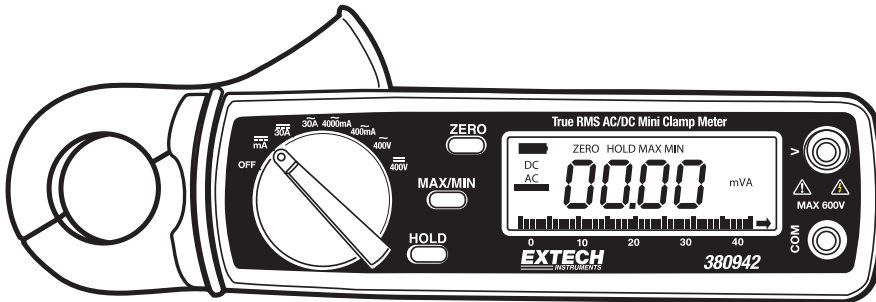


**Model 380942**  
**True RMS AC/DC 30A Mini Clamp-on Meter**

- True RMS AC Current and Voltage
- Measure low current with high resolution to 0.1mA AC and 1mA DC
- Auto Power Off
- One touch DCA zero adjust
- MIN/MAX and Data Hold functions
- 0.9" (23mm) Jaw diameter

**Introduction**

Congratulations on your purchase of the Extech Model 380942 DC/AC Clamp Meter. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

## Specifications

### General Specifications

|                      |   |
|----------------------|---|
| Display              | 3-3/4 digit (4000 count) LCD with 40 segment bargraph   |
| Functions            | ACA, DCA, ACV, DCV                                      |
| Polarity             | Minus sign ( - ) indicates negative polarity            |
| Current sensor       | Hall effect sensor type                                 |
| Overload indication  | Left blinking digit                                     |
| DCA zero adjust      | One touch zero key                                      |
| Display rate         | 2 readings/second (20 readings/second for bargraph)     |
| Battery              | Two 1.5V AA batteries                                   |
| Operating conditions | 4°F to 122°F (-10°C to 50°C); < 85% Relative Humidity   |
| Storage conditions   | - 4°F to 140°F (-20°C to 60°C); < 75% Relative Humidity |
| Altitude             | Operate at less than 2000 meters (for indoor use only)  |
| Power consumption    | Approximately 10mA DC                                   |
| Weight               | 6.2 oz. (190g) including battery                        |
| Dimensions           | 7.2 x 2.5 x 1.4" (183 x 63.6 x 35.6mm) (H x W x D)      |
| Jaw opening          | 0.9" (23mm)   |
| Standards            | IEC 1010 Category III 300V, Category II 600V            |

### Range Specifications

| Function                        | Range  | Resolution | Accuracy       |                    | Overload protect |
|---------------------------------|--------|------------|----------------|--------------------|------------------|
| <b>DC Current</b>               | 4000mA | 1mA        | ± (2.0% + 3d)  |                    | 40A DC           |
|                                 | 30A    | 10mA       |                |                    | 100A DC          |
| <b>AC Current</b><br>(True RMS) |        |            | <b>50/60Hz</b> | <b>40 to 100Hz</b> |                  |
|                                 | 400mA  | 0.1mA      | ±(1.5% + 5d)   | ±(2.0% + 5d)       | 40A AC           |
|                                 |        |            | <b>50/60Hz</b> | <b>40 to 1kHz</b>  |                  |
|                                 | 4000mA | 1mA        | ±(2.5% + 5d)   | ±(3.0% + 5d)       | 40A AC           |
|                                 | 30A    | 10mA       | ±(2.0% + 5d)   | ±(2.5% + 5d)       | 100A AC          |
| <b>DC Voltage</b>               | 400V   | 0.1V       | ± (1.0% + 2d)  |                    | 1000V DC         |
| <b>AC Voltage</b><br>(True RMS) |        |            | <b>50/60Hz</b> | <b>40 to 1kHz</b>  |                  |
|                                 | 400V   | 0.1V       | ±(1.5% + 4d)   | ±(2.0% + 5d)       | 800V AC          |

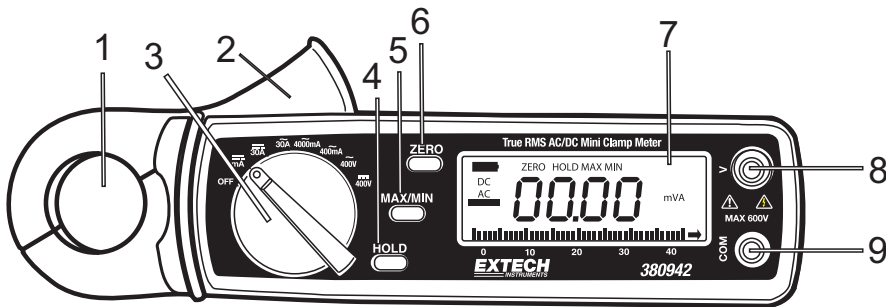
### Specification Notes

- AC Voltage and Current Crest Factor: < 3
- AC / DC Voltage Input Impedance: 10MΩ

## Meter Description

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1. Current sense jaw
2. Measurement Trigger
3. Function switch
4. Data HOLD key
5. MAX / MIN key
6. One-touch DCA ZERO key
7. LCD Display
8. Positive input terminal for Voltage
9. COM terminal



## Safety Symbols and Information

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Caution ! Refer to the explanation in this Manual



Caution ! Risk of electric shock



Earth (Ground)

This meter has been designed to be safe in use, but the operator must use caution in its operation. The rules listed below should be carefully followed for safe operation.

