

RBB

HIGH ACCURACY DECADE BOXES WITH VERSATILE WIDE OHM RANGE

A versatile range of resistance decade boxes, available in 5 & 6 decades. Both high accuracy and a wide range, 0.001 ohm to 11 mega ohm, are combined in a rugged case. The switches used are gold plated to ensure a low contact resistance and negligible thermal E.M.F. Some models employ the Waidner Wolf technique to eliminate the errors that may be caused by the variations in switch contact resistance. These models are particularly suited to applications such as Pt100 simulation where resolutions as low as 0.001 ohm ($\approx 0.0025^\circ\text{C}$) are required.

KEY FEATURE	RBB
5 and 6 decades available	■
Total Range 11.111 Mega ohm	■
Smallest Steps 0.001 milli ohm	■
Special Waidner Wolff decade minimises switch contact resistance	■
Accuracy 0.05% for premium dials	■
Resistance coils wound in selected low TC wire	■
Special models for Pt100 simulation	■
Special model for insulation simulation	■



RBB SPECIFICATIONS

RBB5				RBB6					Decade	Accuracy	Current Max mA	
B	C	D	E	B	C	D	E	F				
				■						10 x 0.001Ω	± 2%	2000
■				■	■					10 x 0.01Ω	± 1%	2000
■	■			■	■	■				10 x 0.1Ω	± 0.5%	2000
■	■	■		■	■	■	■			10 x 1Ω	± 0.2%	600
■	■	■	■	■	■	■	■	■		10 x 10Ω	± 0.05%	200
■	■	■	■	■	■	■	■	■	■	10 x 100Ω	± 0.05%	60
	■	■	■		■	■	■	■		10 x 1kΩ	± 0.05%	20
		■	■			■	■	■		10 x 10kΩ	± 0.05%	6
			■				■	■		10 x 100kΩ	± 0.1%	2
								■		10 x 1MΩ	± 0.1%	0.3

Model	No. Decades	Total Resistance	Resolution	Suitable for Pt100 Simulation	Resolution °C when Simulating Pt100	Residual Resistance
RBB5-B	5	1,112.1Ω	0.01	■	0.025	1Ω
RBB5-C	5	11,111Ω	0.1	—	—	0.012Ω
RBB5-D	5	111,110Ω	1	—	—	0.012Ω
RBB5-E	5	1.1111MΩ	10	—	—	0.012Ω
RBB5-F	5	11,111Ω	100	—	—	0.012Ω
RBB6-B	6	1,112.11Ω	0.001	■	0.0025	1Ω
RBB6-C	6	11,112.1Ω	0.01	■	0.025	1Ω
RBB6-D	6	111,111Ω	0.1	—	—	0.013Ω
RBB6-E	6	1.11111MΩ	1	—	—	0.013Ω
RBB6-F	6	11.1111MΩ	10	—	—	0.013Ω

Calibration

Calibration certificates including UKAS traceable are available on request

Switches

Contact material gold plated brass
 Contact resistance = 5 mohm
 Insulation Resistance (all paths = 10Gohm)
 Proof voltage 1kV

Resistors

Temperature Co-efficient:
 ±3ppm / +20°C to +85°C ±5ppm maximum over -55°C to +125°C 0.1, 0.01, and 0.001 dials 10ppm/°C

Full Load Stability:

±35ppm/10,000 hours
 ±50ppm/26,000 hours

No Load Stability:

±25ppm/10,000 hours
 ±35ppm/26,000 hours

Over full temperature range:

-50°C to +125°C

Power Rating:

0.33 watt (+85°C) 0.25 watt (+110°C)

Maximum Continuous Working Voltage:

70V dc / 33Vrms

Noise:

Essentially non-measurable <1.5µV

Thermal E.M.F.:

<0.4µV

Encapsulation:

Moulded epoxy

Windings:

Exclusive 'air cushioned' technique provides virtually stressless elements for improved performance. Non inductively wound. Direction of winding reversed at half turns point

Weight

RBB5 - 0.5kg

RBB6 - 0.6kg

Size

350mm x 100mm x 80mm (W H D) approx