	Resolution	Accuracy
DCV	100mV	-110 to 110mV	0.01mV	0.05% rdg. +0.03mV
	1V	-1.1 to 1.1V	0.0001V	0.05% rdg. +0.3mV
	30V	-30V to 30V	0.001V	0.02% r dg. +2mV
TC	A	0 to 2912°F (0 to 1600°C)	1°F (1°C)	±3.6°F (2.0°C)
		2912 to 3632°F (1600 to 2000°C)		±4.0°F (2.2°C)
		3632 to 4532°F (2000 to 2500°C)		±4.3°F (2.4°C)
	B	1112 to 1472°F (600 to 800°C)	1°F (1°C)	±4.0°F (2.2°C)
		1472 to 1832°F (800 to 1000°C)		±3.2°F (1.8°C)
		1832 to 3308°F (1000 to 1820°C)		±2.5°F (1.4°C)
	C	0 to 2912°F (0 to 1600°C)	1°F (1°C)	±3.6°F (2.0°C)
		2912 to 3632°F (1600 to 2000°C)		±4.0°F (2.2°C)
		3632 to 4190°F (2000 to 2310°C)		±4.3°F (2.4°C)
	D	0 to 212°F (0 to 100°C)	1°F (1°C)	±4.7°F (2.6°C)
		212 to 518°F (100 to 270°C)		±4.3°F (2.4°C)
		518 to 2192°F (270 to 1200°C)		±4.0°F (2.2°C)
	E	-58 to 32°F (-50 to 0°C)	0.1°F (0.1°C)	±1.6°F (0.9°C)
		32 to 1832°F (0 to 1000°C)		±2.7°F (1.5°C)
		-76 to 32°F (-60 to 0°C)	0.1°F (0.1°C)	±1.8°F (1.0°C)
	J	32 to 2192°F (0 to 1200°C)		±1.3°F (0.7°C)
		-148 to 32°F (-100 to 0°C)	0.1°F (0.1°C)	±2.1°F (1.2°C)
		32 to 2501.6°F (0 to 1372°C)		±1.4°F (0.8°C)
	N	-328 to 32°F (-200 to 0°C)	0.1°F (0.1°C)	±2.7°F (1.5°C)
		32 to 2372°F (0 to 1300°C)		±1.6°F (0.9°C)
		0 to 3212.6°F (0 to 1767°C)	1°F (1°C)	±4.5°F (2.5°C)
	S	0 to 3212.6°F (0 to 1767°C)		±3.6°F (2.0°C)
		-148 to 32°F (-100 to 0°C)	0.1°F (0.1°C)	±1.8°F (1.0°C)
	T	32 to 752°F (0 to 400°C)		±1.3°F (0.7°C)
RTD (3-Wire)	Pt100 385	-328 to 32°F (-200 to 0°C)	0.1°F (0.1°C)	±0.9°F (0.5°C)
		32 to 752°F (0 to 400°C)		±1.3°F (0.7°C)
		752 to 1472°F (400 to 800°C)		±1.4°F (0.8°C)
	Pt200 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±1.4°F (0.8°C)
		212 to 572°F (100 to 300°C)		±1.6°F (0.9°C)
		572 to 1166°F (300 to 630°C)		±1.8°F (1.0°C)
	Pt500 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±0.7°F (0.4°C)
		212 to 572°F (100 to 300°C)		±0.9°F (0.5°C)
		572 to 1166°F (300 to 630°C)		±1.3°F (0.7°C)
	Pt1000 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±0.5°F (0.3°C)
		212 to 572°F (100 to 300°C)		±0.9°F (0.5°C)
		572 to 1166°F (300 to 630°C)		±1.3°F (0.7°C)
	Cu50	-58 to 302°F (-50 to 150°C)	0.1°F (0.1°C)	±1.3°F (0.7°C)

