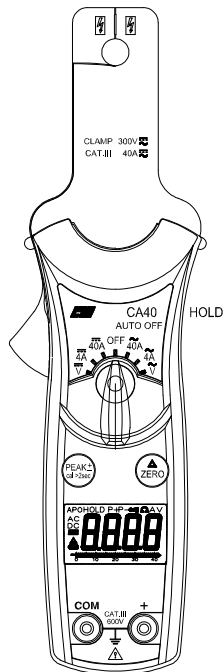


# OPERATING INSTRUCTIONS

## MODEL CA40

### DIGITAL MILLIAMP CLAMP METER



## SAFETY INFORMATION

The following safety information must be observed to insure maximum personal safety during the operation at this meter:

Use the Meter only as specified in this manual or the protection provided by the Meter might be impaired.

Test the meter on a known voltage before using it to determine if hazardous voltage is present.

Do not use the meter if the meter or test leads look damaged, or if you suspect that the meter is not operating properly.

Never ground yourself when taking electrical measurements. Do not touch exposed metal pipes, outlets, fixtures, etc., which might be at ground potential. Keep your body isolated from ground by using dry clothing, rubber shoes, rubber mats, or any approved insulating material.

Turn off power to the circuit under test before cutting, unsoldering, or breaking the circuit. Small amounts of current can be dangerous.

Use caution when working above 60V dc or 30V ac rms. Such voltages pose a shock hazard.

When Using the probes, keep your fingers behind the finger guards on the probes.

Measuring voltage which exceeds the limits of the multimeter may damage the meter and expose the operator to a shock hazard. Always recognize the meter voltage limits as stated on the front of the meter.

## SPECIFICATIONS

**Display:** 3¾ digit liquid crystal display (LCD) with a maximum reading of 3999.

**Polarity:** Automatic, positive implied, negative polarity indication.

**Overrange:** (OL) or (-OL) is displayed.

**Zero:** Automatic.

**Low battery indication:** The "⬮" is displayed when the battery voltage drops below the operating level.

**Measurement rate:** 2 times per second, nominal.

**Auto power off:** Approx. 30 minutes.

**Operating environment:** 0°C to 40°C at < 70% relative humidity.

**Storage temperature:** -20°C to 60°C at < 80% relative humidity.

**Accuracy:** Stated accuracy at 23°C±5°C, <75% relative humidity.

**Temperature Coefficient:** 0.1 × (specified accuracy) per °C. (0°C to 18°C, 28°C to 40°C).

**Altitude:** 6561.7 Feet (2000m).

**Jaw opening capability:** 30mm conductor.

**Power:** 1.5 volt battery x2, R03/SIZE AAA.

**Battery life:** 50 hours typical with alkaline.

**Dimensions:** 223mm (H) × 65mm (W) × 37mm (D).

**Weight:** Approx. 5.5 oz. (150g).

**Accessories:** One pair test leads, 1.5V battery x2 (installed) and Operating Instructions.

## DC VOLTS

**Ranges:** 600V

**Resolution:** 1V

**Accuracy:** ±(0.5% rdg + 2 dgts)

**Input impedance:** 10MΩ

**Overload protection:** 600VDC or AC rms

## AC VOLTS (50Hz - 500Hz)

**Ranges:** 600V

**Resolution:** 1V

**Accuracy:** ±(1.5% rdg + 5 dgts)

**Peak Hold:** ±(3.0% rdg + 60 dgts)

**Input impedance:** 10MΩ

**Overload protection:** 600VDC or AC rms

## DC CURRENT

**Ranges:** 4A, 40A

**Resolution:** 1mA

**Accuracy:** ±(2.5% rdg + 10 dgts)

**Overload protection:** 40ADC

## AC CURRENT (50Hz - 400Hz)

**Ranges:** 40A, 40A

**Resolution:** 1mA

**Accuracy:** ±(2.0% rdg + 6 dgts) 50 ~ 60Hz  
±(3.0% rdg + 6 dgts) 61 ~ 400Hz

**Peak Hold:** ±(3.0% rdg + 80 dgts)

**Overload protection:** 40AAC

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勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## OPERATION

Before taking any measurements, read the Safety Information Section. Always examine the instrument for damage, contamination (excessive dirt, grease, etc.) and defects. Examine the test leads for cracked or frayed insulation. If any abnormal conditions exist do not attempt to make any measurements.

