

# HIGH ACCURACY DECADE BOXES WITH VERSATILE WIDE OHM RANGE

RESISTANCE

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 (» 0.0025°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	-
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#### **RBB SPECIFICATIONS**

RBB5			RBB6					Decade	Accuracy	Current Max mA	
В	С	D	E	В	С	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	Sutable 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	1.1111ΜΩ	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	1.11111ΜΩ	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 Mega ohm

Insulation Resistance (all paths = 10 giga ohm)

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:

Up to 250V dc

#### Noise:

Essentially non-measurable <1.5 mV/°C

#### Thermal E.M.F:

<0.4mV/°C typical

#### 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 (all models)



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