TELEDYNE LECROY
Everywhereyoulook™

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

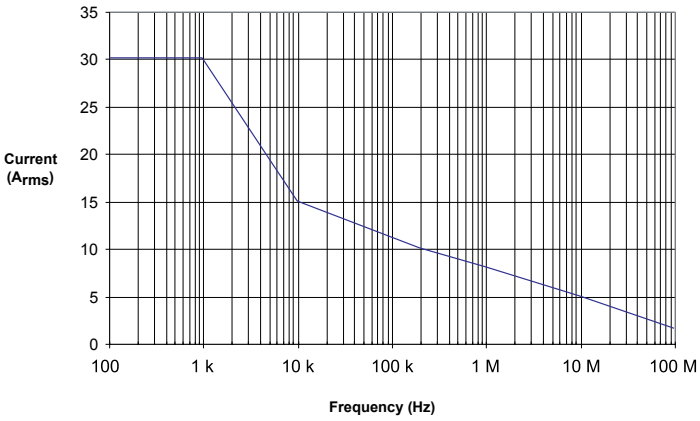
All Teledyne LeCroy current probes are powered through the Teledyne LeCroy ProBus® connection and require no additional hardware. Along with providing power, the ProBus connection allows the current probe and oscilloscope to communicate, resulting in current waveforms automatically displayed on screen 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

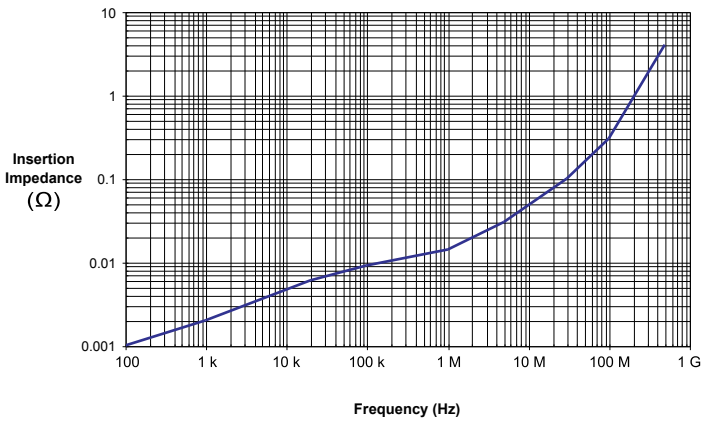
The DCS015 deskew calibration source has both voltage and current time-aligned signals, which enables the precise deskew of voltage and current probes. Most voltage probes along with the CP030, CP030A, CP031, and CP031A are compatible with the DSC015.

CP031/ CP031A





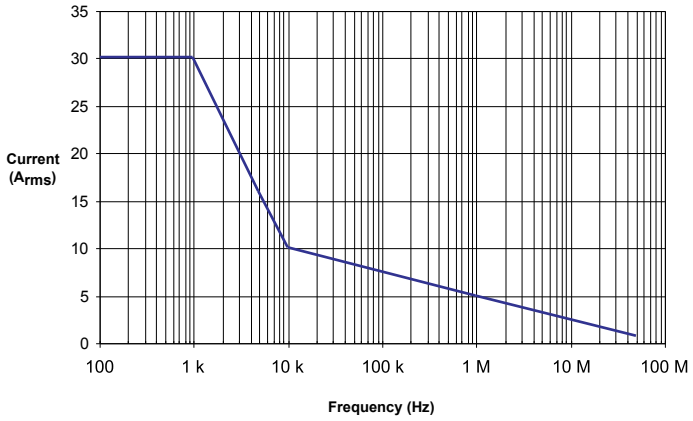
Maximum Input Current vs. Frequency



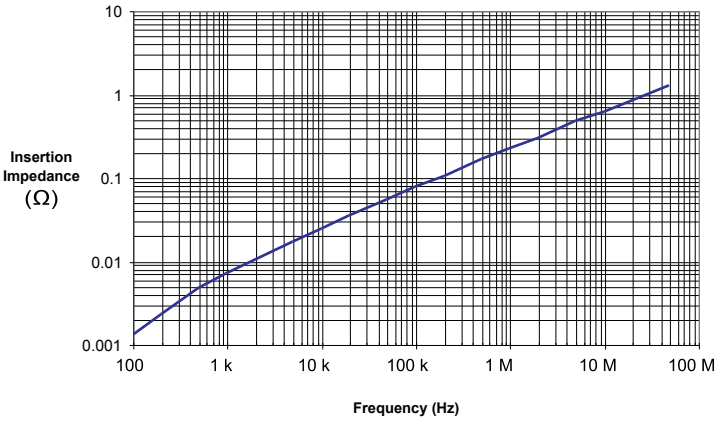
Insertion Impedance vs. Frequency (typical)

