

Current Probes



Key Features

- ProBus active probe interface with automatic scaling in A/div
- Autozero and degauss capabilities built into instrument's user interface
- The full range of Teledyne LeCroy current probes includes models with bandwidths up to 100 MHz and peak currents up to 1400 A
- The CP030B and CP031A provide a high sensitivity of 1 mA/div
- The DCS025 outputs time-aligned voltage and current signals for precise probe deskew

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.

CP030B

- 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

CP150B

- 150 A_{rms} continuous current
- 300 A_{peak} current
- 10 MHz bandwidth

CP500

- 500 A_{rms} continuous current
- 700 A_{peak} current
- 2 MHz bandwidth

CP1000

- 1000 A_{rms} continuous current
- 1400 A_{peak} current
- 1.5 MHz bandwidth

OPTIMIZED FOR HIGH-PERFORMANCE POWER ANALYSIS

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 1400A 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.



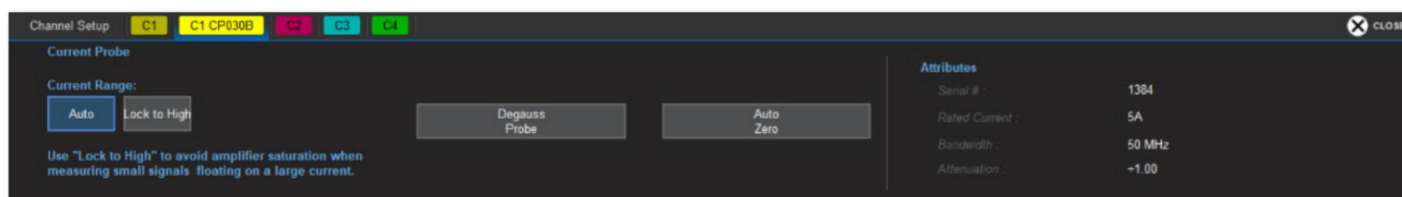
High Sensitivity

The CP030B and CP031A provide a high sensitivity of 1 mA/div. 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.

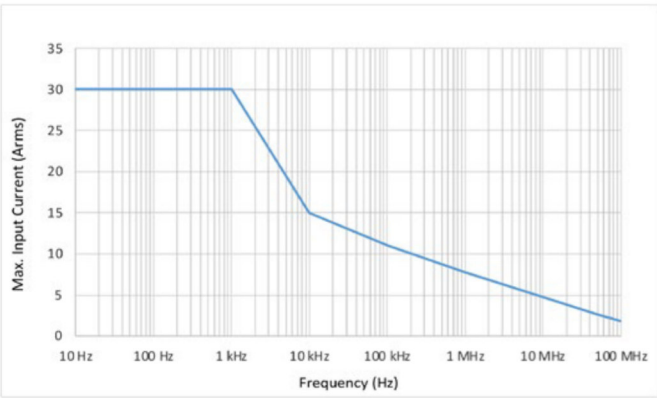


Deskew Calibration Source

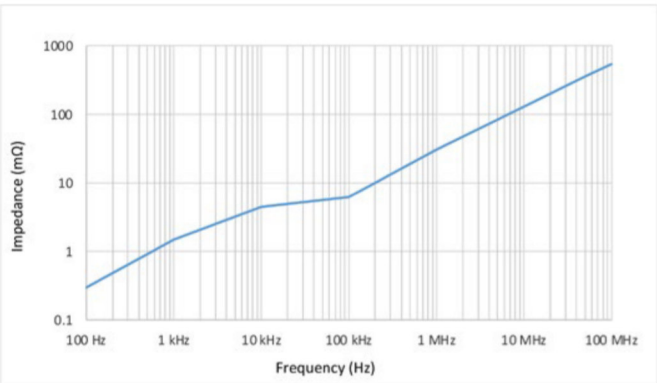
The DCS025 deskew calibration source has both voltage and current time-aligned signals, which enables the precise deskew of voltage and current probes. Most Teledyne LeCroy voltage and current probes are compatible with the DCS025.



