The PCU1 series are medium powered primary current injection systems offering output currents up to 5000A. The system consists of a separate control unit containing all metering and control functions and a loading unit that provides the high current output. The PCU1-SP mk2 is ideally suited to primary current injection, stability testing and circuit breaker testing. In addition, it offers direct-reading CT ratio and polarity tests and a 100A secondary injection output. T&R also offer the higher-powered PCU2 system.

<table>
<thead>
<tr>
<th>Feature</th>
<th>PCU1-SP mk2</th>
<th>PCU2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary injection</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Max output power</td>
<td>11.5kVA</td>
<td>20kVA</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>5 min</td>
</tr>
<tr>
<td>Secondary injection</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>CT ratio/polarity test</td>
<td>✓</td>
<td>×</td>
</tr>
</tbody>
</table>

Two loading units are available, delivering a maximum output current of 2000A or 5000A. Each loading unit has three output taps to allow for a wide range of load impedances. For example, the NLU5000 may be configured to either give a maximum current of 5000A on the 2.3V range, 2500A on the 4.6V range or 1250A on the 9.2V range.

The control units are rated at 11.5kVA with a 2 second overload capability of 23kVA using pulse mode. All metering is digital and a memory facility is provided to hold the current reading when the output trips or is switched off. The PCU1 systems have a high accuracy timing system with 1ms resolution. Selection for normally open or normally closed contacts is automatic, and the status of the contacts is shown on the front panel. Timing modes are available for under and over current devices, re-closers, under and over voltage devices, current trips and circuit breakers.
PCU1-SP mk2 Specification
Loading Unit Current Metering

The AC output current is measured by a true RMS memory ammeter (acquisition time 200ms) with a liquid crystal display. The current metering has 3 ranges corresponding to 10%, 50% and 100% of the maximum rating of the loading unit. In addition, a 200% metering range is enabled in pulse mode.

**Current operated mode**

The timer stops when the current falls. The timer is started when the current exceeds the maximum obtainable current is set by the impedance of the test object and output leads.

**Auxiliary contacts.** The timer is started when the current exceeds the maximum output current is increased in pulse mode.

Below 20% of the metering range during the pulse time, the timer is stopped. The maximum output current is increased in pulse mode.

**Pulse mode 1s**

- **Current** 100A
- **Off**

**Pulse mode 0.2s**

- **Current** 100A
- **Off**

**Pulse mode 0.5s**

- **Current** 100A
- **Off**

**Pulse mode 0s**

- **Current** 100A
- **Off**

**Pulse mode 2s**

- **Current** 100A
- **Off**

**Pulse mode 2s**

- **Current** 100A
- **Off**

**Pulse On button**

- **Current** 100A
- **Off**

**Current operated mode** is used to time circuit breakers with no auxiliary contacts. The timer is started when the current exceeds 20% of the selected metering range (e.g. 100A on the NLU5000 500A range). The timer stops when the current falls.

NOTE: Due to the company’s continuous research programme, the information above may change at any time without prior notification. Please check that you have the most recent data on the product.

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