Time Electronics

1050

PT100 Element Simulator

Technical Manual
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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. Introduction

The 1050 is a handheld precision simulator for PT100 0.3850 platinum resistance elements used for accurate temperature measurement.

It follows the PT100 scale from -100°F to +1000°F with 23 set points. High performance metal film resistors are used throughout which ensures a good temperature coefficient and long term stability.

The specification is in accordance with DIN EN 60751 (ITS 90). Offering high accuracy across the full operating range of PT100 devices it exceeds the performance of Class A & B. The 1050 will be of particular interest to those operating in the -80 to +140°F range where a performance exceeding Class A (e.g. better than +/- 0.3°C at 0°F), is required.

Since the 1050’s output is a purely passive resistance it will operate with all types of PT100 measuring equipment including the live systems using pulsed, or interrupted excitation current. The pocket sized design (112 x 61 x 55mm) makes it easily portable and ideal for lab or field use. The instrument is supplied as standard with a carry case.

This 1050 is a popular test instrument in the Time Electronics process calibration equipment range. As a PT100 simulator for temperature measurement equipment it offers high stability and ease of use across applications.
## 2. Specifications

### Technical Specification

<table>
<thead>
<tr>
<th>Set Points °C:</th>
<th>-100, -50, -25, 0, 32.2, 50, 75, 100, 125, 150, 200, 225, 250, 300, 350, 400, 450, 500, 600, 700, 800, 1000</th>
</tr>
</thead>
</table>
| Accuracy:     | - 100 to 300°F +/− 0.5°F  
                300 to 1000°F +/− 0.9°F |
| Temp Coefficient: | Less than 25 ppm per °F |
| Maximum Current: | 50 mA |

### General Specification

| Dimensions: | 61 x 112 x 55 mm (2.4 x 5 x 2.2 ”) |
| Weight:     | 170 gm (6oz) |
| Optional Extras: | Calibration Certificates – traceable to NPL and UKAS |

### Order codes and Optional Extras

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>1050</td>
<td>Handheld PT100 °F Simulator (supplied with leatherette carry case)</td>
</tr>
<tr>
<td>9161</td>
<td>Factory (NPL Traceable) Calibration Certificate</td>
</tr>
<tr>
<td>9114</td>
<td>UKAS Calibration Certificate (ISO 17025)</td>
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</table>
3. Operation and Controls

Connection to the 1050 is via 4mm banana plugs. Two connections red and black connect to the simulated element. To select the temperature, rotate the dial until the temperature is displayed in the window.

1. 23 set points selector switch
   - Selects Output value of resistance.

2. Black 4mm terminals
   - Resistance output terminal.

3. Red 4mm terminals
   - Resistance output terminal.

Model 1049 (degC version) shown.

*Controls the same*
4. 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.