

MEGADEK High Resistance Decade Boxes

1 Megohm to 110,000 Megohms



Cast Aluminum Case Model

APPLICATIONS

- Calibrating and checking high-range ohmmeters and bridges, also Biddle insulation testers.
- Calibrating and checking picoammeters, pH meters, and other sensitive current measuring instruments.
- As a research lab tool whenever small currents or high resistances are encountered; as in pH measurement, insulation testing, gas chromatography, nuclear instrumentation, and other physical, electro-chemical and biological measurements.
- As an electronic lab tool in development of high resistance, low current circuits such as those using micropower and FET devices.
- As a reference standard in the manufacture and testing of high value resistors.

DESCRIPTION

The MEGADEK precision high-range decade boxes are unique tools for electronics testing, scientific research, and calibration laboratories. For a price comparable with a set of separate decade standards, you can have far better accuracy and stability than ever before, plus the convenience of full ten-step coverage of all values up to 110 gigaohms. Two accuracy classes are available with ranges of 1 to 1100 and 1 to 110,000 megohms in each class.

In the highest accuracy class (0.03% initial adjustment), each decade uses ten glass-base, film-type resistors selected for accuracy and stability. The nominal value is established by a direct ratio buildup from our NBS certified

standard resistors to a total limit of error of 0.003% at 1 megohm, 0.01% at 1000 megohms, and 0.1% at 10,000 megohms.

The moderate accuracy class (1% initial adjustment) offers the same high quality product with somewhat reduced specifications to fit a wide range of uses where the highest accuracy is not required.

Kel-F[®] insulation is used exclusively in all MEGADEK boxes to ensure the absolute minimum error or drift due to leakage currents, even under adverse environmental conditions such as humidity and contamination. Excellent stability has been demonstrated by units in our own shops for several years.

SPECIFICATIONS

Catalog Numbers	Accuracy Class	No. of Dials	Range
72-6347	1%	3	0-1,110 megohms in 1-megohm steps.
72-6348	1%	5	0-111,110 megohms in 1-megohm steps.
72-6345-1	0.1%	3	Same as above 3-Dial.
72-6346-1	0.1%	5	Same as above 5-Dial.

Accuracy Class	Period	Limit of Error at 23 ± 1°C, 0-50% RH, 100V					Temperature Coefficient in ppm/°C over 15-35°C	
		1M & 10M steps	100M steps	1KM steps	10KM steps	1M-1000M steps	10,000M steps	
1%	1 year	1%	1%	1.5%	1.5%	200	1,000	
0.1%	Initial	0.03%	0.1%	0.2%	0.5%	100	500	
	1 year	0.1%	0.2%	0.5%	1%			

Note: Prices on request for other combinations of 3, 4 or 5 dials and for mounting in hinged lid carrying case similar to Cat. No. 71-631.

VOLTAGE RATING: 1000 volts continuous dc or sine wave RMS, without damage.

For rated accuracy, voltage should be limited to 333 Volts per 1-Megohm step.

Breakdown test is 2500 Volts, 60 Hz, circuit to case.

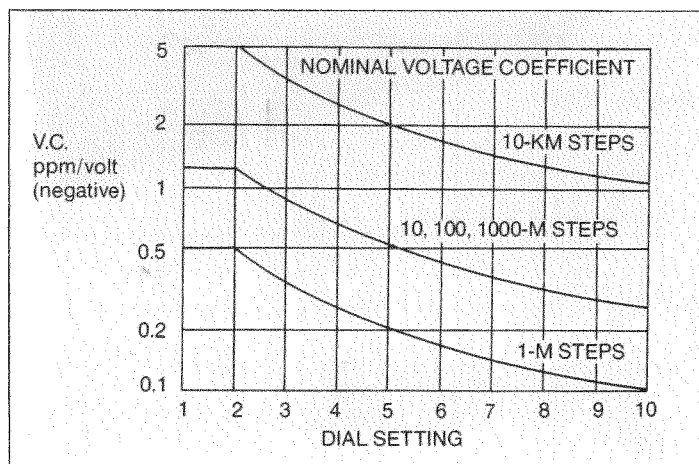
VOLTAGE COEFFICIENT: Negative. Varies with resistance setting as shown on the graph of nominal values. Maximum values are: 5x the nominal value for 1% class, 2x the nominal value for 0.1% class.

INSULATION RESISTANCE: Typical 10¹⁴ Ohms.

TERMINALS: Three: Two Kel-F[®] 5-way binding posts, one ground post.

DIMENSIONS: 15¼" x 4¼" x 4¾" high, (38.8 x 10.8 x 12.1 cm).

WEIGHT: 7 lbs. (3.2 kg)



VOLTAGE COEFFICIENT