### Data Hold

Press [HOLD] button to lock the reading on display, and release it by pressing the button again.

### Relative D / ZERO

The "Δ" appears to indicate that the relative mode is activated and non-zero number is offset and saved. The flashing "Δ" appears and the offset value displays at the same time for comparison with the reading of measurement. After finishing the measurement, press "Δ" (Relative) button for more than 2 seconds to exit.

### PEAK+/-

1. Peak function works only in the ACV and AC 40A range, and can record the P+ and P- value of measurements. Select a suitable range before taking measurements. Then, press PEAK button and hold it for more than 2 seconds till "CAL" appears in the LCD, then release the button. The interior offset calibration is therefore completed, and measurement can be started. After finishing the measurement.

2. Press PEAK button for more than 2 seconds to exit. Set the function switch to ACV or AC 40A range and press the Peak button for 2 seconds to exit. Or, turn the function switch to OFF and restart the meter to exit the Peak mode.
3. Response time: more than 1ms.

### Voltage Measurements

1. Connect the red test lead to the "+" jack and the black test lead to the "COM" jack.
2. Set the Function/Range switch to the desired Voltage type (AC or DC) and range. If magnitude of voltage is not known, set switch to the highest range and reduce until a satisfactory reading is obtained.
3. Connect the test leads to the device or circuit being measured.
4. For dc, a (-) sign is displayed for negative polarity; positive polarity is implied.

### Current Measurements

1. This instrument is designed to take current measurements on circuits with a maximum voltage difference of 300VAC between any conductor and ground potential. Using it for current measurements on circuits above this voltage may cause electric shock, instrument damage and/or damage to the equipment under test. Before measuring current make certain that the test leads are removed from the instrument. Do not take current readings on circuits where the maximum current potential is not known. Do not exceed the maximum current that this instrument is designed to measure.

2. Set Function Switch to  $\overline{\sim}$ / $\overline{\sim}$  range.
3. Press the trigger to open the transformer jaws and clamp them around a conductor. Jaws should be completely closed before taking a reading.
4. The most accurate reading will be obtained by keeping the conductor across center of the transformer jaws.
5. The reading will be indicated on the display.
6. Reduce the range setting if set too high until a satisfactory best resolution reading is obtained.
7. When taking measurements, keep your fingers behind the finger guards on the clamp head.

### Auto Power off

1. Auto power off: approx. 30 minutes.
2. After auto power off, press Δ **ZERO** button to restart the meter, and the reading of measurement will be maintained in the display.

### Cancellation of Auto Power Off Feature

Press and hold the (ZEROΔ) button while rotating function switch from off to any position to turn the meter on. The auto power off feature is disabled. Noto "APO" annunciator is missing from the LCD.

## MAINTENANCE

### WARNING

Remove test leads before changing battery or performing any servicing.

### Battery Replacement

Power is supplied by 1.5 volt battery x2 (R03/SIZE AAA ). The "□" appears on the LCD display when replacement is needed. To replace the battery, remove the three screws from the back of the meter and lift off the front case. Remove the battery from case bottom.

### Cleaning

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Dirt or moisture in the terminals can affect readings.



**Safety:** Conforms to IEC/EN61010-1, CATIII 600V, IEC/EN61010-2-032, CAT III300V, Class II, Pollution degree 2 Indoor use. CAT III: Is for measurements performed in the building installation.

EMC: Conforms to EN61326-1.

The symbols used on this instrument are:



Dangerous voltage.



Caution, refer to accompanying documents



Equipment protected throughout by Double insulation (Class II)



Alternating current



Direct current



Ground

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