CP031/ CP031A

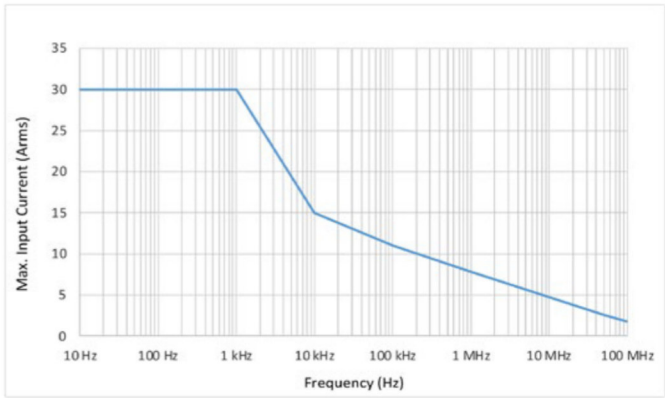


Maximum Input Current vs. Frequency

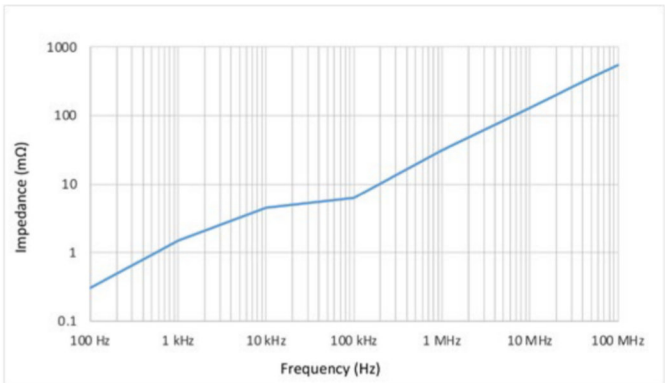


Insertion Impedance vs. Frequency
(typical)

CP030B

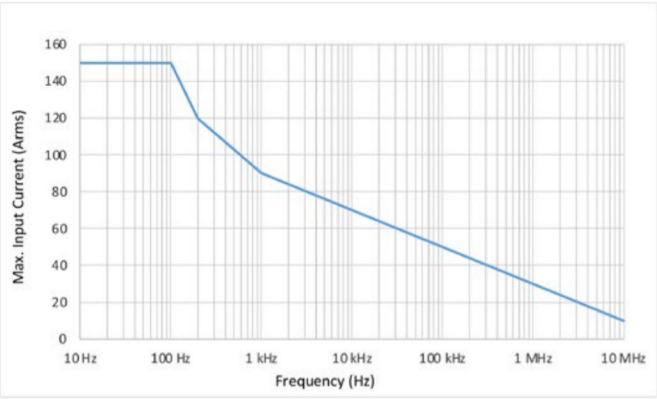


Maximum Input Current vs. Frequency*

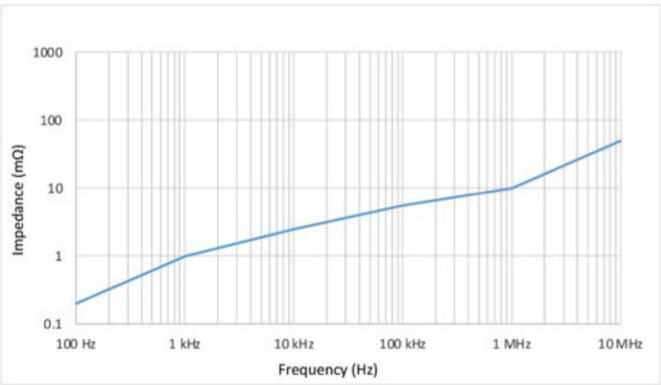


Insertion Impedance vs. Frequency
(typical)

CP150B

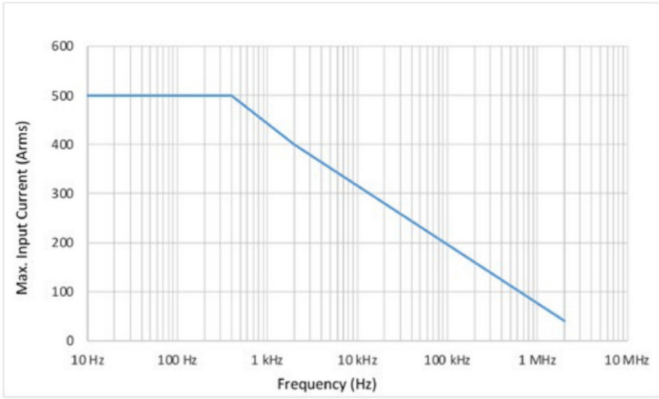


Maximum Input Current vs. Frequency*

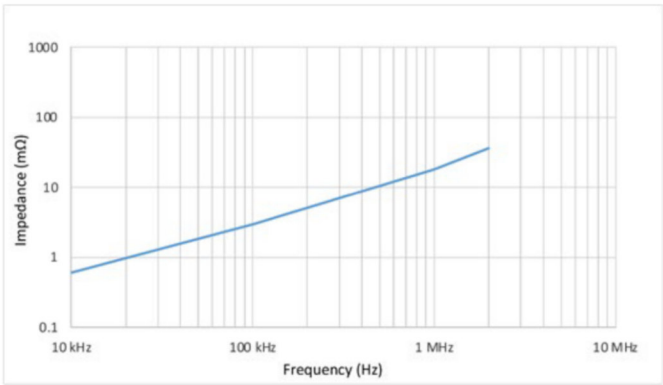


Insertion Impedance vs. Frequency (typical)

