ohmSTAR and ohmSTAR+

Precision programmable resistors. Same idea, two ranges.



RANGE	RESOLUTION	ACCURACY, 1 KΩ–1 MΩ	SWITCHING
1 Ω – 25 MΩ ohmSTAR **1 Ω – 5 MΩ** ohmSTAR+	**0.1 Ω** ohmSTAR **0.01 Ω** ohmSTAR+	**±0.1 %** ohmSTAR **±0.05 %** ohmSTAR+	**Mechanical relays** **Full relay isolation** Both models

Real resistance, set any way you like

ohmSTAR and ohmSTAR+ replace the decade box. Set a resistance from the keypad, the knob, a stored value or a computer, and the box puts that real resistance on its terminals. Every value is switched by latching relays and precision fixed resistors, so the circuit inside is isolated from your output. Neither model is better: ohmSTAR goes higher, ohmSTAR+ steps finer.

FEATURES

- Keypad, knob and USB control
- 4 quick keys (A–D) and 10 memories
- Current limiter (I set) protects the 1 W rating; the open key disconnects the output mechanically
- Sensor tables: set °C or another unit and see it with the ohms on the graphic LCD
- Field calibration against a reference meter
- Battery powered, over 1 year battery life
- The ohmSTAR Companion desktop app, and firmware updates over USB
- One set of test leads included

APPLICATIONS

- Instrument and controller calibration
- Automated test equipment (ATE)
- HVAC controls
- PLC and process control
- Product development
- Education

Simulates platinum RTDs, NTC thermistors, strain gauges, conductivity cells and potentiometric sensors, or anything you can write as a table.

ohmSTAR and ohmSTAR+ data sheet

SPECIFICATIONS

Parameter	ohmSTAR	ohmSTAR+
Range	1 Ω to 25 MΩ	1 Ω to 5 MΩ
Resolution	0.1 Ω	0.01 Ω
Accuracy at 25 ±2 °C	±0.5 Ω below 1 kΩ ±0.1 % from 1 kΩ to 1 MΩ ±0.5 % above 1 MΩ	±0.2 Ω below 1 kΩ ±0.05 % from 1 kΩ to 1 MΩ ±0.5 % above 1 MΩ
Power rating	1 W max	
Switching	Mechanical relays, full relay isolation	
Protection	Current limiter (I set). Open key disconnects mechanically.	
Control	Keypad, encoder wheel, USB	
Memory	4 quick keys (A–D), 10 memories	
Display	Graphic LCD; unit and resistance together	
Sensor types	Pt RTD, NTC thermistor, strain gauge, conductivity, potentiometric, custom table	
Power	Battery. Over 1 year battery life.	
Size and weight	6.7 × 3.5 × 1.6 in (17 × 8.7 × 4.1 cm), 13.8 oz (392 g)	
Included, warranty	One set of test leads. Lifetime warranty, original US purchaser.	

OHMSTAR COMPANION

Windows 10+, macOS 13+ (Apple silicon)

- Live front panel and keypad, memories, box settings
- Sweeps, pass/fail sequences, CSV logging
- 128 sensor curves, temperature to ohms, custom tables
- Several boxes, command line, local network API
- AI assistant that asks first; AI control over MCP
- Calibration bench and one-page certificate

FIRMWARE 7.X

Both models

- Updates and repair over USB from the Companion
- Knob pickers on I set and Step
- Memory list of all 14 values
- Table list, standby delay, display-off mode
- Serial, calibration due date and use count

Works with either model on firmware 7.x. Older boxes: a one-time upgrade by mail. Full list: labmetric.com/software-downloads

INTERFACES

USB serial, 9600 baud, 8N1: for the Companion, your scripts and any terminal. The Companion adds a local network API and MCP for AI agents on the same computer.

ORDERING

Model	Price
ohmSTAR	$987
ohmSTAR+	$1,024

One set of test leads included. Schools: 30% off. Accessories: a second set of test leads $28, IV Pole Clamp $16, anodized aluminum knobs (set of 6) $12.89.

LabMetric · Scottsdale, Arizona mmasano@gmail.com 602-751-5848 labmetric.com