



Time Electronics

1067 Precision Resistance Decade Box

Technical Manual



Contents

1. Specification.....	2
2. Operation	3
3. Guarantee & Servicing.....	3

All Time Electronics' instruments are subject to continuous development and improvement and in consequence may incorporate minor detail changes from the information contained herein.

1. Specification

Resistance range:	10 milliohms to 12k ohms
Number of decades:	6, each decade settable from 0 - 11
Increments:	10 milliohms steps
Accuracy:	At calibration temperature of 22°C. $\pm 0.01\%$ of setting ± 2 milliohms, after deduction of residual end resistance $\pm 1\text{mR}$ for residual variation
Current rating:	10mR range: 3A 100mR range: 2A 1R range: 600mA 10R range: 200mA 100R range: 60mA 1K range: 20mA
Residual end resistance:	Less than 10 milliohms Less than 1 milliohm variation
Temperature coefficient:	Less than 10 ppm per °C (> 1 ohm) Less than 20 ppm per °C (< 1 ohm)
Maximum voltage:	200 DCV at maximum resistance setting
Insulation:	Case to resistance terminals 2kV / 50Hz max
Operating torque:	Less than 0.1 Nm
Stability:	Better than 20 ppm per year (>1 ohms) Better than 100 ppm per year (<1 ohms)
Contacts:	Make before break - Silver Alloy
Dimensions/Weight:	87mm x 63mm x 355mm. Weight: 1.1Kg
Options:	19" rack mount case, 2U height : 445 x 85 x 255mm Calibration certificates (NPL and UKAS)



If voltages above 70V DC or 30V AC (RMS) are present the optional terminal shroud kit (Part No. 9723) must be fitted.

2. Operation

The Time Electronics 1067 precision decade resistance box is suitable for a wide range of simulation work. It is particularly suitable for simulating and calibrating precision Pt100 sensors and temperature indicators/meters that use resistive sensors.

Special care has been taken in the construction of the 1067 to ensure that the residual end resistance is as low and as stable as possible. Multiple self-wiping silver alloy contacts are used for each position to ensure outstanding performance and long life.

Housed in a robust metal case the 1067 is fully screened and low thermal emf terminals are used. The switch dials have clear markings and in an easy to read in-line format.

Each decade is scaled from 0 to 11 and therefore allows convenient overlap of the set values. The maximum value settable is 12,222.21 ohms.



Resistance is selected by dialing the value required using the rotary switches. This enables precise setting with a clear unambiguous indication.

For example - to select 3k83:

- set the 1kΩ bank to 3
- the 100Ω bank to 8
- and the 10Ω bank to 3

The 1067 has low thermal 4mm binding posts allowing connection via 4mm banana plugs, spades, or bare wires. Two connections red and black connect to the resistance and the green terminal connects to the case for screening purposes.



Note: Remember that all resistance boxes have a residual resistance, i.e. when the dials are set to zero a small resistance remains. If you are making precision measurements or recalibrating the instrument, this residual value must be subtracted from all measurements.

3. Guarantee & Servicing

Guarantee Period

This unit is guaranteed against defects in materials and workmanship for a period of **one year** from its delivery to the customer.

We maintain comprehensive after sales facilities and the unit can, if necessary be returned to us for servicing. During this period, Time Electronics Ltd will, at its discretion, repair or replace the defective items. For servicing under guarantee, the instrument type and serial number must always be quoted, together with details of any fault and the service required. The purchaser of the instrument must prepay all shipping charges. Time Electronics Ltd will pay return shipping charges.

This guarantee is void if servicing has been attempted by an unauthorised person or agent. If, during the guarantee period, failure is due to misuse or abuse of the unit, the repair will be put in hand without delay and charged unless other instructions are received.

Please note that if you require a new UKAS Certificate during the warranty period, this will be charged at the current rate on our price list.

Service After Guarantee Period

Even after the guarantee period has expired, Time Electronics Ltd., can still service your instrument. As the manufacturer, we have the specialised knowledge needed to keep your instrument in peak condition and we also maintain a comprehensive spare parts service.

Please enclose details of the service required and your full company details including a contact name when returning for servicing.

Returning Instruments

When returning instruments, please ensure that they have been adequately packed, preferably in the original packing supplied. **Time Electronics Ltd will not accept responsibility for units returned damaged.** Please ensure that all units have details of the service required and all relevant paperwork.

Send the instrument, shipping charges paid to:-

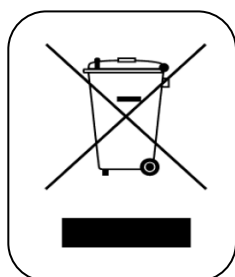
Time Electronics Ltd

Botany Industrial Estate, Tonbridge, Kent, TN9 1RH

Tel: +44(0)1732 355993 Fax: +44(0)1732 770312

Email: mail@TimeElectronics.co.uk

Web Site: www.TimeElectronics.com



Disposal of your old equipment

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or return to Time Electronics.