

**Model 380947**  
**400A DC/AC True RMS Clamp Meter**

- Measures to 400A DC/AC plus Frequency
- Large 3 3/4 digit LCD display with 40 segment bargraph
- True RMS AC measurements for sine, symmetrical square, and triangle waveforms
- One-touch DCA zero adjust
- MIN/MAX, Data Hold, and Relative functions
- 0.9" (23mm) Jaw diameter

**INTRODUCTION**

Congratulations on your purchase of Extech's DC/AC Clamp Meter. This professional meter, with proper care, will provide years of safe reliable service.

## SPECIFICATIONS

### General Specifications

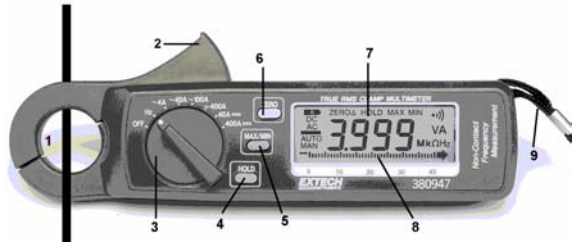
Display	3-3/4 Digit LCD with 40 segment bargraph
Functions	Current (ACA, DCA) and Frequency (Hz)
Polarity	"-" indicates negative polarity (positive polarity assumed)
Current sensor	Hall effect
Overload	Display indicates "1____" or "-1____"
DCA zero adjust	One-touch zero key (also used as a Relative function)
Display rate	2 readings/second (20 readings/second for bargraph)
Battery	Two 1.5V AA batteries
Operating temperature	4 <sup>0</sup> F to 122 <sup>0</sup> F (-10 <sup>0</sup> C to 50 <sup>0</sup> C)
Operating Humidity	< 85% RH
Power consumption	10mA DC approx.
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

DC Current	Resolution	Accuracy (of rdg + digits)		Overload Protect
40A	10mA	$\pm(1.0\% + 2d)$		400A DC
400A (0 to 150A)	100mA	$\pm(1.0\% + 2d)$		400A DC
400A (150 to 200A)	100mA	$\pm(2.2\% + 2d)$		400A DC
400A (200 to 400A)	100mA	$\pm(4.0\% + 2d)$		400A DC
AC Current	Resolution	50/60Hz	40Hz - 1kHz	Overload Protect
4A (0 to 500mA)	1mA	$\pm(1.5\% + 7d)$	$\pm(2.0\% + 7d)$	400A AC
4A (500mA to 4A)	1mA	$\pm(1.5\% + 3d)$	$\pm(2.0\% + 4d)$	400A AC
40A	10mA	$\pm(1.5\% + 3d)$	$\pm(2.0\% + 4d)$	400A AC
100A (0 to 100A)	100mA	$\pm(1.5\% + 3d)$	$\pm(2.0\% + 4d)$	500A AC
400A (100 to 200A)	100mA	$\pm(2.2\% + 3d)$	$\pm(2.5\% + 4d)$	500A AC
400A (200 to 400A)	100mA	$\pm(4.0\% + 3d)$	$\pm(5.0\% + 4d)$	500A AC
Frequency (Hz)	Resolution	Accuracy	Sensitivity	Overload Protect
9.99Hz to 99.99KHz	0.01Hz -10Hz	$\pm(0.5\% + 2d)$	0.1A	500A AC

## FRONT PANEL DESCRIPTION

1. Current sense jaw (shown with conductor inside jaw)
2. Measurement Trigger
3. Function switch
4. Data Hold key
5. Max Min key
6. DCA zero key
7. LCD Display
8. 40 segment bargraph
9. Handstrap



## INTERNATIONAL SAFETY SYMBOLS

	DC Current		Refer to explanation in User Manual
	AC Current		Potentially hazardous voltages may exist
	Ground		Double insulation

## TAKING MEASUREMENTS

### AC Current Measurements

1. Set the Function switch to the 4, 40, 100, or 400A AC range.
2. Press the Trigger to open the clamp jaw.
3. Clamp onto a single conductor (fully enclosing it). Do not allow a gap between the two halves of the jaw.
4. Read the ACA value on the LCD.

### DC Current Measurements

1. Set the Function switch to the 40 or 400A 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 a single conductor to be measured. Do not allow a gap between the two halves of the jaw.
5. Read the DCA value on the LCD.

### Frequency Measurements

1. Ensure that at least 0.1A AC is detectable before measuring Frequency.
2. Set the Function switch to the Hz position.
3. Press the Trigger to open the jaw and fully enclose one conductor.
4. Read the Frequency measurement on the LCD in Hz.

## SPECIAL FEATURES

### Relative Measurements

1. To Zero the displayed measurement, press the Zero key.
2. All subsequent measurements are 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.
4. Note that Relative mode is not available if MIN/MAX mode is enabled.

## Data Hold

To freeze the displayed reading on the LCD, press the Data Hold key (the HOLD icon will appear on the display). To release the Data Hold function and return the meter to normal operation, press the Data Hold key again (the HOLD icon will extinguish).

## MIN/MAX Readings

Press the MIN/MAX key to display ONLY the highest (MAX) and the lowest (MIN) readings. Press the MIN/MAX key once to view the minimum reading, press it again to view the maximum reading. Note that the displayed readings will only change 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.

## MAINTENANCE

### Battery Replacement

Replace the batteries when the low battery symbol appears on the LCD.

1. Turn the meter off and remove the rear battery compartment screw.
2. Lift off the battery compartment cover and replace the two 1.5V AA cells.
3. Replace compartment cover and secure the screw.

### Cleaning

**Caution:** Use only a dry cloth to clean the plastic case. Do not use solvents or abrasives.

## CALIBRATION / REPAIR SERVICES

Extech offers complete repair and calibration services for all of the products we sell. For periodic calibration, NIST certification or repair of any Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to insure calibration integrity.



### Support Hotline (781) 890-7440

Tech support: Ext. 200; Email: [support@extech.com](mailto:support@extech.com)

Repair>Returns: Ext. 210; Email: [repair@extech.com](mailto:repair@extech.com)

Website: [www.extech.com](http://www.extech.com)

## 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 on 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 at [www.extech.com](http://www.extech.com) (click on 'Contact Extech' and go to 'Service Department' to request an RA number). 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.

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