Current Probes

Key Features

- ProBus active probe interface with automatic scaling in A/div
- Autozero and degauss capabilities built into instrument's user interface

**CP030**
- $30 \, A_{rms}$ continuous current
- $50 \, A_{peak}$ current
- $50 \, MHz$ bandwidth

**CP030A**
- $30 \, A_{rms}$ continuous current
- $50 \, A_{peak}$ current
- $50 \, MHz$ bandwidth
- $1 \, mA/div$ sensitivity

**CP031**
- $30 \, A_{rms}$ continuous current
- $50 \, A_{peak}$ current
- $100 \, MHz$ bandwidth

**CP031A**
- $30 \, A_{rms}$ continuous current
- $50 \, A_{peak}$ current
- $100 \, MHz$ bandwidth
- $1 \, mA/div$ sensitivity

**CP150**
- $150 \, A_{rms}$ continuous current
- $500 \, A_{peak}$ current
- $10 \, MHz$ bandwidth

**CP500**
- $500 \, A_{rms}$ continuous current
- $700 \, A_{peak}$ current
- $2 \, MHz$ bandwidth

Teledyne LeCroy current probes do not require the breaking of a circuit or the insertion of a shunt to make accurate and reliable current measurements. Based on a combination of Hall effect and transformer technology, Teledyne LeCroy current probes are ideal for making accurate AC, DC, and impulse current measurements.

**Wide Range of Applications**

Teledyne LeCroy current probes are available in a variety of models for a wide range of applications. The full range of Teledyne LeCroy current probes includes models with bandwidths up to 100 MHz, peak currents up to 700 A and sensitivities to 1 mA/div. Teledyne LeCroy current probes are often used in applications such as the design and test of switching power supplies, motor drives, electric vehicles, and uninterruptible power supplies.

**High Sensitivity**

The CP030A and CP031A provide a high sensitivity of 1 mA/div. This allows for more precise low current measurements on Teledyne LeCroy oscilloscopes. When used with HDO high definition oscilloscopes with HD4096 technology, users will obtain highly accurate, low current waveforms with unmatched 12-bit resolution for improved debug and analysis.

**Fully Integrated**

All Teledyne LeCroy current probes are powered through the Teledyne LeCroy ProBus® connection and require no additional hardware. Along with providing power, the ProBus connection allows the current probe and oscilloscope to communicate, resulting in current waveforms automatically displayed on screen in Amps, and calculated power traces scaled correctly in Watts. This full integration also allows for Degauss and Autozero functions to be done directly from the oscilloscope's user interface.

**Deskew Calibration Source**

The DCS015 deskew calibration source has both voltage and current time-aligned signals, which enables the precise deskew of voltage and current probes. Most voltage probes along with the CP030, CP030A, CP031, and CP031A are compatible with the DSC015.
Maximum Input Current vs. Frequency

Insertion Impedance vs. Frequency (typical)

*This performance does not apply to CP030-3M model.
Maximum Input Current vs. Frequency

Insertion Impedance vs. Frequency (typical)

*This performance does not apply to CP150-6M model.
## Specifications & Ordering Information

### Specifications

#### Electrical Characteristics*

<table>
<thead>
<tr>
<th>CP030</th>
<th>CP030A</th>
<th>CP031</th>
<th>CP031A</th>
<th>CP150</th>
<th>CP500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Continuous Input Current</td>
<td>30 Arms</td>
<td>150 Arms</td>
<td>500 Arms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bandwidth</td>
<td>50 MHz (10 MHz)</td>
<td>100 MHz</td>
<td>10 MHz (5 MHz)</td>
<td>2 MHz</td>
<td></td>
</tr>
<tr>
<td>Rise Time (typical)</td>
<td>≤ 7 ns (≤ 35 ns)</td>
<td>≤ 3.5 ns</td>
<td>≤ 35 ns (≤ 70 ns)</td>
<td>≥ 175 ns</td>
<td></td>
</tr>
<tr>
<td>Max. Peak Current</td>
<td>50 Apeak (non-continuous)</td>
<td></td>
<td>300 Apeak (non-continuous); 500 Apeak ≤ 30 μs</td>
<td>700 Apeak (non-continuous)</td>
<td></td>
</tr>
<tr>
<td>Output Voltage</td>
<td>0.1 V/A</td>
<td>0.1 V/A &amp; 1 V/A</td>
<td>0.1 V/A</td>
<td>0.1 V/A &amp; 1 V/A</td>
<td>0.01 V/A</td>
</tr>
<tr>
<td>Max Continuous Input Current at 1 V/A (100mA/div or less)</td>
<td>–</td>
<td>5 A</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Offset Range at 1 V/A (100mA/div or less)</td>
<td>–</td>
<td>±5 A</td>
<td>–</td>
<td>±5 A</td>
<td>–</td>
</tr>
<tr>
<td>Minimum Sensitivity</td>
<td>10 mA/div</td>
<td>1 mA/div</td>
<td>10 mA/div</td>
<td>1 mA/div</td>
<td>100 mA/div</td>
</tr>
<tr>
<td>Low-Frequency Accuracy</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Noise at 20 MHz BWL</td>
<td>≤ 2.5 mA</td>
<td>≤ 150 μA</td>
<td>≤ 2.5 mA</td>
<td>≤ 150 μA</td>
<td>≤ 6.0 mA</td>
</tr>
<tr>
<td>Coupling</td>
<td>AC, DC, GND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### General Characteristics

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP030</td>
<td>30 A; 50 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable</td>
</tr>
<tr>
<td>CP030-3M</td>
<td>30 A; 10 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 3 meter cable (not EMC compliant)</td>
</tr>
<tr>
<td>CP030A</td>
<td>30 A; 50 MHz High Sensitivity Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable</td>
</tr>
<tr>
<td>CP031</td>
<td>30 A; 100 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable</td>
</tr>
<tr>
<td>CP031A</td>
<td>30 A; 100 MHz High Sensitivity Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable</td>
</tr>
<tr>
<td>CP150</td>
<td>150 A; 10 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 2 meter cable</td>
</tr>
<tr>
<td>CP150-6M</td>
<td>150 A; 5 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 6 meter cable (not EMC compliant)</td>
</tr>
<tr>
<td>CP500</td>
<td>500 A; 2 MHz Current Probe – AC/DC; 500 Arms; 700 A Peak Pulse, 6 meter cable</td>
</tr>
<tr>
<td>DCS015</td>
<td>Deskew Calibration Source for CP031, CP031A, CP030, CP030A and AP015</td>
</tr>
</tbody>
</table>

### Ordering Information

#### Product Description

- 30 A; 50 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable
- 30 A; 10 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 3 meter cable (not EMC compliant)
- 30 A; 50 MHz High Sensitivity Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable
- 30 A; 100 MHz Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable
- 30 A; 100 MHz High Sensitivity Current Probe – AC/DC; 30 Arms; 50 A Peak Pulse, 1.5 meter cable
- 150 A; 10 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 2 meter cable
- 150 A; 5 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 6 meter cable (not EMC compliant)
- 500 A; 2 MHz Current Probe – AC/DC; 500 Arms; 700 A Peak Pulse, 6 meter cable
- Deskew Calibration Source for CP031, CP031A, CP030, CP030A and AP015

#### Customer Service

Teledyne LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year. This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

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