1. **NEVER** apply voltage or current to the meter that exceeds the specified maximum:
2. **USE EXTREME CAUTION** when working with high voltages.
3. **DO NOT** measure voltage if the voltage on the "COM" input jack exceeds 600V above earth ground.
4. **ALWAYS** turn off the power and disconnect the test leads before opening the back to replace the fuse or batteries.
5. **NEVER** operate the meter unless the back cover and the battery/fuse door are in place and fastened securely.

## Operation

### AC Current Measurements (True RMS)

**WARNING:** To avoid electric shock, disconnect the test leads from the meter before making current measurements.

- 1) Set the Function switch to the 400mA, 4000mA, or 30A AC range.
- 2) Press the jaw trigger and clamp around, fully enclosing a single conductor. Do not allow a gap between the two halves of the jaw. Refer to the diagram at right for the correct way to enclose a single conductor.
- 3) Read the AC Current value on the LCD's digital or bargraph display.



### DC Current Measurements

**WARNING:** To avoid electric shock, disconnect the test leads from the meter before making current measurements.

- 1) Set the Function switch to the mA or 30A DC range.
- 2) Press the DCA zero key to null the meter display.
- 3) Press the Trigger to open the current sense Jaw.
- 4) Fully enclose the conductor to be measured. Do not allow a gap between the two halves of the jaw.
- 5) Read the DC Current value on the LCD's digital or bargraph display.

### AC Voltage Measurements (True RMS)

**WARNING:** To avoid electric shock or damage to the meter, do not make any voltage measurements that exceed the maximum specified limits.

- 1) Set the Function switch to the 400V AC position.
- 2) Insert the test leads to the meter as follows: Red lead to "V" terminal; Black lead to the COM input.
- 3) Connect the test leads to the circuit or device under test.
- 4) Read the AC Voltage value on the LCD's digital or bargraph display.

### DC Voltage Measurements

**WARNING:** To avoid electric shock or damage to the meter, do not make any voltage measurements that exceed the maximum specified limits.

- 1) Set the Function switch to the 400V DC position.
- 2) Insert the test leads to the meter as follows: Red lead to "V" terminal; Black lead to the COM input.
- 3) Connect the test leads to the circuit or device under test.
- 4) Read the DC Voltage value on the LCD's digital or bargraph display.

## ***Advanced Features***

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### **Relative Measurements**

- 1) Press the ZERO key. The displayed reading will zero and the word ZERO will appear on the upper portion of the LCD.
- 2) All subsequent measurements will now be displayed with respect to the zeroed reading. For example, if a 20A reading is zeroed and a 30A reading is subsequently measured, the LCD will display 10A.
- 3) To return to normal operation, press and hold the ZERO key for 2 seconds until the word ZERO switches off.
- 4) Note that Relative mode is not available if MIN/MAX mode is enabled.

### **Data Hold**

To freeze the current reading on the LCD, press the Data Hold key. The word HOLD will appear on the LCD while the meter is in the Data Hold mode. To release the Data Hold function and return the meter to normal operation, press the Data Hold key again. The word HOLD will switch off.

### **MIN/MAX Readings**

Pressing the MIN/MAX key allows the meter to display the highest and then the lowest readings encountered. Press the MIN/MAX key once to view the minimum reading, press it again to view the maximum reading. Note that the meter will only change its displayed reading when a measurement is taken higher than the previous MAX or lower than the previous MIN readings. The HOLD display icon (along with the MIN or MAX icon) will appear on the LCD in MIN/MAX mode. Pressing the MIN/MAX key a 3<sup>rd</sup> time returns the meter to normal operation.

### **Auto Power Off**

To extend battery life, the meter will auto power off after 30 minutes of operation. To resume operation, either turn the meter OFF and then ON again, or press the HOLD button. To disable the auto power off function, press down the "HOLD" key while turning the meter on.

## ***Maintenance***

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### **Battery Replacement**

- 1) When the low battery symbol appears on the LCD the batteries must be replaced.
- 2) Turn the meter OFF and remove the rear battery compartment Phillips screw.
- 3) Lift off the battery compartment cover and replace the two 1.5V AA batteries.
- 4) Replace the compartment cover and secure the screw.

### **Cleaning**

**Caution:** Use only a dry cloth to clean the plastic case.

## ***Calibration and Repair Services***

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**Extech offers repair and calibration services** for the products we sell. Extech also provides NIST certification for most products. Call the Customer Service Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.

## ***Warranty***

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**EXTECH INSTRUMENTS CORPORATION** warrants this instrument to be free of defects in parts and workmanship for **one year** from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website [www.extech.com](http://www.extech.com) for contact information. A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.



#### **Support line (781) 890-7440**

Technical support: Extension 200; E-mail: [support@extech.com](mailto:support@extech.com)

Repair & Returns: Extension 210; E-mail: [repair@extech.com](mailto:repair@extech.com)

#### **Product specifications subject to change without notice**

For the latest version of this User Guide, Software updates, and other Up-to-the-minute product information, visit our website: [www.extech.com](http://www.extech.com)  
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