

Model 380940

DC / AC True RMS Watt Clamp DMM



- 10W or 100mA resolution
- Large 3 3/4 digit LCD display with 40 segment bargraph
- Frequency Measurements
- One touch DCA zero adjust
- MIN/MAX and Data Hold functions
- 0.9" (23mm) Jaw diameter

1. INTRODUCTION

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

2. SPECIFICATIONS

2.1 General Specifications

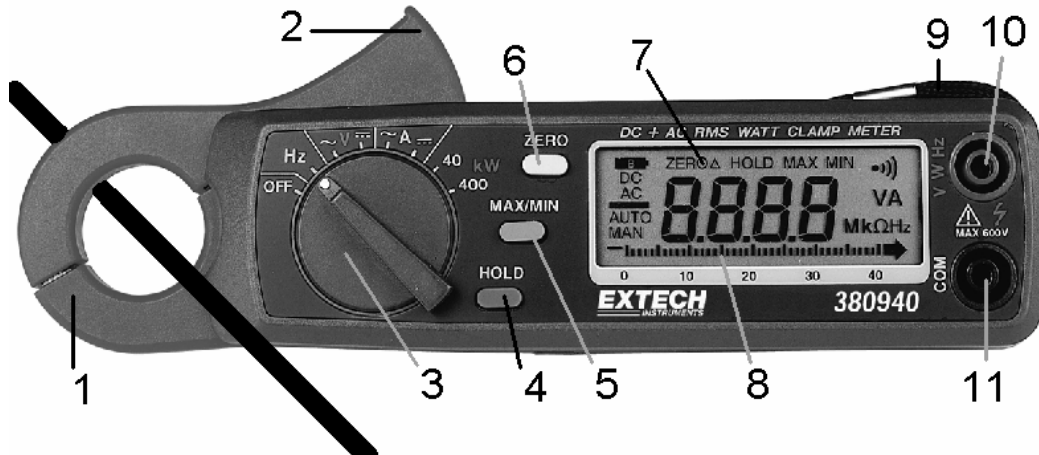
Display	3-3/4 (4000 count) Digit LCD with 40 segment bargraph
Functions	Watts, ACA, DCA, ACV, DCV, Frequency
Polarity	“-“ indicates negative polarity
Current sensor	Hall effect sensor type
Overload indication	Left blinking digit
DCA zero adjust	One touch zero key
Display rate	2 readings/second (20 readings/second for bargraph)
Auto Power Off	30 minutes after power ON
Battery	Two 1.5V AA batteries
Operating temp.	4°F to 122°F (-10°C to 50°C)
Operating Humidity	< 85% RH
Power consumption	Approximately 10mA DC
Weight	6.7 oz. (190g) including battery
Dimensions	7.2 x 2.5 x 1.4" (183 x 63.6 x 35.6mm) (HWD)
Jaw opening	0.9" (23mm)
Standards	IEC 1010 Category III 300V, Category II 600V

2.2 Range Specifications

Function	Range	Resolution	Accuracy	Overload protect
AC Power	40kW	10W	±1.5% ±3dgts	See note
	Note 50/60Hz, 0-250V, 0-400A, PF 0-1, Vpeak < 360V			
	240kW	100W	±1.5% ±3dgts	See note
	Note 50/60Hz, 0-600V, 0-400A, PF 0-1, Vpeak < 850V			
	40kW	10W	±2.5% ±3dgts	See note
	Note 40Hz – 1KHz, 0-250V, 0-400A, PF 0-1, Vpeak < 360V			
	240kW	100W	±2.5% ±3dgts	See note
	Note 40Hz – 1KHz, 0-600V, 0-400A, PF 0-1, Vpeak < 850V			
DC Power	40kW	10W	±1.5% ±3dgts	0-250V, 0-400A
	240kW	100W	±1.5% ±3dgts	
DC Current	400A	100mA	±1.5% ±3dgts	600A DC
AC Current			50/60Hz	40 – 1kHz
	400A	100mA	±1.5% ±3dgts	±2.5% ±4dgts
DC Voltage	400V	0.1V	±1.0% ±2dgts	800V DC
AC Voltage			50/60Hz	40 to 200Hz
	600V	1V	±1.5% ±2dgts	±2.0% ±4dgts
Frequency	100 to 1000k	0.01Hz	±0.8% ±2dgts	Sens. 10V

