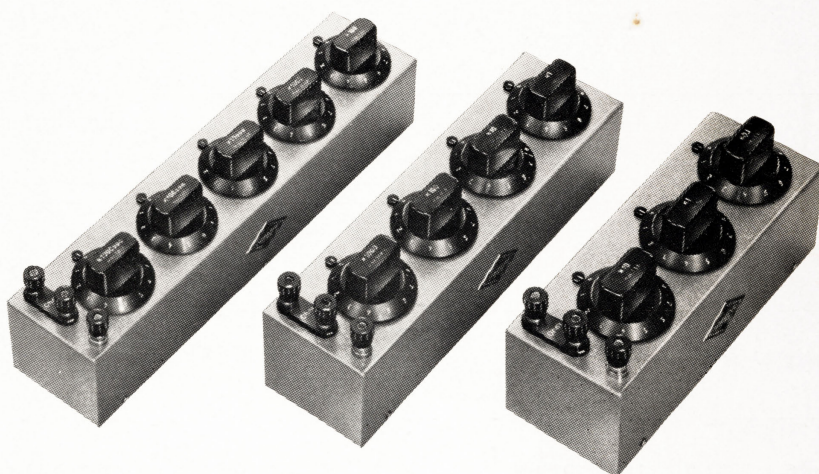




DECADE RESISTANCE BOXES TYPE DR

- ★ Wide range of values
- ★ Small dimensions
- ★ Good accuracy
- ★ High dissipation
- ★ Low residuals



These screened decade resistance boxes are accurate enough for general laboratory use, for educational purpose and wherever electrical measurements are made. They are useful e.g. for determination of optimum resistance values in electric circuits, as subsidiary resistance standards and for balancing purposes in bridge measurements etc.

On account of their small dimensions these decade boxes may be used at high frequencies — for values below 5000 ohms up to about 500 kc.

They are supplied with from 3 to 6 decades and in values from 0.1 ohms to 10 megohm as required.

Specification

Dissipation:

Max. 1 watt continuous for each resistor. For decade units 10×1 ohm to 10×1000 ohm maximum total dissipation is 3 watts in the $\times 1$ position, 4 watts in the $\times 2$ and 6 watts in the $\times 3$ position. For short periods (about 1 minute) the permissible dissipation is double the above values.

Max. peak voltage: 500.

Residual impedances:

Zero resistance: 0.003 to 0.004 ohms per decade.

Zero inductance: 0.1 μH per decade.

Shunt capacitance: The total effective shunt capacitance depends on the screen connection.

With the screen unconnected the capacitance is from 5 to 15 pF. When the screen is connected to the lower terminal the total capacitance is about 12 pF per decade counting from the highest decade employed to the lowest decade in the box.

With the screen connected to the upper terminal the total capacitance is 12 pF per decade counting from the highest decade in the box and including the highest decade in circuit.

The residual impedances should be added to the residuals stated in the table overleaf for the different decade units in order to obtain the total residuals at the terminals.

Switches:

Wafer type switches with silver contacts and ceramic insulation.

Mounting:

Metal cabinet finished in grey stove enamel. A terminal is provided for earthing the cabinet.



Specification of Decade Units

Resistance code	Value ohms	Accuracy %	Material Winding	Inductance	Max. current
A	10×0.1	5	Manganin Hairpin	0.05 μ H per step	3 A
B	10×1	1	Manganin Ayrton-Perry on card	1×1 ohm 0.2 μ H 3×1 ohm 0.5 μ H 10×1 ohm 1 μ H	1.7 A 1.4 A 1 A
C	10×10	1/2	Manganin Ayrton-Perry on card	1×10 ohm 0.4 μ H 3×10 ohm 0.8 μ H 10×10 ohm 1.5 μ H	0.5 A 0.4 A 0.3 A
D	10×100	1/2	Manganin Ayrton-Perry on card	1×100 ohm 0.5 μ H 3×100 ohm 1 μ H 10×100 ohm 0 μ H*)	170 mA 140 mA 100 mA
E	10×1000	1/2	Manganin Ayrton-Perry on card	1×1000 ohm 3×1000 ohm *) 10×1000 ohm	50 mA 40 mA 30 mA
F	10×10000	1/2	Centanin on card	*)	10 mA Max. 500 V
G	10×100000	1	High Stability Metallised	*)	Max. 500 V
H	10×1M	2	High Stability Metallised	*)	Max. 500 V

*) For values above 1000 ohms the residuals are mainly determined by the effective shunt capacitance in the box as detailed previously.

Specification of Decade Boxes

Type	Number of decades	Zero resistance ohms	Dimensions of box in mm (Total heights add 45 mm)	Net weight kilos
DR3	3	0.011	75 high × 85 × 240	1.2
DR4	4	0.014	75 high × 85 × 310	1.6
DR5	5	0.018	75 high × 85 × 380	1.9
DR6	6	0.021	75 high × 140 × 310	2.1

Please order by type and resistance code.

WE RESERVE THE RIGHT TO DEVIATE FROM THIS SPECIFICATION

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