

High-Resistance Decade Boxes

BIDDLE™ Megadek™ High-Resistance Decade Boxes 1 to 111,110 MΩ

- Moderately priced standards
- Available in three-dial box to 1110 MΩ and five-dial box to 111,110 MΩ
- Available in 0.1 and 1.0% (of reading) accuracy classes

DESCRIPTION

Biddle™ Megadek™ precision high-range decade boxes are unique tools for electronic testing, scientific research and calibration laboratories. For a price comparable with a set of separate decade standards, Megadek offers far better accuracy, stability, and the convenience of full, 10-step coverage of all values up to 111,110 MΩ. Two accuracy classes are available with ranges of 1 to 1110 and 1 to 111,110 MΩ in each class.

In the 0.1% accuracy class (0.03% initial adjustment), each decade uses 10 glass-base, film-type resistors selected for accuracy and stability. The nominal value is established by a direct ratio buildup from NIST-certified standard resistors to a total limit of error of 0.003% at 1 MΩ, 0.01% at 1000 MΩ and 0.1% at 10,000 MΩ.

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. Units have demonstrated excellent stability over several years.

APPLICATIONS

- Calibrates and checks high-range ohmmeters, bridges and Megger insulation testers
- Used as an electronic laboratory tool in development of high-resistance, low-current circuits such as those using micropower and FET devices
- Calibrates and checks picoammeters, pH meters and other sensitive current measuring instruments
- Widely used as a reference standard in the manufacture and testing of high-value resistors
- Serves as a research laboratory tool whenever small currents or high resistances are encountered, as in gas chromatography, nuclear instrumentation and other physical, electrochemical and biological measurements

FEATURES AND BENEFITS

- Moderately priced standards
- Available in 3-dial box to 1110 MΩ and 5-dial box to 111,110 MΩ
- Available in 0.1 and 1.0% (of reading) accuracy classes

SPECIFICATIONS

CAT. NO.	Accuracy Class	No. of Dials	Range
72-6347	1%	3	0 to 1110 MΩ in 1-MΩ steps
72-6348	1%	5	0 to 111,110 MΩ in 1-MΩ steps
72-6345-1	0.1%	3	0 to 1110 MΩ in 1-MΩ steps
72-6346-1	0.1%	5	0 to 111,110 MΩ in 1-MΩ steps

Accuracy Class	Period	Limit of Error at 23 ±1° C, 0 to 50% RH, 100 V				Temperature Coefficient In ppm per ° C over 59 to 95° F (15 to 35° C)	
		1-M and 10-M Steps	100-M Steps	1-KM Steps	10-KM Steps	1-M to 1000-M Steps	10,000-M Steps
1%	1 year	1%	1%	1.5%	1.5%	200	1000
0.1%	Initial 1 year	0.03% 0.1%	0.1% 0.2%	0.2% 0.5%	0.5% 1%	100	500

Voltage Rating

1000 volts continuous dc or sine wave rms without damage

For rated accuracy, voltage should be limited to 333 V per 1-MΩ step.

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

Voltage Coefficient

Negative: Varies with resistance setting as shown on the graph of nominal values

Maximum Values: 5x the nominal value for 1% class, 2x the nominal value for 0.1% class

Insulation Resistance

Typical 10¹⁴Ω

Terminals

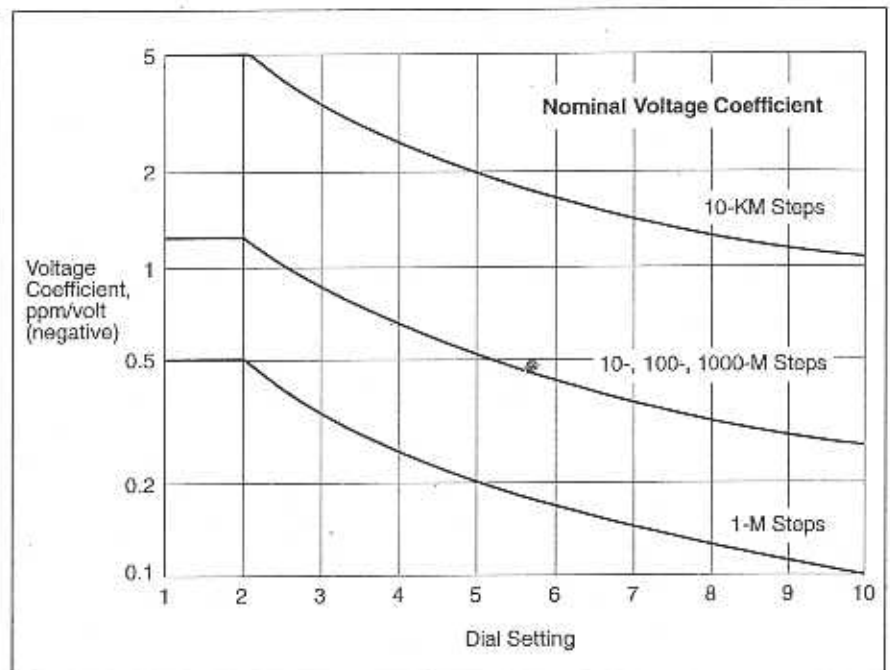
Two Kel-F five-way binding posts, one ground post

Dimensions

4.75 H x 15.25 W x 4.25 D in.
121 H x 387 W x 108 D mm

Weight

7 lb (3.2 kg)



Voltage coefficient

ORDERING INFORMATION

Item	Cat. No.
Megadek High-Resistance Decade Boxes	
3-dial, 1% accuracy class	72-6347
5-dial, 1% accuracy class	72-6348
3-dial, 0.1% accuracy class	72-6345-1
5-dial, 0.1% accuracy class	72-6346-1
Included Accessory	
Instruction manual	AVTM 72-6J