CP030 / CP030A





Maximum Input Current vs. Frequency*



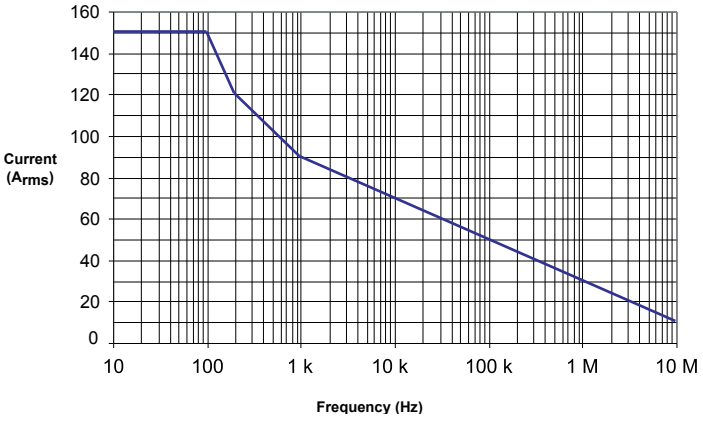
Insertion Impedance vs. Frequency* (typical)

**This performance does not apply to CP030-3M model.*

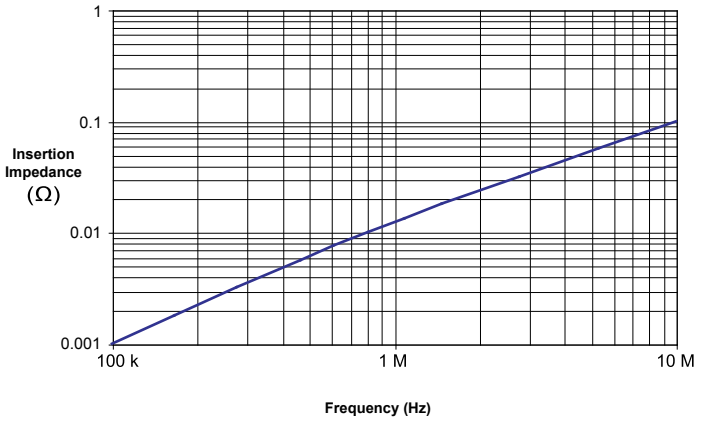
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CP150





