

# 005/6/8

## VERY HIGH ACCURACY DECADE BOXES WITH VERSATILE WIDE OHM RANGE

A versatile range of resistance decade boxes available in 5, 6 & 8 decades. High Accuracy and wide range 0.001 ohm to 11 Mega ohm are combined in a compact lightweight metal case. The switches have gold plated contacts to ensure a low contact resistance and negligible thermal E.M.F. Some models employ the Waidner Wolf technique to eliminate the errors switch contact resistance and are particularly suited to Pt100 simulation with resolution as low as 0.001 ohm ( $\approx 0.0025^{\circ}\text{C}$ ).

| KEY FEATURE  | 005/6/8 |
|--|---------|
| High accuracy 0.01% and high performance   | ■       |
| Suitable for Pt100 and transducer simulation   | ■       |
| 5, 6 and 8 Decades   | ■       |
| Long term stability $\pm 20\text{ppm/year}$  | ■       |
| Low temperature co-efficient $\pm 3\text{ppm/}^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ | ■       |
| Gold-plated switch contacts and solid copper input terminals                             | ■       |
| Negligible thermal E.M.F.'s  | ■       |
| Light weight / small size  | ■       |
| With certificate of conformity   | ■       |
| In-house test figures optional   | ■       |



## 005/6/8 SPECIFICATIONS

| 008-C | 008-B | 008-A | 006-C | 006-B | 006-A | 005-B | Decade      | Accuracy | Current Max |
|-------|-------|-------|-------|-------|-------|-------|-------------|----------|-------------|
|       |       | ■     |       |       | ■     |       | 10 x 0.001Ω | ± 2%     | 1.4A        |
|       | ■     | ■     |       | ■     | ■     | ■     | 10 x 0.01Ω  | ± 1%     | 1.4A        |
| ■     | ■     | ■     | ■     | ■     | ■     | ■     | 10 x 0.1Ω   | ± 0.5%   | 1.4A        |
| ■     | ■     | ■     | ■     | ■     | ■     | ■     | 10 x 1Ω     | ± 0.2%   | 300mA       |
| ■     | ■     | ■     | ■     | ■     | ■     | ■     | 10 x 10Ω    | ± 0.01%  | 100mA       |
| ■     | ■     | ■     | ■     | ■     | ■     | ■     | 10 x 100Ω   | ± 0.01%  | 30mA        |
| ■     | ■     | ■     | ■     | ■     |       |       | 10 x 1kΩ    | ± 0.01%  | 18mA        |
| ■     | ■     | ■     | ■     |       |       |       | 10 x 10kΩ   | ± 0.01%  | 5mA         |
| ■     | ■     |       |       |       |       |       | 10 x 100kΩ  | ± 0.01%  | 1.8mA       |
| ■     |       |       |       |       |       |       | 10 x 1MΩ    | ± 0.05%  | 0.3mA       |

| Model | No. Decades | Total Resistance | Resolution | Subtable for Pt100 Simulation | Resolution °C when Simulating Pt100 | Residual Resistance Ω |
|-------|-------------|------------------|------------|-------------------------------|-------------------------------------|-----------------------|
| 005-B | 5           | 1,112.10Ω        | 0.01       | ■                             | 0.025                               | 1Ω                    |
| 006-A | 6           | 1,112.11Ω        | 0.001      | ■                             | 0.0025                              | 1Ω                    |
| 006-B | 6           | 11,112.10Ω       | 0.01       | ■                             | 0.025                               | 1Ω                    |
| 006-C | 6           | 111,111Ω         | 0.1        | —                             | —                                   | 70mΩ                  |
| 008-A | 8           | 111,112.11Ω      | 0.001      | ■                             | 0.0025                              | 1Ω                    |
| 008-B | 8           | 1,111,112.1Ω     | 0.01       | ■                             | 0.025                               | 1Ω                    |
| 008-C | 8           | 11,111,111Ω      | 0.1        | —                             | —                                   | 80mΩ                  |

### Calibration

Calibration certificates including UKAS traceable are available on request

### Switches

Contact material gold plated brass  
 Contact resistance = 5 milli 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, & 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 250 V 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

005 - 0.5kg

006 - 0.6kg

008 - 0.8kg

### Size

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

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