

# Model DB877

RESISTANCE STANDARDS & INSTRUMENTS

- Resistance range 0.1  $\Omega$  through 12 M $\Omega$
- 0.1  $\Omega$  resolution
- 0.01 % Initial Accuracy
- Serves DC through Audio Frequency Applications
- Great stability due to 5 ppm/ $^{\circ}$ C Temperature Coefficient and 0.3ppm/mW Power Coefficient for values 1 k $\Omega$  and up
- Short term switch repeatability  $\pm 1$  m $\Omega$  typical

## Dekabox Coaxial-Dial Decade Resistor

The Model DB877 Dekabox Decade Resistor provides dependable long-term service in precision DC through audio frequency applications. Eight decades of non-inductive, precision, wire-wound fixed resistors are mounted in a low noise shielded metal case that also provides good mechanical protection.

The DB877 is easy to use. It has the input terminals and a case-connected ground terminal conveniently located on the front panel. The dials rotate independently through 360 degrees, and a special detent design facilitates

dial location. This allows for a coarse approximation and then precise finer steps to provide an exact resistance value.

Accuracy over a wide range of ambient conditions is assured by the use of resistors with good temperature and power coefficients. Repeatability is assured by the use of switches that have multiple contacts of solid silver-alloy and silicone treated ceramic wafers.

Resistance per step and current ratings on each decade are presented below the dials for operator convenience and circuit safety.



Prices and specifications subject to change without notice.

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# Model DB877

DEKABOX COAXIAL-DIAL DECADE RESISTOR

## Specifications

### Accuracy

Initial  $\pm(0.01\% + 7\text{ m}\Omega)$   
 Long-term  $\pm(0.02\% + 10\text{ m}\Omega)$

### Resistance at Zero Setting

Approximately  $40\text{ m}\Omega$

### Breakdown Voltage

1,000 V peak to case

### Short-Term Switching Repeatability

$\pm 1\text{ m}\Omega$  (typical)

### Smallest Step

$0.1\ \Omega$

### Number of Decades

Eight

### Total Resistance

12 M $\Omega$

### Resistance per Decade

See table

### Dimensions

Height 15.0 cm (5.9 in)  
 Width 21.6 cm (8.5 in)  
 Depth 16.5 cm (6.5 in)

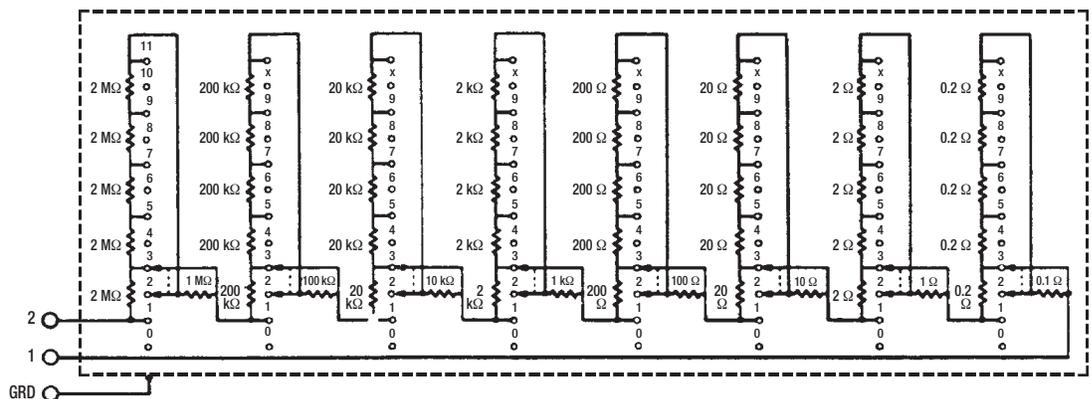
### Weight

3.4 kg (7.5 lb)

## Model DB877 ratings per step for each decade

Resistance Per Decade ( $\Omega$ )	Smallest Step ( $\Omega$ )	Incremental Accuracy		Coefficients		Measurement Duty* Maximum Ratings		Peak Voltage (V/step)
		Initial (%)	Long-term (%)	Temperature (ppm/ $^{\circ}\text{C}$ )	Power (ppm/mW/step)	Power (mW/step)	Current (mA)	
10 M	1 M	0.02	0.03	5	0.3	22	0.03	300
1 M	10 k	0.02	0.03	5	0.3	220	1.5	150
100 k	10 k	0.02	0.03	5	0.3	500	7	70
10 k	1 k	0.02	0.03	5	0.3	500	23	23
1 k	100	0.02	0.03	5	0.3	500	71	7
100	10	0.03	0.03	15	0.9	500	230	2.3
10	1	0.1	0.12	20	1.2	500	710	0.7
1	0.1	1.0	1.0	60	6	250	1600	1.6

\*Intermittent use such that temperature rise of the resistor will not appreciably exceed that which would occur in free air.



## Included Accessories

Instruction Sheet P/N 19199  
 Z540 Compliant Calibration  
 with Certificate and Data for DB877 P/N OPT-Z540



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