CC-650 AC/DC CURRENT CLAMP

OPERATOR'S MANUAL

INTRODUCTION

When measuring the AC/DC Current with the Current Clamp, a multimeter or scope can directly measure the current up to 650 A , with a frequency up to 400Hz. In this method, there is no need to break a circuit or to affect the isolation to measure the current.The Current Clamp is not only available for the detection or monitor of the possibly existing creepage, but for the measurement with little gap using its extended jaws. However, it is necessary to turn the zero adjustment knobs on the clamp until the multimeter or scope reads zero.

APPLICATION PROCEDURE

1. When connected with any multi-meter whose input impedance is 10k ohms minimum,insert the black banana plug into the COM jack and the red banana plug into the V-Ω jack. When connected with a scope,connect the BNC connector of the clamp to a scope BNC connector.

2. Set the power switch form "Off" to "ON" position, that is to set the multimeter range to 1mV/100mA or 1mV/1A. Then, the green LED will be lighting, indicating that the clamp is switched on..

3. when the current is not greater than 20 ampere ,please set the current clamp range to 1mV/100mA and set the multi-meter range to 200mV AC or 200 mV DC, which depends on the type of the current.

4. Before measuring the DC current, it is needed to turn the zero adjustment knobs on the clamp until the multimeter reads zero. That means pushing down the zero adjustment knobs on the clamp until the multimeter reads zero. Then let go hold of the zero adjustment knobs.When using a scope,set DC coupled mode to measure DC current.

5. Clamp the jaws around the current-carrying conductor and operate as

above. When the current clamp range is set to 1mV/100mA, the actual current value is one hundred times of the measured data whose unit is mA. For example, the measured data is 10 mV and The actual current of the current-carrying conductor is 10×100=1000mA. When the current clamp range is set to 1mV/1A, the actual current is one thousand times of the measured current data whose unit is mA. For example, the measured current is 5 mV and The actual current of the current-carrying conductor is 5×1000=5000mA.

APPLICATION NOTES

1. In the case of DC current, the output is positive when the current flows from the upside to the underside of the clamp. The red banana plug is positive.

2. In the case of DC current measurement, the current clamp can not possibly zero properly, due to the hysteresis effect. To eliminate this, open and close the jaws several times and then zero again.

APPLICATION SAFETY

1. The voltage of the conductor measured with the current clamp should be little than 300V DC or 240V rms AC,

2. We are forbidden to measure the conductor whose insulation has break down or wear down, in order to avoid doing harm to us.

SPECIFICATIONS GENERAL

Captured Conductor diameter Size: 30mm maximum
Low Battery Indicator: Red LED lighting

Operating Temperature: 0℃ to 50℃, 70% R.H.

Storage Temperature: -20℃~+70℃, 80% R.H.

Battery type: 9V DC, NEDA 1604, 6F22, 006P

Battery Life: 100 hours typical with carbon-zinc

Weight: 250 gram typical

Dimensions: 195 mm (H) x 70 mm (W) x 33 mm (D)

Output: wire with a straight banana plug or BNC connector

ELECTRICAL (At 23±5℃, 70% R.H. maximum)

Efficient Measure Range:

1mV/100mA: 100mA to 20A, multimeter range is set to DC or rms AC 200mV

1mV/1A:　　1A to 200 A, multimeter range is set to DC or rms AC 200mV
　　　　　　200A to 650 A, multimeter range is set to DC or rms AC 2V

Precision:

System Accuracy: The Precision of the current clamp add the Precision of the digital multimeter or scope.

For example, if the conductor carries 1A current, the current clamp range will be set to 1mV/100mA and the output is 10mV. Assuming that the Precision is 1.5%, the output is10.15mV maximum and 9.85mV minimum.

If the digital multimeter connected with current clamp is set to 200mV and the Precision is 0.5%,,the readings is10.20mV maximum and 9.8mV minimum. (10.15mV×(1+0.5%)=10.20mV，9.85mV×(1-0.5%)=9.80mV)

Accuracy:

　　DC current:

　　　　0 to 650 A, ±(3% + 2 A of numerical reading)

　　AC current (50 Hz arrive at 400 Hz):