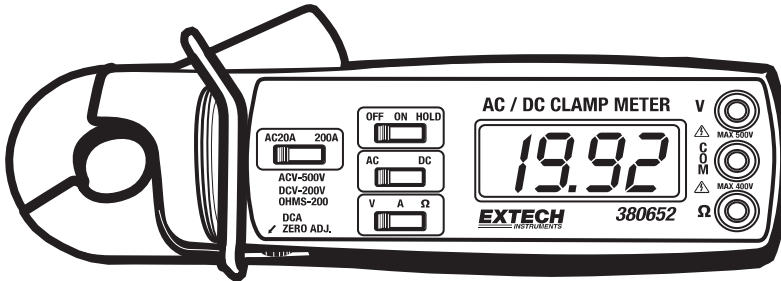


# User's Guide



## Mini Clamp-On DMM

### Model 380652



### *Introduction*

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Congratulations on your purchase of the Extech Mini Clamp-On DMM. This meter measures and displays Voltage, Current, and Resistance. The DCA zero adjustment permits relative and offset DC current measurements. Careful use of this meter will provide years of reliable service.

## Warranty

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.

## Specifications

### General Specifications

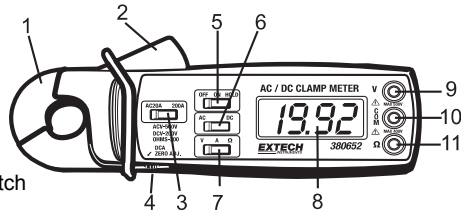
|                     |  |
|---------------------|--|
| Display             | 3 ½ digit (±1999 display counts) LCD   |
| Measurements        | AC/DC Voltage, AC/DC Current, and Resistance                                       |
| Polarity            | Automatic Switching; '-' indicates negative polarity                               |
| Current Sensor      | Hall effect sensor   |
| Zero Adjustment     | Adjustment dial for DC Current zero  |
| Over-input          | Display indicates '1' or '-1'  |
| Sampling Time       | Approximately 0.4 seconds  |
| Time Base           | Quartz crystal (32.768 KHz)  |
| Battery             | 9V battery   |
| Power Consumption   | Approximately 6mADC (Voltage & Resistance)<br>Approximately 12mADC (Current range) |
| Operating Temp      | 32 to 122°F (0 to 50°C)  |
| Operating Humidity  | Less than 80% Relative Humidity  |
| Weight              | 0.5 lbs. (225g) - including battery  |
| Dimension           | 7.1 x 1.9 x 1.4' (180 x 47 x 35mm)   |
| Max. Conductor size | 19 φ [0.75' (19mm) diameter]   |
| Accessories         | Instruction manual, test leads, and carrying case                                  |

### Range Specifications

| Function   | Range  | Resolution   | Accuracy         | Overload Protection     |
|--|--|--------------|------------------|-------------------------|
| DCV  | 200V   | 0.1V         | ± (0.8%rdg + 1d) | AC 500V rms             |
| ACV (50/60 Hz)   | 500V   | 1V           | ± (1%rdg + 2d)   | DC ±500V                |
| Resistance   | 200Ω   | 0.1Ω         | ± (1.2%rdg + 1d) | AC/DC 400V              |
| AC Current (50/60 Hz)                                  | 20A/<br>200A   | 0.01A / 0.1A | ± (1.2%FS + 5d)  | 300 ACA<br>(for 1 min.) |
| DC Current   | 200A   | 0.1A         | ± (1.2%FS + 5d)  |                         |
| DATA HOLD  | Freezes displayed reading. Available on all functions. |              |                  |                         |
| Note: The input impedance for ACV & DCV ranges is 10MΩ |  |              |                  |                         |

## Meter Description

1. Measuring Jaw
2. Jaw Trigger
3. 20A / 200A AC Select Switch
4. DCA Zero Adjust Dial
5. Power/Data Hold Select Switch
6. AC / DC Select Switch
7. Volts / Amps / Resistance Select Switch
8. LCD display
9. Input Terminal for Voltage
10. COMMON input terminal
11. Resistance Input Terminal



