

Model CA 500**SPECIAL FEATURES :**

- Basic Accuracy : 2.0%rdg + 2dpts
- Average Sensing
- CA 500 Current Clamp is a Transducer which will allow your multimeter to measure electrical Current upto 500Amp AC or DC, with a Frequency response upto 400Hz.
- When measuring Current with this Clamp, there is no need to break a circuit or to affect the isolation.
- It can be used for waveform analysis by connecting it to an Oscilloscope.

GENERAL SPECIFICATIONS :

- * Jaw Opening Size : 30 mm max.
- * Measuring Range : 500A AC/DC
- * Rated Output : 0 to 500mV (AC or DC) for 0 to 500A
- * Load Resistance : 10K Ω typical (1mV/A)
- * Low Battery Indicator : Red LED lighting.
- * Max. wire length : 3.5 meter when fully stretched.
- * Operating Temperature : 0°C~50°C; 70% R.H.
- * Storage Temperature : -20°C to 70°C; 80% R.H.
- * Power Supply : 9V Battery.
- * Dimension : 178(L) X 70(W) X 33(H) mm
- * Weight : Approx. 290 gms

SAFETY :

- IEC1010-1 & IEC1010-2-032 under pollution degree II & installation category (overvoltage Category) CAT II 600V .

ACCESSORIES :

Carrying Case, Battery installed & User's Manual

ELECTRICAL SPECIFICATIONS- CA 500

Accuracy is \pm (% of reading + number of digits)

DC CURRENT

Range	Accuracy
200 A	$\pm(2.0\%rdg + 2A)$
500 A	$\pm(2.0\%rdg + 2A)$

Impedance : > 10M Ω

AC CURRENT (Average Sensing)

Range	Accuracy
200 A	$\pm(2.0\%rdg + 2A)$
400 A	$\pm(2.0\%rdg + 2A)$
400A-500A	$\pm(3.0\%rdg + 2A)$

Impedance : > 10M Ω Frequency : 50Hz ~ 400

All Specifications are subject to change without prior notice

KUSAM-MECO

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KUSAM-MECO

DCA/ACA CURRENT CLAMP ADAPTOR MODEL - CA 500



**TAKE MEASUREMENT CAREFULLY AND YOU'LL
SPARE YOUR METER AND YOURSELF, SOME PAIN**

Nearly every electrical engineer has a hand held digital clamp meter (Tongtester). We sometimes take them for granted, until we damage them or “burn them out”. If you incorrectly connect your clamp meter to a circuit, or if you have the clamp meter or wrong setting, you damage the meter and possibly hurt yourself. You can also get into trouble if you try to measure the voltage across a charged capacitor.

Clamp Adaptor users frequently burn their meters by trying to measure current the same way as they measure voltage. Remember, you measure voltage across a circuit, and current through a circuit. When you use the current input, your clamp meter becomes a low impedance circuit element.

Even if you correctly insert your clamp Adaptor into the circuit, you can still damage you meter. Don't try to measure current in excess of your meter's capacity. Check the current capacity of the Clamp Adaptor.


If you are measuring current in industrial environment to prevent excess flow of current disconnect your test leads from the circuit under test whenever you change Clamp Adaptor functions. Set your meter to the correct function, say current, and its highest range for the setting. If the reading is small, change the range to the next lower range till the reading can be read with the best possible accuracy. The output of a Clamp Adaptor can be observed in a DMM in the 200mV or 2V range.


Overview **Warning**

To avoid electric shock or personal injury, read the “Safety Information” and “Rules for Safe Operation” carefully before using the Meter.

The Model CA - 500 DC/AC Current Clamp Adaptor (hereafter referred to as 'the Clamp') is an accessory which will allow your multimeter to measure electrical current up to 500 amperes AC/DC, with a frequency response upto 400Hz when measuring current with this clamp, there is no need to break a circuit or to affect the isolation.

Terms in this manual

 **Warning** : identifies conditions and actions that could result in serious injury or even death to the user.

 **Caution** : identifies conditions and actions that could cause damage or malfunction in the instrument.

Unpacking Inspection

Open the package case and take out the Clamp Adaptor. Check the following items carefully to see any missing or damaged part:

ITEM	DESCRIPTION	QTY.
1	English Operating Manual	1 piece
2	Carring case	1 piece
3	Batteries (Installed) 9 Volt DC	1 no.

In the event you find any Part missing or damaged, please contact your dealer immediately.

