



INSTRUCTION MANUAL
MT783
400A AC/DC CLAMP ADAPTOR



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1. INTRODUCTION

The MT783 400A AC/DC clamp-on adaptor designed to be compatible with any instrument capable of 4000 or 6000 count millivolt measurements. The clamp-on adaptor provides an output of 10mV/A on 40A range and 1mV/A on 400A range AC/DC with a frequency response of 50/60Hz. When measuring the current there is no need to break the circuit or affect the insulation. The NCV Non-Contact Voltage is useful for quick check to see if voltage is present.

2. APPLICATION PROCEDURES

1. Insert the black COM lead into the COM terminal and the red output lead into the V terminal of any multimeter with a minimum input impedance of 10 k Ω . (Output and V Terminal connection)
2. Move the selector switch from "OFF" to the desired range, 40A (output: 10mV/A) or 400A(1mV/A) position. The green LED will illuminate to indicate that the clamp is switched on.
3. For current measurements below 40A, set the unit to 40A range and set the multimeter to the 400mV or 600mV AC range for AC current measurements, or 400mV or 600mV DC range for DC current measurements. If the measured current exceeds 40A, set the unit to 400A range.
4. When performing DC current measurements, always adjust the zero adjustment knob on the clamp adaptor until the multimeter reads zero mV.
5. Clamp the jaws of the MT783 around the current-carrying conductor and interpret the reading according to Steps 6 and 7 below.
6. When the 40A range of clamp adaptor is selected, the measured current value in A will be displayed in tens of mV. For example, if the multimeter reads 100mV, the measured current is $100\text{mV}/(10\text{mV/A})=10\text{A}$.
7. When the 400A range is selected, the measured current value in A will be displayed in mV. For example, if the multimeter reads 100mV, the measured current is $100\text{mV}/(1\text{mV/A})=100\text{A}$.

3. APPLICATION NOTES

1. When measuring DC current, the output will be positive when the measured current flows from the front side to the back side of the clamp. The red lead is therefore the positive Output lead.
2. When measuring DC current, a hysteresis effect may occur, making it difficult to zero the clamp adaptor and multimeter readings accurately. To eliminate this effect, open and close the jaws several times and then adjust the zero adjustment knob to zero this effect out.

4. NON-CONTACT AC VOLTAGE MEASUREMENTS

WARNING: Risk of Electrocutation. Before use, always test the Non-Contact Voltage Detector on a known live circuit to verify proper operation.

1. Touch the probe tip to the live conductor or insert it into the live side of an electrical outlet.
2. If AC voltage is detected, the NCV indicator LED will illuminate.

NOTE: The conductors in electrical cord sets are often twisted. For best results, run the probe tip along a length of the cord to ensure it is placed in close proximity to the live conductor.

NOTE: The NCV sensor is designed with high sensitivity. Static electricity or other sources of electrical energy may occasionally activate the sensor. This is a normal occurrence during operation.

5. OPERATOR SAFETY

1. Do not clamp around conductors with voltages equal to or exceeding 600V DC or 600V AC.
2. To avoid physical injury, do not perform measurements on bare conductors or conductors with cracked or frayed insulation.

6. SPECIFICATIONS

6.1. Accuracy - Current Clamp Accuracy

Function	Range	Accuracy
DC Amps	0 to 40.0A	$\pm(2.5\% + 0.1A)$
	0 to 400A	$\pm(2.8\% + 0.5A)$
AC Amps	0 to 40.0A (50/60Hz)	$\pm(2.5\% + 0.1A)$
	0 to 400A (50/60Hz)	$\pm(2.8\% + 0.5A)$

6.2. General Specifications

Function	Range
Conductor Size	Ø30mm Maximum
Low Battery Indicator	Red LED
Operating Temperature	0°C to 50°C, 70% R.H.
Storage Temperature	-20°C to 70°C, 80% R.H.
Batteries	2x AAA 1.5V
Electrical	(at 23±5°C, 70% R.H Maximum)
Safety Information	This meter complies with class II, over-voltage CAT III - 600V and CAT IV - 300V in accordance with EN 61010-1, and EN 61010-2-032 standards. Pollution degree 2 in accordance with IEC 664 for indoor use. If this instrument is used in a manner not specified, the protection provided by this instrument may be impaired, and therefore safety cannot be guaranteed.

Effective Measurement Range

40A (output: 10mV/A): DC or AC for 400mV or 600mV range of the multimeter.

400A (output: 1mV/A): DC or AC for 400mV or 600mV range of the multimeter.

7. WARRANTY

Warranty Coverage

Major Tech warrants its test instruments to be free from defects in materials or workmanship under normal use and service for a period of two (2) years from the date of shipment. This warranty is extended exclusively to the original purchaser, provided the online Product Registration has been completed on either www.major-tech.com or www.majortech.com.au, depending on which country the product was purchased. This warranty is non-transferable.

Exclusions

This warranty does not cover:

- Disposable batteries and fuses
- Damage caused by leaking batteries (damaging the meter and components)
- Normal wear and tear of mechanical components
- Failures caused by use outside the product's specifications Any product which, in the opinion of Major Tech, has been misused, contaminated, or damaged due to neglect.

Check Procedure

Prior to contacting Major Tech or a distributor regarding a warranty claim, please check the following:

- Batteries are installed correctly
- Battery condition – either replace disposable batteries or ensure rechargeable batteries are charged where applicable
- Test leads are inserted in the correct terminals and are fully inserted, no damage to test leads.

Contact Information

For any warranty claims or inquiries, please contact either Major Tech or the distributor from whom the product was purchased.



MAJOR TECH (PTY) LTD

South Africa

🌐 www.major-tech.com

✉ sales@major-tech.com

Australia

🌐 www.majortech.com.au

✉ info@majortech.com.au

