



NEW!

Specifications

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

Primary Standards

Standard AC/DC Resistors

Model 5430

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

Ordering Information

5430-1	Resistor, AC/DC Standard, 1Ω
5430-10	Resistor, AC/DC Standard, 10Ω
5430-25	Resistor, AC/DC Standard, 25Ω
5430-100	Resistor, AC/DC Standard, 100Ω
5430-1K	Resistor, AC/DC Standard, 1 KΩ
5430-10K	Resistor, AC/DC Standard, 10 KΩ
1960	Cal, DC Standard Resistor

See page 106 for standard resistor maintenance bath options.

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.

Six resistors in Hart'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, Hart 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, Hart 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 Hart makes the best maintenance baths. Ask people who know. Then don't compromise.



Read about our accreditation on page 3.