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## 3 Operation

### PRECAUTIONS

#### **Note**

*The sensor head is a precision assembly consisting of a molded component with a ferrite core and a Hall effect element. It may be damaged if subjected to sudden changes in temperature, mechanical strain or shock.*

*The mating surfaces of the sensor are precision ground and should be treated with care. If there is any type of dust or dirt on the mating surfaces of the sensor head, measurements may be impaired.*

#### **Note**

*Accurate measurements may not be possible in locations subject to strong magnetic fields such as transformers and high-current conductors, or in locations subject to strong external electric fields.*

### CONNECTING THE PROBE TO THE TEST INSTRUMENT

The CP150 probe has been designed for use with the Waverunner™, LC and WavePro™ series LeCroy oscilloscopes equipped with the ProBus interface. Attach the probe output connector to the oscilloscope input connector. The oscilloscope will recognize the probe, set the oscilloscope input termination to 1 M  $\Omega$  and activate the probe control functions in the user interface.

### CONNECTING THE PROBE TO THE TEST CIRCUIT

The CP150 has been designed with a movable split core eliminating the need to break the conductor for the core to slip around the conductor.

To Connect:

1. Pull the slider, so that the clamp opens.
2. Align the sensor so that the current direction indicator corresponds to the direction of current flow in the conductor.

## CP150 Current Probe

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3. Press the probe jaws closed around the conductor until jaws click shut.
4. Close the slider on the sensor head until the "UNLOCK" indication disappears and the "LOCK" indication appears.

### **Note**

*Never use this probe on bare conductors. The core and shield are grounded and any voltage applied to the conductor may cause damage the probe or the circuit under test.*

## OPERATION WITH A LECROY OSCILLOSCOPE

Control through the oscilloscope user interface can be found in the **Coupling** menu of the channel to which the probe is connected.

Turning the **VOLTS/DIV** knob will control the oscilloscope's scale factor to give full dynamic range from 200 mA/div to 100 A/div.

Figure 3-1A shows the oscilloscope user interface menu for a CP150 probe. The menu allows for the selection of the probe's input coupling (**DC** or **Grounded**) in the **COUPLING** menu and the **AUTO ZERO** and **DEGAUSS PROBE** functions.

## AUTO ZERO

The CP150 incorporates an Auto Zero function to remove the DC offset from the current probe. Auto Zero must be invoked by the user.

After several minutes of warm-up, or when the probe is exposed to a large shift in ambient temperature, some DC offset drift may occur. To initiate an Auto Zero cycle press the button next to **AUTO ZERO** menu in the oscilloscope's user interface.

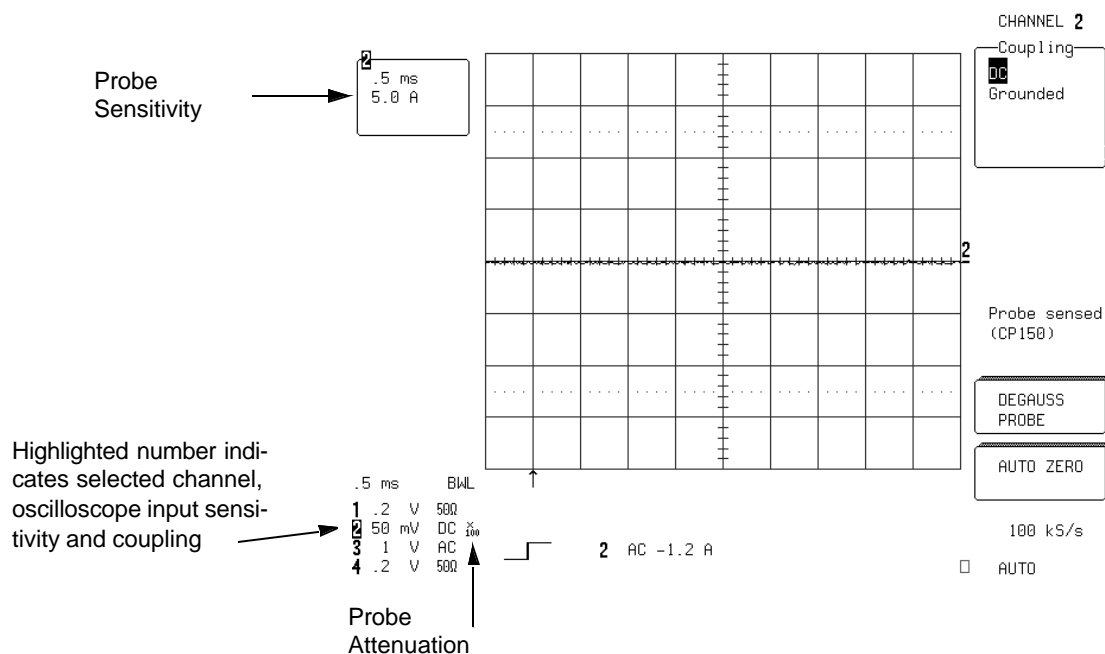


Figure 3-1. Oscilloscope display with menu

## DEGAUSS PROBE

If the probe has been magnetized by external magnetic field or by excessive input, the core can be demagnetized by pressing the button next to **DEGAUSS PROBE** menu.

The demagnetizing process takes about 1 second and should always be performed before taking a measurement.

Without clamping the probe around a conductor, slide the opening lever to close and lock the probe.

An Auto Zero is automatically performed as part of the degauss cycle.

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