

GENERAL RADIO

1433

The General Radio 1433 Series is a family of precision decade resistors used for precision measurement applications, as resistance standards, and as components in dc and audio-frequency impedance bridges. The series includes 36 models featuring 3 to 11 dials, providing exceptional accuracy, stability, and low zero resistance. It features dust-proof switches with solid silver contacts and relies on robust 0510 Decade-Resistance Units enclosed in aluminum shielding.

SPECIFICATIONS

General

Interfaces	None (Manual operation)
Display	None (Switch dial position indicators)

Physical

Power Supply	None (Passive device)
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Resistance Specifications

Resistance Range	1 mΩ to 111.11111111 MΩ (model dependent)
Number of Decades	3 to 11 dials (model dependent)
Resolution	0.001 Ω to 10 MΩ (model dependent)
Accuracy (≤ 1 MΩ steps)	$\pm(0.01\% + 2 \text{ m}\Omega)$
Accuracy (10 MΩ steps)	$\pm 0.03\%$
Zero Resistance (≤ 1 MΩ decades)	$< 1 \text{ m}\Omega$ per decade at dc
Zero Resistance (10 MΩ decade)	$\approx 3 \text{ m}\Omega$ at dc
Zero Impedance	$< 0.001 \text{ }\Omega/\text{decade}$ at dc; $0.04 \text{ }\Omega/\text{decade}$ at 1 MHz

Electrical Ratings

Maximum Current (Per Decade)	0.1 mA to 8 A (decade dependent)
Maximum Voltage (Per Step)	8 mV to 1000 V (decade dependent)
Maximum Power Dissipation (Per Step)	0.064 W to 0.64 W (decade dependent)
Maximum Voltage (Terminal to Case)	2000 V peak

AC and Frequency Characteristics

Switch Capacitance	$< 1 \text{ pF}$ between contacts
Zero Inductance (L_0)	$0.1 \text{ }\mu\text{H}/\text{decade} + 0.2 \text{ }\mu\text{H}$

Switch and Contact Characteristics

Switch Type	Dust proof, long life switches
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Environmental and Calibration

Reference Temperature for Accuracy	23 °C
Calibration Traceability	Traceable to SI

Options and Accessories

Rack Mount Kit Option	Available
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Technology

Resistor Construction (≤ 100 kΩ steps)	Precision wirewound
Resistor Construction (≥ 1 MΩ steps)	Metal film / oxide

Performance

Temperature Coefficient (100 Ω to 100 kΩ steps)	±10 ppm/°C
Temperature Coefficient (10 Ω, 1 MΩ, 10 MΩ steps)	±20 ppm/°C
Insulation Resistance (Terminals to Case)	≥ 10^9 Ω

Inputs & Outputs

Terminal Type	Gold-plated tellurium-copper jack-top binding posts
Terminal Spacing	19 mm (0.75 in)
Shielding/Ground	Separate ground terminal internally connected to the enclosure

Mechanical

Switch Life	> 1,000,000 operations
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TECHNOLOGY

Precision Decade Resistor

APPLICATIONS

Precision measurements, resistance standards checking, dc and audio-frequency impedance bridges

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.