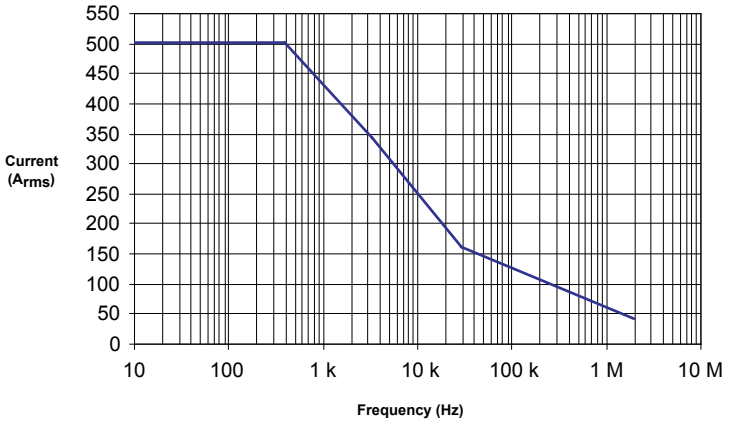
Maximum Input Current vs. Frequency*



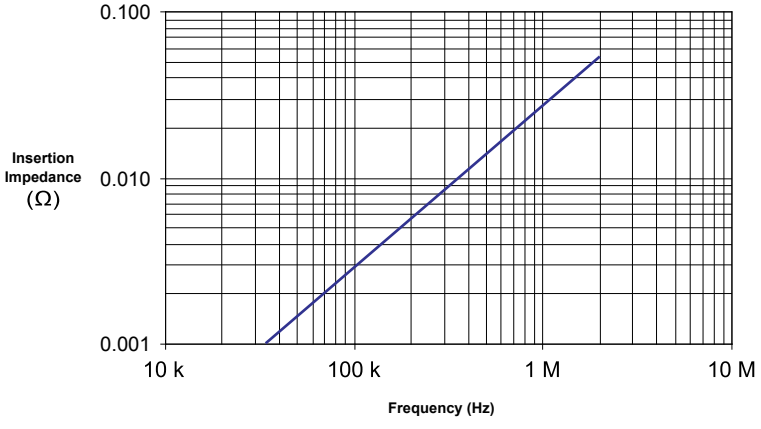
Insertion Impedance vs. Frequency* (typical)

CP500





Maximum Input Current vs. Frequency



Insertion Impedance vs. Frequency (typical)

*****_This performance does not apply to CP150-6M model._

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SPECIFICATIONS & ORDERING INFORMATION

Specifications

Electrical Characteristics*

	CP030 (CP030-3M)	CP030A	CP031	CP031A	CP150 (CP150-6M)	CP500
Max. Continuous Input Current	30 A_{rms}				150 A_{rms}	500 A_{rms}
Bandwidth	50 MHz (10 MHz)		100 MHz		10 MHz (5 MHz)	2 MHz
Rise Time (typical)	≤ 7 ns (≤ 35 ns)		≤ 3.5 ns		≤ 35 ns (≤ 70 ns)	≤ 175 ns
Max. Peak Current	50 A_{peak} (non-continuous)				300 A_{peak} (non-continuous); 500 Apeak ≤ 30 µs	700 A_{peak} (non-continuous)
Output Voltage	0.1 V/A	0.1 V/A & 1 V/A	0.1 V/A	0.1 V/A & 1 V/A	0.01 V/A	
Max Continuous Input Current at 1 V/A (100mA/div or less)	–	5 A	–	5 A	–	
Offset Range at 1V/A (100mA/div or less)	–	±5 A	–	±5 A	–	
Minimum Sensitivity	10 mA/div	1 mA/div	10 mA/div	1 mA/div	100 mA/div	
Low-Frequency Accuracy	1%					
AC Noise at 20 MHz BWL	≤ 2.5 mA	≤ 150 µA	≤ 2.5 mA	≤ 150 µA	≤ 6.0 mA	≤ 8.0 mA
Coupling	AC, DC, GND					

General Characteristics

Cable Length	1.5 m (3 m)	1.5 m			2 m (6 m)	6 m
Weight	240 g (290 g)	260 g	240 g	260 g	500 g (600 g)	630 g
Max. Conductor Size (Diameter)	5 mm				20 mm	
Interface	ProBus, 1 MΩ only					
Usage Environment	Indoor					
Operating Temperature	0˚ C to 40˚ C					
Max. Relative Humidity	80%					
Max. Altitude	2000 m					
Maximum Insulated Wire Voltage	300 V CAT I				600 V CAT II, 300 V CAT III	

* Electrical Characteristics Guaranteed at 23 °C ±3 °C

CP03x, CP150, and CP500 probes (and long cable versions of these) are compatible with any Teledyne LeCroy oscilloscope with a ProBus interface running firmware version 4.3.1.1 or great.

CP03xA probes are compatible with most Teledyne LeCroy oscilloscopes with a ProBus interface running X-Stream™ firmware version 7.8.x.x or later, including WaveSurfer Xs-A, MXs/MXs-A/MXs-B, and 10; HDO4000, 6000, 8000, and 9000; MDA800, HRO/WaveRunner 6 Zi, WaveRunner 8000, Xi/Xi-A/MXi/MXi-A, WavePro/SDA/DDA 7 Zi/Zi-A; WaveMaster/SDA/DDA 8 Zi/Zi-A/Zi-B, and LabMaster 9 Zi-A series. WavePro 7000/7000A series are compatible if they are running Windows XP Professional and X-Stream™ firmware version 7.8.x.x or later. WaveSurfer Xs series must be upgraded to Windows XP Professional. Contact your local service center regarding upgrades.

Ordering Information

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

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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