5430 Standard AC/DC Resistors

Highlights

Best performance available in an ac/dc resistor

- Long-term stability better than 2 ppm/year (< 1 ppm typical)
- Traceable AC and DC calibrations available
- National lab design proven for more than 25 years

National laboratories around the world have long relied on the standard AC/DC resistors manufactured by Tinsley. Whether they're used in thermometry or electrical applications—with AC or DC bridges—these resistors perform better than any other AC/DC resistors available.

Description

Six resistors in Fluke Calibration's Model 5430 series cover resistance values from 1 ohm to 10,000 ohms. Each one has an actual resistance within 10 ppm of its nominal value and holds its resistance within 2 ppm per year.

Each resistor comes with a Tinsley certificate on AC performance, traceable to NPL, including calibration uncertainty of 3 ppm. Additionally, Fluke Calibration can provide an optional DC certificate, traceable to NIST and NVLAP accredited, with uncertainty below 1 ppm.

Designed originally by a national lab, Tinsley resistors are bifilar wound to minimize reactance and are filled with oil to minimize both time- and temperature-caused instabilities. AC/DC transfer error at 90 Hz is only 0.1 ppm.

For maintaining your oil resistors, Fluke Calibration provides baths that range from 25- to 155-liter capacity with enough inside shelf space to maintain all your standard resistors. Each of these baths maintains your resistors within 1 mK in the short term (30–60 minutes) and within 5 mK for months at a time.

In our lab, we use both AC and DC bridges in addition to Super-Thermometers. We calibrate SPRTs in fixed points, and we calibrate reference resistors. We use standard resistors every day, and we understand the value of being able to rely on resistors that won't drift. Tinsley makes the best AC/DC resistors around, and Fluke Calibration makes the best maintenance baths. Ask people who know. Then don't compromise.

Specifications

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Tolerance	10 ppm
Calibration Uncertainty	AC: 3 ppm (10 kΩ: 4 ppm) DC: 1 ppm (optional)
Long-Term Stability	2 ppm per year
Temperature Coefficient	2 ppm per °C
Recommended Current	1Ω: 100 mA 10Ω: 32 mA 25Ω: 20 mA 100Ω: 10 mA 1 kΩ: 3 mA 10 kΩ: 1 mA
Maximum Current	1Ω: 1 A 10Ω: 320 mA 25Ω: 200 mA 100Ω: 100 mA 1 kΩ: 32 mA

	10 kΩ: 10 ma
AC/DC Transfer Error (at 90 hz)	0.1 ppm, typical

Models and Accessories

Model Name	Description
5430-1 Resistor	AC/DC Standard 1 ohm
5430-10 Resistor	AC/DC Standard 10 ohm
5430-25 Resistor	AC/DC Standard 25 ohm
5430-100 Resistor	AC/DC Standard 100 ohm
5430-200 Resistor	AC/DC Standard 200 ohm
5430-400 Resistor	AC/DC Standard 400 ohm
5430-1K Resistor	AC/DC Standard 1 Kohm
5430-10K Resistor	AC/DC Standard 10 Kohm
1960 Cal	DC Standard Resistor

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