Source Function

Output	Range	Measurement Range	Resolution	Accuracy
DCV	100mV	-10 to 110mV	0.01mV	0.05% rdg. +0.03mV
	1V	-0.1 to 1.1V	0.0001V	0.05% rdg. +0.3mV
OHM	400Ω	0 to 400Ω	0.1Ω	0.05% rdg. +0.2Ω
	4KΩ	0 to 4KΩ	1Ω	0.05% rdg. +2Ω
TC	A	0 to 2912°F (0 to 1600°C)	1°F (1°C)	±3.6°F (2.0°C)
		2912 to 3632°F (1600 to 2000°C)		±4.0°F (2.2°C)
		3632 to 4532°F (2000 to 2500°C)		±4.3°F (2.4°C)
	B	1112 to 1472°F (600 to 800°C)	1°F (1°C)	±2.7°F (1.5°C)
		1472 to 3308°F (800 to 1820°C)		±2.0°F (1.1°C)
	C	0 to 2912°F (0 to 1600°C)	1°F (1°C)	±3.6°F (2.0°C)
		2912 to 3632°F (1600 to 2000°C)		±4.0°F (2.2°C)
		3632 to 4190°F (2000 to 2310°C)		±4.3°F (2.4°C)
	D	0 to 212°F (0 to 100°C)	1°F (1°C)	±4.7°F (2.6°C)
		212 to 518°F (100 to 270°C)		±4.3°F (2.4°C)
		518 to 2192°F (270 to 1200°C)		±4.0°F (2.2°C)
	E	-328 to -148°F (-200 to -100°C)	0.1°F (0.1°C)	±0.5°F (0.6°C)
		-148 to 1112°F (-100 to 600°C)		±0.9°F (0.5°C)
		1112 to 1832°F (600 to 1000°C)		±0.7°F (0.4°C)
	J	-328 to -148°F (-200 to -100°C)	0.1°F (0.1°C)	±0.5°F (0.6°C)
		-148 to 1472°F (-100 to 800°C)		±0.9°F (0.5°C)
		1472 to 2192°F (800 to 1200°C)		±1.3°F (0.7°C)
	K	-328 to -148°F (-200 to -100°C)	0.1°F (0.1°C)	±0.5°F (0.6°C)
		-148 to 752°F (-100 to 400°C)		±0.9°F (0.5°C)
		-752 to 2192°F (-400 to 1200°C)		±1.3°F (0.7°C)
	N	-2192 to 2501°F (-1200 to 1372°C)	0.1°F (0.1°C)	±1.6°F (0.9°C)
		-328 to -148°F (-200 to -100°C)		±1.8°F (1.0°C)
		-148 to 1652°F (-100 to 900°C)		±1.3°F (0.7°C)
	R	1652 to 2372°F (900 to 1300°C)	1°F (1°C)	±1.4°F (0.8°C)
		0 to 212°F (0 to 100°C)		±2.7°F (1.5°C)
		212 to 3212°F (100 to 1767°C)		±2.1°F (1.2°C)
	S	0 to 212°F (0 to 100°C)	1°F (1°C)	±2.7°F (1.5°C)
		212 to 3212°F (100 to 1767°C)		±2.1°F (1.2°C)
		-418 to 752°F (-250 to 400°C)		±0.5°F (0.6°C)
RTD (3-Wire)	Pt100 385	-328 to 32°F (-200 to 0°C)	0.1°F (0.1°C)	±0.5°F (0.3°C)
		32 to 752°F (0 to 400°C)		±0.9°F (0.5°C)
		752 to 1472°F (400 to 800°C)		±1.4°F (0.8°C)
	Pt200 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±1.4°F (0.8°C)
		212 to 572°F (100 to 300°C)		±1.6°F (0.9°C)
		572 to 1166°F (300 to 630°C)		±1.8°F (1.0°C)
	Pt500 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±0.7°F (0.4°C)
		212 to 572°F (100 to 300°C)		±0.9°F (0.5°C)
		572 to 1166°F (300 to 630°C)		±1.3°F (0.7°C)
	Pt1000 385	-328 to 212°F (-200 to 100°C)	0.1°F (0.1°C)	±0.5°F (0.2°C)
		212 to 572°F (100 to 300°C)		±0.9°F (0.5°C)
		572 to 1166°F (300 to 630°C)		±1.3°F (0.7°C)
	Cu50	-58 to 302°F (-50 to 150°C)	0.1°F (0.1°C)	±0.5°F (0.6°C)

Model	Description
R2815	Temperature Calibrator
R2815-NIST	Temperature Calibrator & NIST
R5900	Magnetic Meter Strap