FEATURES/GENERAL SPECIFICATIONS :

- **CA500 Current Clamp** is a transducer which will allow your multimeter to measure electrical Current upto 500 amperes AC or DC, with a Frequency response upto 400Hz.
- **When measuring current with this clamp, there is no need to break a circuit or to affect the isolation.**
- **Captured Conductor Size :**
30mm maximum.
- **Low Battery Indicator :**
Red LED lighting.
- **Operating Environment :** 0°C to 50°C
Relative Humidity : 0 - 70% R.H.
- **Storage Temperature :** -20°C to 70°C
Relative Humidity : 0 - 80% R. H.
- **Load Resistance :** 10KΩ typical.
- **Rated Output :**
0 to 500mV (AC or DC) for 0 to 500A.
- **Dimension :**
178mm(L) x 70mm(W) x 33mm(H)
- **Weight :** Approx. 290g. typical
- **Battery Type :** Single standard 9 V.
- **It can be used for waveform analysis by Connecting it to an oscilloscope.**
- **Accessories:** Carrying Case, User Manual, Battery Installed.

ELECTRICAL SPECIFICATIONS :

Accuracy : \pm (% reading + digit)

DC CURRENT

Range	Accuracy
200 A	\pm (2.0% rdg + 2 A)
500 A	

Impedance > 10M Ω

AC CURRENT

Range	Accuracy
200 A	\pm (2.0% rdg + 2 A)
400 A	
400 A - 500 A	\pm (3.0% rdg + 2 A)

Impedance > 10M Ω

Frequency : 50 Hz to 400 Hz

Rules For Safe Operation **Warning**

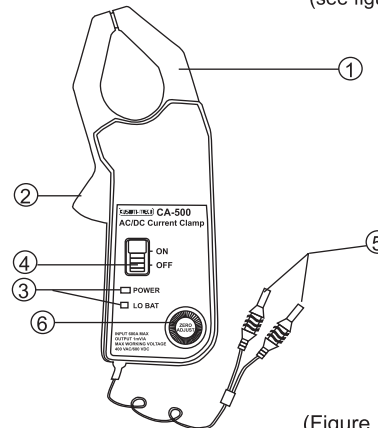
To avoid possible electric shock or personal injury, and to avoid possible damage to the Meter or to the equipment under test, adhere to the following rules :

- Before using the Meter inspect the case. Do not use the Meter if it is damaged or the case (or part of the case) is removed. Look for cracks or missing plastic. Pay attention to the insulation around the connectors and Clamps.
- Inspect the test leads for damaged insulation or exposed metal. Replace damaged test leads with identical electrical Specifications before using the Meter.
- Do not measure more than the rated current, as marked on the Meter between the Clamps.
- When measurement is taken at an effective voltage over 60V in DC or 30V rms in AC, special care should be taken for there is danger of electric shock.

- Do not use or store the Meter in an environment of high temperature, humidity, explosive, inflammable and strong magnetic field. The performance of the Meter may deteriorate after the meter gets dampened.
- When using the test leads, keep your fingers behind the finger guards.
- Disconnect circuit power and discharge all high-voltage capacitors before testing current.
- Replace the battery as soon as the battery indicator LED appears. With a low battery, the Meter might produce false readings that can lead to electric shock and personal injury.
- Turn the Meter power off when it is not in use and take out the battery when not using for a long time.
- Constantly check the battery as it may leak when it has not been used for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.

The Clamp Adaptor - CA - 500 Structure

(see figure 1)



(Figure 1)












- 1) Transformer Jaws** : Pick up the AC current flowing through the conductor.
- 2) Trigger** : Press the lever to open the transformer jaws. When the lever is released the jaws will close again.
- 3) LED indication** : Red LED : Power on
Green LED : Low Battery
- 4) Power ON / OFF** :
To switch ON / OFF the Meter.
- 5) Test Leads** : These are inserted into the multimeter voltage & COM terminals for current reading. These can also be connected to an oscilloscope to get waveform output.
- 6) Zero knob**
To adjust the output of Clamp Adaptor to zero before measuring DC current.

Function Buttons

Below table indicates the function button operations.

