Time Electronics

1044 Voltage and Current Calibrator

- ***Measure voltage and current***
- ***Source voltage and current***
- ***3 voltage ranges 0 to 20V***
- ***3 current ranges 0 to 20mA***
- ***Accuracy 0.05%***
- ***4.5 digit LCD display***
- ***28 hours typical battery life***
- ***Supplied with carry case***
- ***Optional mains power supply***

DESCRIPTION

A precision handheld calibrator that can be used as a general purpose current and voltage source. High performance and simple operation make it suitable for test engineers, R&D, service, and calibration technicians. Offering both versatility and practicality the 1044 can source and measure voltage and current. The 0.05% accuracy is ideal for simulation and calibration in most engineering applications.

The 1044 combines the advantages of digital accuracy with analog control. Progressing from the familiar functions of the Time Electronics 1030 calibrator, the 1044 offers more ranges, better accuracy and the ability to measure as well as source.

The large, easy to read LCD display shows the actual output, even when the connected load exceeds the specifications. This important feature eliminates the risk of large errors when connecting to unknown loads. The display also indicates if the battery becomes critically low.

In the source mode, voltage up to 20V and current up to 20mA are generated in three ranges. When in current source mode the 1044 has a high 24V compliance voltage which is ideal for powering process loops.

In the measurement mode, the range and function can be easily selected, with the measured input accurately shown on the LCD display.

The 1044 is housed in a pocket sized, ABS case and comes with a leatherette carry case containing a compartment for storing test leads. Connections are by standard 4mm plugs or by simply clamping the wires under the terminals. A single 9V battery powers the unit or an external 12V DC power supply may be used which disconnects the internal battery.

APPLICATIONS

Common use of the 1044 is to simulate a transducer or measure the current flow in a transducer loop. The 1044 can be used to check a 4 to 20mA system in either source or measure modes of operation, with the 24V compliance voltage powering the loop when current source mode is selected.

In the source mode, the 1044 may be used to calibrate meters, thermocouple indicators, data loggers, for signal injection, semiconductor characterisation, or as a backing off source. In the measure mode, the 1044 may be used in the same way as a DMM, checking DC voltages and current over 3 ranges with excellent resolution and accuracy.

1044 Specifications

TECHNICAL SPECIFICATION

VOLTAGE SOURCE

Range	Resolution	Accuracy	Output Current	Temp Coefficient	Noise
0 to 200mV	100µV	0.05% of full scale + 2 digits	20mA	± 150ppm/°C	<30ppm of full scale
0 to 2V	1mV				
0 to 20V	10mV				

VOLTAGE MEASURE

Range	Resolution	Accuracy	Input Impedance	Temp Coefficient
0 to 200mV	100µV	0.05% of full scale + 2 digits	1MΩ	± 150ppm/°C
0 to 2V	1mV		1MΩ	
0 to 20V	10mV		10MΩ	

CURRENT SOURCE

Range	Resolution	Accuracy	Output Voltage	Temp Coefficient	Noise
0 to 200µA	100nA	0.05% of full scale + 3 digits	24V Max	± 200ppm/°C	<50ppm of full scale
0 to 2mA	1µV				
0 to 20mA	10µV				

CURRENT MEASURE

Range	Resolution	Accuracy	Shunt Resistance	Temp Coefficient
0 to 200µA	100nA	0.05% of full scale + 3 digits	10Ω	± 200ppm/°C
0 to 2mA	1µV			
0 to 20mA	10µV			

Connections ..... Made by 4mm connectors or clamped using the wire compression feature.

Power ..... PP3 size, 9V battery. Approximately 28 hours life depending on the current sourced. Alternatively an optional 12V power supply can be plugged into the 2.5mm socket on the top of the unit.

Protection ..... The 1044 can withstand open circuits, short circuits and reverse polarity up to 25V. Additional protection is by an internal fuse.

GENERAL SPECIFICATION

Dimensions ..... H142 x W78 x D50mm

Weight 0.30kg

Optional Extras ..... 230V or 110V Mains Power Supplies
Calibration Certificates – traceable to NPL and UKAS

Country of Origin ..... UK

ORDERING INFORMATION

1044 ..... **Voltage and Current Calibrator**

7643 ..... 230V Mains Power Supply

7652 ..... 110V Mains Power Supply

C156 ..... Factory (NPL Traceable) Calibration Certificate

C133 ..... UKAS Calibration Certificate (ISO 17025)

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