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Data Sheet

August 14, 2026

FLUKE

Fluke 742A-10M Resistance Standard

The Fluke 742A-10M is a high-precision 10 M Ω resistance standard, offering exceptional accuracy and stability for calibration and metrology applications. It provides reliable performance and traceability to national standards, making it an essential tool for maintaining quality and precision in resistance measurements.



MODEL

Fluke 742A-10M

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

742A-10M

LISTING

<https://aumictechlabs.com/products/742a-10m-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Fluke 742A-10M is a 10 M Ω precision resistance standard engineered for high-accuracy calibration and metrology in laboratory environments. This hermetically-sealed wirewound standard delivers initial accuracy of ± 2 ppm with exceptional long-term stability and minimal temperature dependence, enabling calibration uncertainty as low as ± 0.2 ppm. Its compact, portable design and low-thermal-emf binding posts eliminate the need for temperature baths, supporting both laboratory and on-site calibration workflows. Technical Specifications Nominal Resistance: 10 M Ω Accuracy & Stability Initial trimming: ± 2 ppm of nominal 6-month stability: ± 2.5 ppm 1-year stability: ± 4 ppm typical Calibration uncertainty: as low as ± 0.2 ppm Temperature Performance Operating range: 18°C to 28°C (degradation < 2 ppm) Storage range: 0°C to 40°C Temperature coefficient: near zero at 23°C (unit-specific α and β values labeled) Retrace error (0°C to 40°C cycling): < 2 ppm typical On-site correction using supplied calibration table: 0.5°C

increments reduce uncertainty to near zero Electrical Limits Maximum voltage: 200 V Maximum current: 20 μ A Key Features Arrays of hermetically-sealed wirewound precision resistors with no adjustable elements Low-thermal-emf binding posts and materials reduce temperature-induced errors Two-terminal output configuration Dimensions: 8.6 cm H $\times$ 10.5 cm W $\times$ 12.7 cm L (including binding posts) Weight: 0.68–0.91 kg Rugged enclosure rated for transport and field deployment Typical Applications Electrical standards laboratory calibration Primary and secondary resistance standard verification High-resistance measurement traceability Temperature-compensated on-site calibration Compatibility & Integration Optional transit case accommodates two standards. Low Thermal Copper EMF Plug-In Cables with Banana Connectors (e.g., Fluke 5440A-7002) are recommended for optimal measurement performance.

742A10M Characteristics / Specifications

PARAMETER	VALUE
Model	742A-10M
Nominal Resistance At 23 C	10.0 MOhm
Deviation From Nominal Typical Trim Class	28 ppm class per datasheet column
Time Stability 180 Day	plus or minus 6.0 ppm
Time Stability 1 Year	plus or minus 9.0 ppm
Calibration Uncertainty At 23 C	plus or minus 10.0 ppm
Maximum Deviation From 23 C Value 18 To 28 C	3.0 ppm
Maximum Voltage	200.0 V
Maximum Current	20 uA
Plus 1 PPM Error Adder Current Threshold	20 uA
Operating Temperature Range	18 C to 28 C (23 plus or minus 5 C)
Storage Temperature Range	0 C to 40 C
Retrace 23 To 18 To 23 C	negligible resistance shift
Retrace 23 To 28 To 23 C	negligible resistance shift
Retrace 23 To 0 To 23 C	less than 2 ppm resistance shift
Retrace 23 To 40 To 23 C	less than 2 ppm resistance shift
Calibration Report Temperature Steps	0.5 C increments from 18 to 28 C
Size Including Binding Posts	8.6 cmHx 10.5 cmWx 12.7 cmDBinding Post Spacing: 2.5 cm (1.0 in)
Weight Depending On Model	0.68 kg to 0.91 kg (1.5 to 2.0 lb)
Terminal Configuration	four terminal
Series Family	Fluke 742A resistance standards
Transit Case Option	742A-7002 holds two units
Storage temperature	Range: 0 C to 40 C

PARAMETER	VALUE
Operating temperature	Range: 18 C to 28 C (23 plus or minus 5 C)

742A10M Specifications

PARAMETER	VALUE
Key Features	Four terminal binding post construction
Portable small chassis without oil bath	Report of calibration with 0.5 C temperature table
x1 and x1.9 decade family spanning 1 Ohm to 19 MOhm	Negligible retrace over 18 to 28 C cycles per OEM
Technical Specifications	Model: 742A-10M

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	Range: 0 C to 40 C
Operating temperature	Range: 18 C to 28 C (23 plus or minus 5 C)
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Terminal Configuration	four terminal
Series Family	Fluke 742A resistance standards
Transit Case Option	742A-7002 holds two units Notes From Fluke 742A Four-Terminal Resistance Standards data sheet and 742A instruction sheet Table 1 row for 742A-10M. Confirm serialized measured value printed on the rear panel and calibration certificate.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Terminal Configuration	four terminal
Series Family	Fluke 742A resistance standards
Transit Case Option	742A-7002 holds two units

Notes

From Fluke 742A Four-Terminal Resistance Standards data sheet and 742A instruction sheet Table 1 row for 742A-10M. Confirm serialized measured value printed on the rear panel and calibration certificate.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.