Switch	Operation Performed
ON / OFF	To switch ON / OFF the clamp Adaptor.
Auto Zero Button	To make the O/P of Clamp Adaptor Zero before any input of DC current is given

International Electrical Symbols

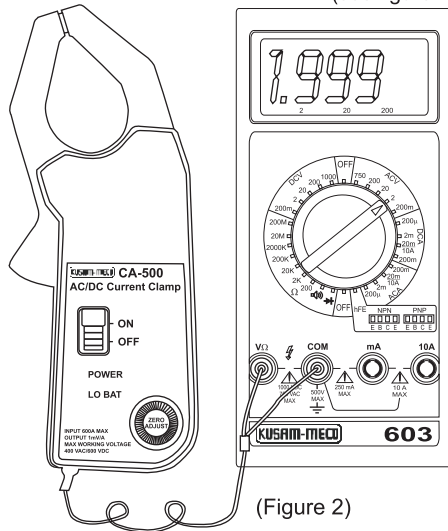
	AC (Alternating Current).
	DC (Direct Current).
	Both DC & AC.
	Grounding.
	Double Insulated.
	Deficiency of Built-In Battery.
	Continuity Test.
	Diode.
	Fuse.
	Warning ! Refer to the Operating
	Manual. Caution ! Risk of Electric

MEASUREMENT OPERATION :

1. Make sure the Low Battery LED is not on, otherwise false readings may be provided.

AC/DC Current measurement :

(see figure 2)



(Figure 2)

Warning

Never attempt an in-circuit current measurement where the voltage between terminals and ground is greater than 60V. Use proper range for the current measurement.

TO MEASURE CURRENT :

1. Insert the black banana plug into the COM jack and the red banana plug into the V-Ω jack of any multimeter with a minimum input impedance of 10k ohms.
2. Set the power switch from 'Off' to 'On' position, the green LED will be lighting to indicate that the clamp is switched on. For current measurement below 200 amperes, set the multimeter range to 200mV AC for AC current measurements or 200mV DC for DC current measurements.

The reading is directly in amperes. For current measurements above 200 amperes, set the multimeter range to 2V AC or DC, depending on whether measuring AC or DC current. The reading is now amperes x 1000.

3. Turn the zero adjustment knob on the clamp until the multimeter reads zero before taking DC current reading.
4. Clamp the jaw around the current-carrying conductor and interpret the reading according to Step 2 above.

 **Caution**

1. In the case of DC current, the output is positive when the current flows from the upside to the underside of the clamp. The red banana plug is positive.
2. In the case of DC current measurement, a hysteresis effect can occur so that it is impossible to zero the clamp properly. To eliminate this effect, open and close the jaws several times and then zero again.
3. When there is a strong stray magnetic field, it is best to zero the clamp approximately 2 to 4 inches from the conductor to be measured. The conductor itself will have no influence at this distance. Then, clamp the jaws around the conductor and measure the current.
4. A good practice for measuring low currents is to loop an appropriate number of turns of the conductor through the jaws. The actual current is the measured value divided by the number of turns.

MAINTENANCE : **Warning**

To avoid false reading, replace the battery as soon as the low battery indicator, Green LED is on.

To replace battery :

Disconnect the connection between the testing leads of CA-500 and the multimeter.

Turn off the Clamp Adaptor CA- 500

- Unscrew the screws from the rear case and separate the rear case & the front case.
- Remove the battery from the battery compartment.
- Replace the battery with a new 9-volt battery.
- Reinstall the rear case and the front case

MUMBAI

TEST CERTIFICATE**DCA/ACA CURRENT CLAMP ADAPTOR**

This Test Certificate warrants that the product has been inspected and tested in accordance with the published specifications.

The instrument has been calibrated by using equipment which has already been calibrated to standards traceable to national standards.

MODEL NO. **CA-500**

SERIAL NO. _____

DATE: _____

ISO 9001
REGISTERED**WARRANTY**

Each "KUSAM-MECO" product is warranted to be free from defects in material and workmanship under normal use & service. The warranty period is one year (12 months) and begins from the date of despatch of goods. In case any defect occurs in functioning of the instrument, under proper use, within the warranty period, the same will be rectified by us free of charges, provided the to and fro freight charges are borne by you.

This warranty extends only to the original buyer or end-user customer of a "KUSAM-MECO" authorized dealer.

This warranty does not apply for damaged IC's, fuses, burnt PCB's, disposable batteries, carrying case, test leads, or to any product which in "KUSAM-MECO's" opinion, has been misused, altered, neglected, contaminated or damaged by accident or abnormal conditions of operation or handling.

"KUSAM-MECO" authorized dealer shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of "KUSAM-MECO".

"KUSAM-MECO's" warranty obligation is limited, at option, free of charge repair, or replacement of a defective product which is returned to a "KUSAM-MECO" authorized service center within the warranty period.

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. "KUSAM-MECO" SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE WHATSOEVER.

All transactions are subject to Mumbai Jurisdiction.