3. 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. One-touch DCA zero key
7. LCD Display
8. 40 segment bargraph display
9. Handstrap
10. Positive input terminal for V,W,HZ
11. COM terminal



International Symbols

	DC Voltage DC Current		Refer to explanation in owners manual
	AC Voltage AC Current		Dangerous voltage risk of electrical shock
	Ground		Double Insulation

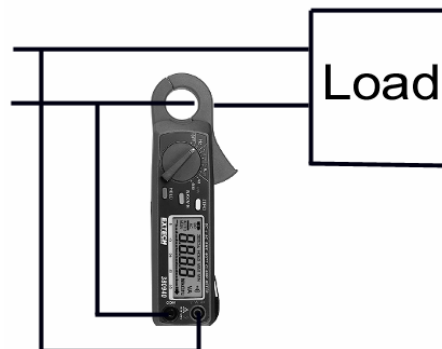
4. SAFETY INSTRUCTIONS

1. **NEVER** exceed the specified voltage/current maximum when measuring
2. **USE EXTREME CAUTION** when working with high voltages.
3. **DO NOT** measure voltage if the voltage on the "COM" input jack exceeds 500V above earth ground.
4. **NEVER** connect the meter leads across a voltage source while the function switch is in the current mode. Doing so can damage the meter.
5. **ALWAYS** discharge filter capacitors in power supplies and disconnect the power when measuring.
6. **ALWAYS** turn off the power and disconnect the test leads before opening the back to replace the fuse or batteries.
7. **NEVER** operate the meter unless the back cover and the battery/fuse door are in place and fastened securely.

5. OPERATION

5.1 AC+DC Power /. Watt Measurements

- 1) Connect the test leads to the voltage source in parallel with the load
- 2) Clamp on one of the wires to the load.
- 3) Select AC or DC voltage range and check the voltage reading.
- 4) Select the AC or DC current range, and check the current reading.
- 5) Select the appropriate Watt range.
- 6) Read the KW value shown on the LCD.



5.2 AC 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 400A AC range.
- 2) Press the jaw trigger and clamp around a single conductor fully enclosing it. Do not allow a gap between the two halves of the jaw.
- 3) Read the ACA value on the LCD.

5.3 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 400A DC range.
- 2) Press the DCA zero key to null the meter display.
- 3) Press the jaw trigger and clamp around a single conductor fully enclosing it. Do not allow a gap between the two halves of the jaw.
- 4) Read the DCA value on the LCD.

5.4 AC Voltage Measurements

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

- 1) Set the Function switch to the VAC position.
- 2) Insert the test leads to the meter as follows: Red lead to “V,W,Hz” terminal; Black lead to the COM input.
- 3) With the pointed end of the test leads measure voltage. Remember that voltage measurements are made in parallel with the device/circuit under test.
- 4) Read the ACV value on the LCD.

5.5 DC Voltage Measurements

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

- 1) Set the Function switch to the VDC position.
- 2) Insert the test leads to the meter as follows: Red lead to “V,W,Hz,” terminal; Black lead to the COM input.
- 3) With the pointed end of the test leads measure voltage. Remember that voltage measurements are made in parallel with the device or circuit under test.
- 4) Read the DCV value on the LCD.

5.6 Frequency Measurements

- 1) Set the Function switch to the Hz position.
- 2) Insert the test leads into the meter’s input terminals.
- 3) Connect the other ends of the test leads in parallel with the device/circuit under test.
- 4) Read the Frequency measurement on the LCD in Hz.

6. ADVANCED FEATURES

6.1 Relative Measurements

- 1) Press the Zero key and the present measurement will Zero.
- 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.

6.2 Data Hold

To freeze the current reading on the LCD, press the Data Hold key. To release the Data Hold function and return the meter to normal operation, press the Data Hold key again.

6.3 MIN/MAX Readings

Pressing the MIN/MAX key allows the meter to display ONLY the highest and 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 3rd time returns the meter to normal operation.

6.4 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.

7. MAINTENANCE

7.1 Battery Replacement

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

7.2 Cleaning

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

8. 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.

9. 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 for authorization. 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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