

WHEATSTONE BRIDGE - slide wire pattern

EM4500-001 1 Metre long, with Jockey. EM4510-001 500 mm long, with Jockey.

DESCRIPTION: The IEC Slide Wire Wheatstone Bridge is aluminium construction for stability, strength and durability. The instrument comes complete with a 'knife-edge Jockey' for sliding along the graduated wire to search for the exact position that produces the 'balanced bridge'. The straight wire is approx. 3 ohms/metre and is of 'Advance' alloy for very close temperature and resistance stability.

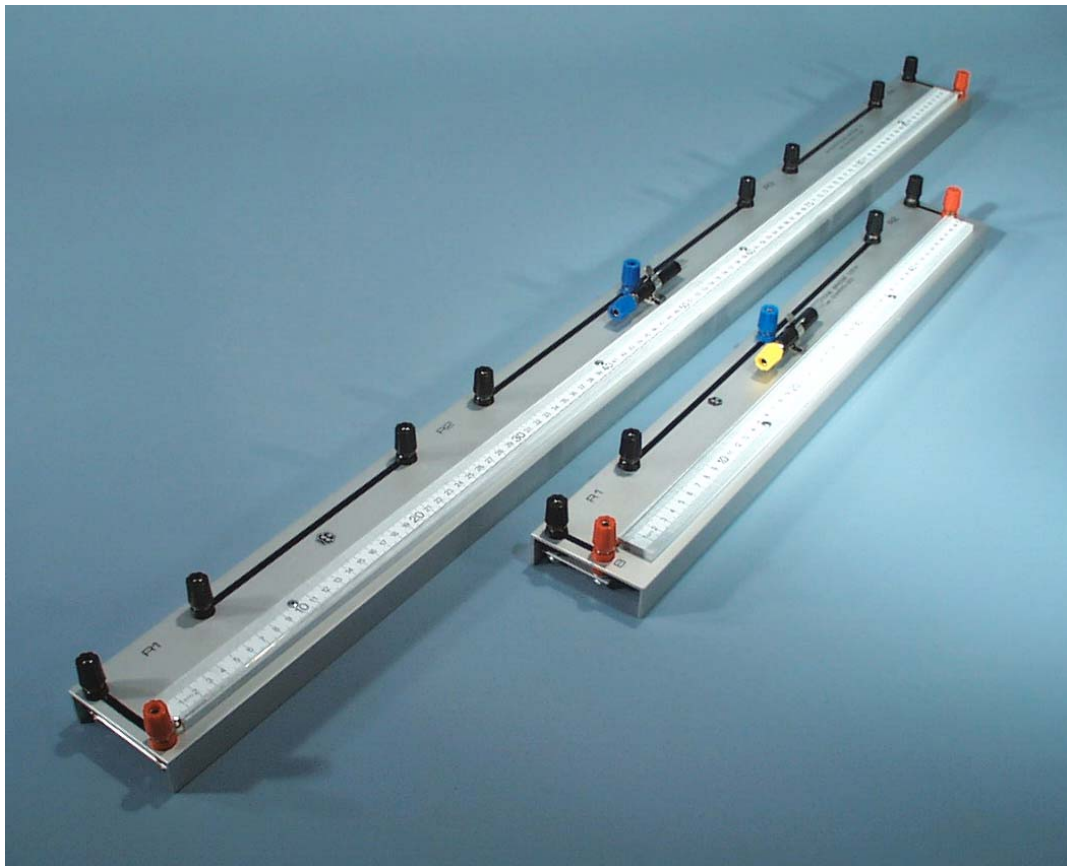
Maximum voltage to be applied is as follows:

1 Metre bridge: 3.0V (1 amp) runs cool. At 4.5v (1.5 amp) runs warm

1/2 Metre bridge: 1.5V (1 amp) runs cool. At 2.3v (1.5 amp) runs warm

The one metre bridge has 4 gaps and the half metre bridge has two gaps. These gaps are for the connection of a resistor(s) of known value and of an unknown resistor(s) that must be measured. The connection of resistors across the gaps is by either terminals or 4mm banana plugs. The single terminal in the middle between the resistors is provided for the connection of a Galvanometer to the Jockey knife edge which is used to touch to the slide wire.

EM4500-001 & EM4510-001 Wheatstone bridge



Size: 1050x100mm LxW Wt: 1.8 kg.

550x100mm LxW Wt: 1.2 kg.



FUNCTION: The Wheatstone Bridge permits the value of an unknown resistance to be calculated exactly as being a precise proportion of a known value resistance.

INSTRUCTIONS FOR USE:

Connect the known resistor to the terminals on say the left side gap and the unknown resistance to the right side gap. Short circuit any gaps that are not used. One side of a sensitive galvanometer (with a short circuiting or safety switch) is connected to the terminal between the two external resistors. The other side of the Galvo is connected to the Jockey which is positioned so that it touches the wire about half way along the metric scale.

Apply the small DC. voltage to the bridge by using the terminals at the ends of the slide wire. Momentarily test the galvanometer reading and slide the Jockey along the wire to search for the point of zero galvo deflection (zero voltage difference).

At one exact point along the length of the wire, there will be exactly zero current flowing through the galvanometer. At this point the bridge is balanced and the length of the slide wire to the left of the Jockey and the length of the slide wire to the right of the Jockey must be noted. The ratio between the known and the unknown resistors is the same ratio as the ratio of the lengths of the slide wire.

Designed and manufactured in Australia