CP500

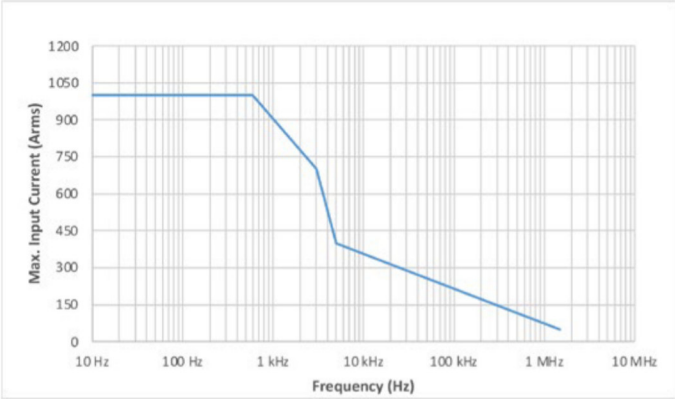


Maximum Input Current vs. Frequency

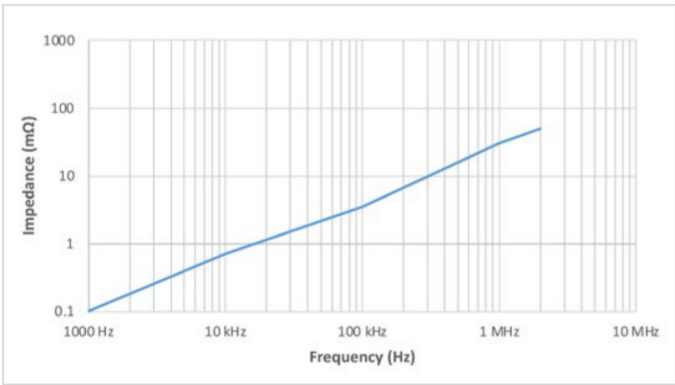


Insertion Impedance vs. Frequency (typical)

CP1000



Maximum Input Current vs. Frequency



Insertion Impedance vs. Frequency
(typical)

SPECIFICATIONS & ORDERING INFORMATION

Specifications

	CP030B (CP030B-3M)	CP031	CP031A	CP150B (CP150-6M)	CP500	CP1000
Electrical Characteristics						
Max. Continuous Input Current		30 A _{rms}		150 A _{rms}	500 A _{rms}	1000 A _{rms}
Bandwidth	50 MHz (10 MHz)	100 MHz		10 MHz (5 MHz)	2 MHz	1.5 MHz
Rise Time (typical)	≤ 7 ns (<35 ns)	≤ 3.5 ns		≤ 35 ns (≤ 70 ns)	≤ 175 ns	≤ 235 ns
Max. Peak Current		50 A _{peak} (non-continuous)		300 A _{peak} (non-continuous); 500 A _{peak} ≤ 30 μs	700 A _{peak} (non-continuous)	1400 A _{peak} (non-continuous)
Output Voltage	0.1 V/A & 1 V/A	0.1 V/A	0.1 V/A & 1 V/A	0.01 V/A & 0.1 V/A		0.005 V/A & 0.05 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	1 mA/div	10 mA/div	1 mA/div	100 mA/div		100 mA/div
Low-Frequency Accuracy				1%		
AC Noise at 20 MHz BWL	≤ 150 μA	≤ 2.5 mA	≤ 150 μA	≤ 1.8 mA	≤ 8.0 mA	≤ 10 mA
Coupling				AC, DC, GND		

General Characteristics

Cable Length	1.5 m (3 m)	1.5 m		2 m (6 m)	6 m	
Weight	236 g (290 g)	240 g	260 g	490 g (600 g)	630 g	1.2 kg
Max. Conductor Size (Diameter)		5 mm		20 mm		33 mm
Interface				ProBus, 1 MΩ only		
Usage Environment				Indoor		
Operating Temperature				0° C to 40° C		
Max. Relative Humidity				80%		
Max. Altitude				2000 m		
Measurement Category				No rated measurement category		

Not intended for measurements on circuits directly connected to Mains supply or within Measurement Categories II, III, or IV. For oscilloscope firmware version compatibility, please refer to Current Probe User Manual.

Ordering Information

Product Description

Product Code

30 A; 50 MHz High Sensitivity Current Probe – AC/DC; 30 A _{rms} ; 50 A Peak Pulse, 1.5 meter cable	CP030B
30A; 10 MHz Current Probe - AC/DC, 30 Arms; 50 A Peak Pulse, 3 meter cable	CP030B-3M
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} ; 300 A Peak Pulse, 2 meter cable	CP150B
150 A; 5 MHz Current Probe – AC/DC; 150 Arms; 500 A Peak Pulse, 6 meter cable	CP150B-6M
500 A; 2 MHz Current Probe – AC/DC; 500 A _{rms} ; 700 A Peak Pulse, 6 meter cable	CP500
1000 A; 1.5 MHz Current Probe - AC/DC; 1000 Arms; 1400 A Peak Pulse, 6 meter cable	CP1000
Deskow Calibration Source	DCS025

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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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1-800-5-LeCroy
teledynelecroy.com

Local sales offices are located throughout the world.
Visit our website to find the most convenient location.

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