



## 1006 DC Millivolt Source

*Time Electronics*

Calibration, Test & Measurement

- **3 Ranges up to 1V**
- **0.02% Accuracy**
- **20 mA Output Current**
- **Short circuit and overload protected**
- **Safety terminals**
- **Removable protective boot**
- **Battery level indicator**



The **1006** is an accurate low cost millivolt source suitable for voltage injection applications. Three output ranges are provided to give adjustable output values from  $1\mu\text{V}$  to 1V with a basic 0.02% accuracy. For signal injection, the operator needs to switch on, check the battery condition, select the range, and set the required voltage using the thumbwheel switches. The 1006 uses a precision reference diode and low temperature co-efficient resistors to give a highly stable output.

Power is provided by 6 AA batteries. Battery life is several months, depending on usage. The battery condition is monitored by an indicator, which is mounted on the top of the unit. The 1006 has up to 20 mA drive current and is short circuit and overload protected. An off/normal/reverse output polarity switch is provided.

**Safety Terminals:** Fully compatible with 4mm shrouded plugs, as well as standard plugs, bare wires, and spade terminals.

**Added Protection:** The 1006 comes fitted with an ergonomic rubber boot (9028) providing increased protection and durability. The boot has a textured grip for comfortable handling and openings at the top and bottom to allow access to the battery meter and a position to place labels if required. The boot is easy to remove if the user prefers a stand-alone unit or to house the 1006 in the 9027 carry case.

As an accurate millivolt source, the 1006 can be used for many applications including thermocouple simulation (using appropriate lookup table), chart recorder calibration, A/D converter and DMM calibration, and as a stable voltage for backing off DC offsets. Unit comes supplied with dry cell batteries.

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*Time Electronics*, Botany Industrial Est. Tonbridge, Kent. England. TN9 1RH.  
Tel: +44 (0)1732 355993 Fax: +44 (0)1732 770312 E-mail: mail@timeelectronics.co.uk

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[www.timeelectronics.com](http://www.timeelectronics.com)

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## 1006 Technical Specifications

<b>Output:</b>	0-999.9mV in 3 ranges 0-999.9mV in 0.1mV steps 0-99.99mV in 10 $\mu$ V steps 0-9.999mV in 1 $\mu$ V steps
<b>Accuracy:</b>	$\pm 0.02\%$ of setting + $\pm 0.02\%$ of range + $\pm 1\mu$ V.
<b>Output Resistance:</b>	Less than 0.2 $\Omega$ on 1 V and 100 mV ranges. 1 $\Omega$ on 10mV range.
<b>Maximum Output Current:</b>	1V and 100mV ranges –20mA. 10mV range – Up to short circuit value although it should be noted that loads of less than 1k $\Omega$ will give greater than 0.1% error.
<b>Output Voltage Stability:</b>	Less than 60 ppm/ $^{\circ}$ C. Less than 100 ppm per 3 months. (Non-cumulative)
<b>Operative Temperature:</b>	- 10 $^{\circ}$ C to + 60 $^{\circ}$ C.
<b>Output Polarity:</b>	Positive or negative switch selected. A centre 'off' position is also provided.
<b>Output Noise Level:</b>	Less than 30 ppm of f.s.
<b>Reference Source:</b>	Precision zener diode, selected for stability and low temperature co-efficient.
<b>Maximum Overload:</b>	The instrument can withstand continuous short circuit on the output for all ranges.
<b>Power Supply:</b>	6-AA size (51x14mm) batteries. A battery condition display indicates when the batteries should be changed. An alternative power source is 6 NiCad cells of the same dimensions. These can be recharged via a socket on the top of the unit. The 6 rechargeable batteries and mains recharger are available as an optional extra.

## General Specification

<b>Dimensions:</b>	200 x 75 x 110mm (215 x 100 x 120mm including protective boot)
<b>Weight:</b>	0.75kg (1.1kg including protective boot)
<b>Optional Extras:</b>	Carry Case Rechargeable Battery Packs – 240V and 110V mains Calibration Certificates – traceable to NPL and UKAS
<b>Country of Origin:</b>	UK

## Ordering Information

Code	Description
1006	DC Millivolt Source Model (0.02% Accuracy)
9027	Leatherette Carry Case
9529	Rechargeable Battery Pack – (6 NiCad Cells + 240V Mains Charger)
9528	Rechargeable Battery Pack – (6 NiCad Cells + 110V Mains Charger)
9150	Factory (NPL Traceable) Calibration Certificate
9100	UKAS Calibration Certificate (ISO 17025)

Due to continuous development Time Electronics reserves the right to change specifications without prior notice.

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