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, 0.001Ω to 11MΩ, 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 Wolff 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 0.001Ω (» 0.0025°C) are required.

Key Features

- 5 and 6 decades available
- Total range 11.111MΩ
- Smallest steps 0.001mΩ
- 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

Ideal For

- Engineering departments
- Laboratories/workshops
- Service/calibration departments
- Research and development departments

Technical Specifications

RBB5 Series					RBB6 Series					Decade	Accuracy	Current Max mA
B	C	D	E	F	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%	0.6

Model	No. Decades	Total Resistance	Resolution	Suitable for Pt100 Simulation	Resolution °C when Simulating Pt100	Residual Resistance	Part Numbers
RBB5-B	5	1,112.1Ω	0.01	✓	0.025	1Ω	930171
RBB5-C	5	11,111Ω	0.1			0.012Ω	930172
RBB5-D	5	111,110Ω	1			0.012Ω	930173
RBB5-E	5	1.1111MΩ	10			0.012Ω	930174
RBB5-F	5	11,111MΩ	100			0.012Ω	930175
RBB6-B	6	1,112.11Ω	0.001	✓	0.0025	1Ω	930176
RBB6-C	6	11,112.1Ω	0.01	✓	0.025	1Ω	930177
RBB6-D	6	111,111Ω	0.1			0.013Ω	930178
RBB6-E	6	1.11111MΩ	1			0.013Ω	930179
RBB6-F	6	11.1111MΩ	10			0.013Ω	930180

Calibration
Calibration certificates including UKAS traceable are available on request

Switches
Contact material gold plated brass
Contact resistance <5mΩ
Insulation resistance (all paths >10GΩ)

Resistors
Temperature Co-efficient
±3ppm / +20 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 to +125°C

Power Rating
0.33W (+85°C) 0.25W (+110°C)

Maximum Working Voltage
70VDC/33Vrms

Noise
Essentially non-measurable

Thermal E.M.F
<0.4µV/°C typical <1.5µV/°C maximum

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

General Specifications

Mass
RBB5 Series - 0.5kg/1lbs RBB6 Series - 0.6kg/1lbs

Size
350 x 100 x 80mm / 14 x 3.9 x 3.1" (w x h x d) approx