EXTECH INSTRUMENTS

INSTRUCTION MANUAL

Model 380652
Mini Clamp On DMM

- LCD display for Voltage, Current and Resistance Measurements
- DCA Zero Adjust Knob
  All other ranges automatic zero
- Data Hold for all ranges
- Mini size for greater portability

1. INTRODUCTION

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

2. SPECIFICATIONS

2.1 General Specifications

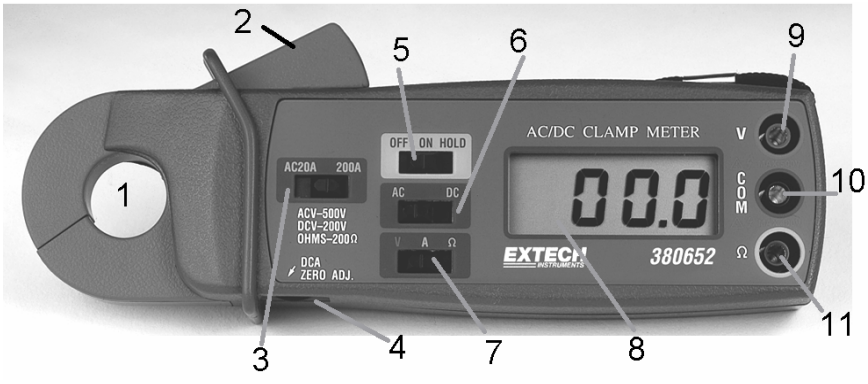
Display	0.5" (13mm), LCD, 3-1/2 digit (±1999 counts)
Measurements	AC/DC Voltage/Current and Resistance
Polarity	Automatic Switching; "-" indicates negative polarity
Current Sensor	Hall effect sensor
Zero Adjustment	Meter dial for DC Current zero
Over-input	Display indicates "1" or "-1"
Sampling Time	Approximately 0.4 seconds
Time Base	Quartz crystal (32768 Hz)
Fuse Protection	500mA fuse
Battery	006P DC 9V battery (heavy duty type)
Power Consumption	Approximately 6mADC (Voltage & Resistance) Approximately 12mADC (Current range)
Operating Temp	32 to 122^{o}F (0 to 50^{o}C)
Operating Humidity	Less than 80% RH
Weight	0.5 lbs. (225g) (including battery)
Dimension	7.1x1.9x1.4" (180x47x35mm)
Max. conductor size	19 ϕ (19mm diameter)
Accessories	Instruction Manual, Test Leads, Carrying Case

2.2 Range Specifications

Function	Range	Resolution	Accuracy	Overload Protection
DCV	200V	0.1V	+/- (0.8%rdg +1d)	AC 500V rms DC+/-500V
ACV (50/60HZ)	500V	1V	+/- (1%rdg+2d)	
Resistance	200 Ω	0.1Ω	+/- (1.2%rdg+1d)	AC/DC 400V
AC Current (50/60HZ)	20A/ 200A	0.01A / 0.1A	+/- (1.2%FS +5d)	300 ACA (for 1 minute)
DC Current	200A	0.1A	+/-(1.2%FS +5d)	
DATA HOLD	Freezes displayed reading. Available on all functions.			
Note	Input impedance for ACV & DCV range is 10MΩ			

3. FRONT PANEL DESCRIPTION

1. Jaw opening
2. Measurement 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



4. PREPARATION FOR MEASUREMENT

4.1 Ensure that the DC 9V battery is connected correctly to its snap terminal and placed in the battery compartment.
4.2 Slide the "Off/On/Hold" switch to the "ON" position, (except when using the "DATA HOLD" function).
4.3 Place the RED test lead into the proper input terminal before making measurement.
4.4 Remove the test leads from the circuit under test when changing the measurements range.
4.5 Do not exceed the maximum rated voltage to the input terminal.
4.6 Always put the "On/Off/Hold" switch to the "Off" position when the instrument is not in use. Remove the battery if the instrument is not to be used for a long period of time.
4.7 International Safety Symbols:

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

5. OPERATION

5.1 Voltage Measurement

5.1.1. Slide the "On/Off/Hold" switch to the "On" position.
5.1.2. Slide the "V/A/Ω" switch to the "V" position.
5.1.3. Connect the red test lead to the "V" input terminal and the black test lead to the "COM" input terminal.
5.1.4. If the voltage to be measured is AC, slide the "AC/DC" switch to the "AC" position.
5.1.5. If the voltage to be measured is DC , slide the "AC/DC" switch to the "DC" position
5.1.6. Connect test lead probes to the circuit under test.
5.1.7. Read voltage values on the LCD.

5.2 Resistance Measurement

5.2.1. Slide the "ON/Off/Hold" switch to the "On" position.
5.2.2. Slide the "V/A/Ω" switch to the " Ω " position.
5.2.3. Connect the red test lead to the " Ω " input terminal and the black test lead to the "COM" input terminal.
5.2.4. If the resistance being measured is in a circuit, remove all power to that circuit and discharge all capacitors.
5.2.5. Connect test lead probes to the circuit (resistance) under test.
5.2.6. Read the resistance values on the LCD.
5.2.7. Measurement consideration: There are small stray resistances (approx. 0.8 ohms) in the test leads. If you need to make precise measurements, first short the test leads then record the displayed value. After taking a measurement, deduct the above stray resistance value from the displayed reading.

5.3 AC Current Measurement

5.3.1. Slide the "On/Off/Hold" switch to the "On" position.
5.3.2. Slide the "V/A/ Ω " switch to the "A" position.
5.3.3. Slide the "AC/DC" switch to the "AC" position.
5.3.4. Determine the highest anticipated current (200A, 20A) and set the "20A/200A" switch to the most appropriate position.
5.3.5 Press the trigger to open the current jaw. Clamp around the conductor under test.
5.3.6. Read ACA values on the digital display.

5.4 DC Current Measurement

5.4.1. Slide the "On/Off/Hold" switch to the "On" position.
5.4.2. Slide the "V/A/ Ω" switch to the "A" position
5.4.3. Slide the "AC/DC" switch to the "DC" position.
5.4.4. Slide the "20A/200A" switch to the "200A" position.
5.4.5 Adjust the DCA Zero Adj. knob until the display shows "0".
Consideration: The core of the current jaw may retain magnetism after use. If this happens the display may not reach "0" when adjusting the "DC Zero" knob.
To correct this, either:
a. Change the direction of the measured DC current, or
b. Open and close the jaw several times.

5.5. Data Hold

When taking any measurements, if you slide the "On/Off/hold" switch to the "Hold" position, the last measurement taken will remain on the display. To disable the data hold function, slide the "ON/Off/Hold" switch to the "On" position.

6. MAINTENANCE

6.1 Battery Replacement

6.1.1 When the battery output falls to less than approx. 6.5V-7.5V, The LOBAT icon appears on the left corner of the LCD display. This indicates that the battery needs to be replaced. However, in-spec measurements can still be made for several hours after the low battery indicator first appears.
6.1.2 Open the battery compartment with a screwdriver or small coin.
6.1.3 Replace the 9V battery and reinstall the compartment cover.

6.2 Cleaning

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

6.3 Fuse Replacement

6.3.1 This instrument is provided with a 5x20mm, 500mA fuse for user safety. When a particular function is not operating, check to see if the fuse is blown.
6.3.2 To replace a fuse, first open the battery compartment cover and replace with a fuse of the same rating and reinstall the battery cover.

7. 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 ensure calibration integrity.

8. 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.

Tech Support Hotlines
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