



MODEL 5592

80A Current Probe

AC/DC mA CURRENT CLAMP OPERATOR'S MANUAL



INTRODUCTION

The 5592 AC/DC mA Current Clamp is a transducer which will allow your multimeter or scope to measure low electrical or/and electronic current up to 80 amperes AC/DC, with a frequency response up to 20kHz. When measuring current with this clamp, there is no need to break a circuit, which can be very useful with automotive battery drains.

The extended measurement jaws permits measuring in tight spaces.. When measuring DC current, a simple operating push button is designed for zero adjustment. The clamp adapter is applicable to leakages detection or monitoring.

APPLICATION PROCEDURES

1. Insert the black banana plug into the COM jack and the red banana plug into the V- Ω jack of any multimeter with a minimum input impedance of 10k ohms.
2. Set the power switch from "OFF" to the desired range, 20A (output: 100mV per Amp) or 80A (10mV per Amp) position. The green LED will light to indicate that the clamp is switched on.
3. For current measurement below 20A, set the unit to 20A range and set the multimeter to 200mV or 2V AC range for AC current measurements, or 200mV or 2V DC range for DC current measurements. If the measured current exceeds 20A, set the unit to 80A range.
4. When performing DC current measurements, always push the zero adjustment button on the clamp until the multimeter reads zero.
5. Clamp the jaws around the current-carrying conductor wire and interpret the reading according to Step 3 above.
6. When 20A range is selected, the measured current value is in mA. For example, if the multimeter reads 100mV, the measured current is 1A - $[100\text{mV}/(100\text{mV/A})=1\text{A}]$.

When 80A range is selected, the measured current value in A. For example, if the multimeter reads 50mV, the measured current is 5A - $[50\text{mV}/(10\text{mV/A})=5\text{A}]$.

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 end is positive.
2. In the case of DC current measurement, a hysteresis effect can occur so that it is impossible to zero the clamp properly. To eliminate this effect, open and close the jaws several times and push zero adjustment button.

OPERATOR SAFETY

1. Do not clamp around conductors with voltages equal to or exceeding 300V DC or 240V rms AC.
2. To avoid physical injury, measurements on bare conductors or conductors with cracked or frayed insulator are forbidden.

SPECIFICATIONS

GENERAL

Captured Conductor Size: opening .5 inch
Low Battery Indicator: red LED lighting
Operating Temperature: 0° C to 50° C, 70% R.H.
Storage Temperature: -20° C to +70° C, 80% R.H.
Battery Type: 9V DC NEDA 1604, 6F22, 006P
Battery Life: 80 hours typical with alkaline
Weight: 240g typical
Dimensions: 190mm(H)×70mm(W) ×38mm(D)
Output: banana plug

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

Effective Measurement Range

20A (output: 100mV/A=1mV/10mA): <2A use DC or rms AC for 200mV range of the multimeter, >2A use DC or rms AC for 2V range of the multimeter.
80A (10mV/A): DC or rms AC for 200mV range of the multimeter.

Accuracy

Current Clamp Accuracy:
DCA range: 10mA~20A
(output: 100mV/A = 1mV/10mA)
±(3%±5mA)

DC range 100mA~ 80A
(output: 1mV/A)
±(3%±0.3A) 100mA ~ 40A
±(4%±0.3A) 40A ~80A

ACA range: 10mA~20A
(output: 100mV/A = 1mV/10mA)
±(3%±5mA) 10mA ~ 20A (40Hz~2kHz)

±(4%±30mA) 10mA ~20A (2kHz~10kHz)
±(6%±30mA) 10mA ~ 20A (10kHz~20kHz)
±(8%±30mA) 10A ~20A (40Hz~20kHz)

AC range 100mA~ 80A
(output: 1mV/A)
±(2%±30mA) 100mA ~ 80A (40Hz~1kHz)
±(4%±30mA) 100mA ~80A (1kHz~2kHz)
±(6%±30mA) 100mA ~ 80A (3kHz~5kHz)
±(8%±0.3A) 40A ~80A (40Hz~5kHz)
Load Resistance: 10k Ω typical

SAFETY INFORMATION

The instrument complies with class II, overvoltage CAT II - 600V of the EN 61010-1, and EN 61010-2-032 standards. Pollution degree 2 in accordance with IEC 664 indoor use. If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.

Warranty Information

This product is warranted to be free from defects for one year. If this product fails during the first 12 months due to faulty materials or workmanship, it will be replaced free of charge, at the discretion of the manufacturer.
NOTE: This one year warranty does not cover dead batteries and blown fuses.

For warranty and service coverage, please return this product to your dealer for processing and evaluation. OR, return it directly to:

Electronic Specialties, Inc.
139 Elizabeth Ln.
Genoa City, WI 53128
262-279-1400
WWW.ESITEST.COM

Defective units being returned to your dealer or to the factory should include proof of purchase date.

Any testers that do not function due to misuse or abuse will be subject to "out of warranty service charges."