Description

The EA162 Picostat is a high sensitivity, software-controlled potentiostat for use in electrochemical applications where small currents (from a few picoamperes to 100 nA) need to be measured. The unit provides two analog signals to the e-corder, one for current flow and the second for applied potential.

Compatibility

Supplied ready for use with e-corder units and includes an electrode cable terminated with three miniature alligator clips.

Specifications

<table>
<thead>
<tr>
<th>Compliance voltage:</th>
<th>13 V</th>
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<tbody>
<tr>
<td>Maximum control voltage:</td>
<td>±10 V</td>
</tr>
<tr>
<td>Output current:</td>
<td>±100 nA maximum</td>
</tr>
<tr>
<td>Input impedance:</td>
<td>10¹³ Ω</td>
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<tr>
<td>Input bias current:</td>
<td>&lt;250 fA @ 25 °C, 60 fA typical</td>
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<tr>
<td>Current ranges:</td>
<td>±100, 50, 20, 10, 5, 2, 1 nA, ±500, 50, 20, 10 pA</td>
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<tr>
<td>Gain:</td>
<td>10 nA/V, 1 nA/V, 100 pA/V</td>
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<tr>
<td>DC current error:</td>
<td>±1% FS on ranges of 10 pA to 1 nA, ±0.5% FS on ranges of 2 to 100 nA</td>
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<tr>
<td>Filter setting:</td>
<td>10 Hz low pass</td>
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<tr>
<td>Filter type:</td>
<td>3rd order Bessel</td>
</tr>
<tr>
<td>Bandwidth, unfiltered:</td>
<td>&gt;10 kHz, on ranges of 20 to 100 nA, ~1 kHz, on ranges of 10 pA to 10 nA</td>
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<tr>
<td>Drift with temperature:</td>
<td>&lt;20 µV/°C</td>
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<tr>
<td>I²C input and output:</td>
<td>Male and female DB-9 pin connectors. Provides control and power to the Picostat</td>
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<tr>
<td>Power requirements: (supplied by e-corder)</td>
<td>±20 V unregulated DC, ~20 mA, ±10 V unregulated DC, ~20 mA, ~1 W quiescent</td>
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<tr>
<td>Dimensions (h x w x d):</td>
<td>50 mm x 76 mm x 260 mm (1.96” x 3.0” x 10.2”)</td>
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<tr>
<td>Weight:</td>
<td>0.8 kg (1.8 lb)</td>
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<tr>
<td>Operating conditions:</td>
<td>0 to 35 °C, 0 to 90% humidity (non-condensing)</td>
</tr>
</tbody>
</table>

Applications

- Neurochemistry: for in vivo or in vitro monitoring of neurotransmitters and other redox active metabolites using carbon fibre or other microelectrodes.
- Chemistry: electroanalytical chemistry with microelectrodes.
- Biochemistry: monitoring of dissolved oxygen or nitric oxide.
- Biosensors: suitable for use with most types of amperometric biosensor, including microdialysis biosensors.

WARRANTY: eDAQ Hardware units are supported by a one year warranty.

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