



***Time Electronics***  
*Calibration, Test and Measurement*

# User Manual

## 9790 100 A Current Transformer

Version 1.1  
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Nothing from this manual may be multiplied, or made public in any form or manner, either electronically or hard copy, without prior written consent from Time Electronics Ltd.

This also applies to any schematics, drawings and diagrams contained herein.

This manual provides operating and safety instructions for the Time Electronics product.

To ensure correct operation and safety, please follow the instructions in this manual.

Time Electronics reserves the right to change the contents, specifications and other information contained in this manual without notice.

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# 1 Introduction



The 9790 is a heavy-duty current transformer mounted in a steel case. It is suitable for use with Time Electronics 5025 and 5051 multifunction calibrators, as well as the 5077 power calibrator. It extends the AC current capability to 100 A RMS.

The maximum compliance voltage is approximately 0.3 V at 100 A. In order to achieve this, very low resistance connecting leads must be used. Connection is via front mounted terminals.

## Features:

- For use with the 5077 power calibrator
- Compatible with the 5025/5051 multifunction calibrators
- Robust clamp action 100 A terminals
- 20 A input terminal posts take 4 mm plugs, spade connectors, or bare wired ends
- Portable steel case with carry handle
- Fully potted transformer with heavy duty internal connection
- Primary and secondary phase connection clearly marked
- Durable grey paint finish

## 2 Operation

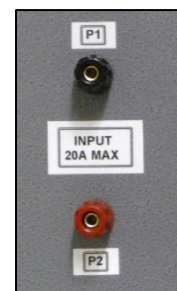


To use the 9790 in testing applications the setup is straightforward but the appropriate leads and connectors must be used.

**Caution: Do not make or break any connection whilst power is applied.**

Connect the 20 A primary input terminals to the calibrator using suitable leads.

Leads and connectors must be of low resistance and suitable for 20 A, recommended minimum wire size 4 mm<sup>2</sup>.



Connect the 100 A secondary output terminals to the load using suitable leads.

Leads and connectors must be of very low resistance and suitable for 100 A, recommended wire size 16 mm<sup>2</sup>, with a maximum outer diameter of 9 mm.

Keep leads as short as possible. The total impedance of the secondary circuit at 50/60 Hz must be less than 3 mΩ for operation at 100 A.

### 3 Specifications

**Current**.....100 A RMS maximum.

**VA rating**.....30 VA Maximum.

**Compliance**..... 0.3 V RMS at 100 A increasing to 0.5 V rms at 20 A.

**Operating frequency**..... 50/60Hz only.

**Ratio error**..... 5A to 50A 0.15 %. 50 A to 100A 0.2 %.

*Note: The final accuracy must be calculated as the Calibrator specification plus the 9790 Ratio Error.*

**Phase error**.....  $< 0.05^\circ$  from 5 % to 120 % of full load current (100 A).

**Classification**..... Conforms to BS EN6004-1 class 0.1 at 50 Hz.

**Dimensions**.....W 317 x H 275 x D 177 mm

**Weight**.....9.2 kg.

## 4 Warranty and Servicing

### Warranty

Time Electronics products carry a one-year manufacturer's warranty as standard.

Time Electronics products are designed and manufactured to the highest standards and specifications to assure the quality and performance required by all sectors of industry. Time Electronics products are fully guaranteed against faulty materials and workmanship.

Should this product be found to be defective, please contact us using the below details. Inform us of the product type, serial number, and details of any fault and/or the service required. Please retain the supplier invoice as proof of purchase.

This warranty does not apply to defects resulting from action of the user such as misuse, operation outside of specification, improper maintenance or repair, or unauthorized modification. Time Electronics' total liability is limited to repair or replacement of the product. Note that if Time Electronics determine that the fault on a returned product has been caused by the user, we will contact the customer before proceeding with any repair.

### Product Registration

You can register your product at: [www.timeelectronics.com/contact/product-registration](http://www.timeelectronics.com/contact/product-registration)  
Registering your product will enable us to maintain a record of purchase for your warranty. You can also use the web form to provide feedback about our products and services.

### Calibration and Repair Services

Time Electronics offers repair and calibration services for all the products we make and sell. Routine maintenance by the manufacturer ensures optimal performance and condition of the product. Periodic traceable or accredited calibration is available.

### Contacting Time Electronics

#### **Online:**

Please visit [www.timeelectronics.com](http://www.timeelectronics.com) and select Technical Support from the Contact links. From this page you will be able to send information to the Time Electronics service team who will help and support you.

#### **By phone:**

+44 (0) 1732 355993

#### **By email:**

[mail@timeelectronics.co.uk](mailto:mail@timeelectronics.co.uk)

## Returning Instruments

Prior to returning your product please contact Time Electronics. We will issue a return merchandise authorization (RMA) number that is to accompany the goods returning. Further instructions will also be issued prior to shipment. 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:

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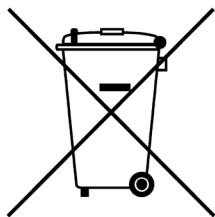
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## Disposal of your old equipment



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.