## Safety

1. Ensure that the DC 9V battery is connected correctly to its snap terminal and placed in the battery compartment.
2. Slide the 'Off/On/Hold' switch to the ON position, (except when using the DATA HOLD function).
3. Place the RED test lead into the proper input terminal before making measurements.
4. Remove the test leads from the circuit under test when changing the measurement range.
5. Do not exceed the maximum rated input voltage.
6. Always put the 'On/Off/Hold' switch to the OFF position when the instrument is not in use.
7. Remove the battery when the instrument is to be stored.
8. International Safety Symbols:

|  |                                  |  |   |
|--|----------------------------------|--|---|
|  | <b>DC Voltage<br/>DC Current</b> |  | <b>Refer to explanation in<br/>owners manual</b>      |
|  | <b>AC Voltage<br/>AC Current</b> |  | <b>Dangerous voltage risk<br/>of electrical shock</b> |
|  | <b>Ground</b>                    |  | <b>Double Insulation</b>                              |

# Operation

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## Voltage Measurements

1. Slide the **Off/On/Hold** switch to the **ON** position.
2. Slide the **V/A/Ω** switch to the **V** position.
3. Connect the red test lead to the **V** input terminal and the black test lead to the **COM** input terminal.
4. If the voltage to be measured is AC, slide the **AC/DC** switch to the **AC** position.
5. If the voltage to be measured is DC, slide the **AC/DC** switch to the **DC** position.
6. Connect test lead probes to the circuit under test.
7. Read voltage values on the LCD.

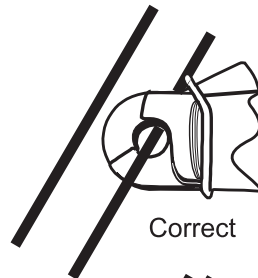
## Resistance Measurements

1. Slide the **Off/On/Hold** switch to the **ON** position.
2. Slide the **V/A/Ω** switch to the **Ω** position.
3. Connect the red test lead to the **Ω** input terminal and the black test lead to the **COM** input terminal.
4. If the resistance being measured is in a circuit, remove all power to that circuit and discharge all capacitors.
5. Connect test lead probes to the circuit (resistance) under test.
6. Read the resistance values on the LCD.

Note: There are small stray resistances (approx. 0.8 ohms) in the test leads. Before taking measurements short the test leads and note the meter reading. After taking a measurement, deduct the stray resistance value (noted earlier) from the displayed reading.

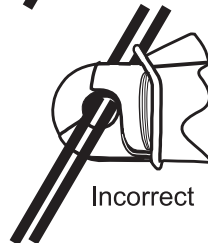
## AC Current Measurements

1. Slide the **Off/On/Hold** switch to the **ON** position.
2. Slide the **V/A/Ω** switch to the **A** position.
3. Slide the **AC/DC** switch to the **AC** position.
4. Determine the highest anticipated current (200A, 20A) and set the **20A/200A** switch to the appropriate position.
5. Press the trigger to open the current jaw. Clamp around the conductor under test.
6. Read ACA values on the digital display.



## DC Current Measurements

1. Slide the **Off/On/Hold** switch to the **ON** position.
2. Slide the **V/A/Ω** switch to the **A** position.
3. Slide the **AC/DC** switch to the **DC** position.
4. Slide the **20A/200A** switch to the **200A** position.
5. Adjust the DCA Zero knob for a zero reading.
6. Press the trigger to open the current jaw. Clamp around the conductor under test.
7. Read DCA values on the digital display.



## Measurement Considerations

The core of the current jaw may retain magnetism after use. If this happens the display may not reach zero when adjusting the DCA zero dial. To correct this, either:

- a. Change the direction of the measured DC current, or
- b. Forcefully snap the jaws open and close several times.

## Data Hold

While taking measurements slide the **Off/On/hold** switch to the **Hold** position to freeze the displayed reading. To return to normal operation, slide the switch to the **ON** position.

## Maintenance

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### Battery Replacement

When the battery power drops below the acceptable operating voltage (approx. 7V), the **LO BAT** icon appears on the LCD display. This indicates that the battery needs to be replaced soon. However, in-spec measurements can still be made for several hours after the low battery indicator appears. To replace the battery:

1. Open the battery compartment with a screwdriver or small coin.
2. Replace the 9V battery and secure the compartment cover.

### Cleaning

Use only a dry cloth to clean the plastic case. Do not use solvents, abrasives, or harsh detergents.

## 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.



### 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's 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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