

A 1391 - 40A/300A AC/DC CURRENT CLAMP

INSTRUCTION MANUAL

Code No. 20 751 907



INTRODUCTION

1-1 Unpacking and Inspection

Upon removing your new Current Clamp Meter from its packing, you should have the following items:

1. Current Clamp with coiled cable output plugs.
2. Carrying Case.
3. Instruction manual.

1-2 Meter Safety

Terms as Marked on Equipment



ATTENTION — Refer to manual



DOUBLE INSULATION — Protection Class II.



DANGER — Risk of electric shock.



Application around and removal from HAZARDOUS LIVE conductors is permitted.

Symbols in this Manual



This symbol indicates where cautionary or other information is found in the manual.

1-3 Front Panel

Refer to Figure 1 and the following numbered steps to familiarize yourself with the meter's front panel controls and connectors.

1. **Red LED** — Low battery display.
2. **Green LED** — Power on display.
3. **Coiled Cable Output Leads** — Voltage output.
4. **Function Switch** — Function select switch used to select measuring function.
5. **DC Zero Button** — DCA AUTO ZERO on DC current ranges.
6. **Trigger** — Press the lever to open the transformer jaws.
7. **Transformer Jaws** — Designed to pick up the a.c./d.c. current following through the conductor.

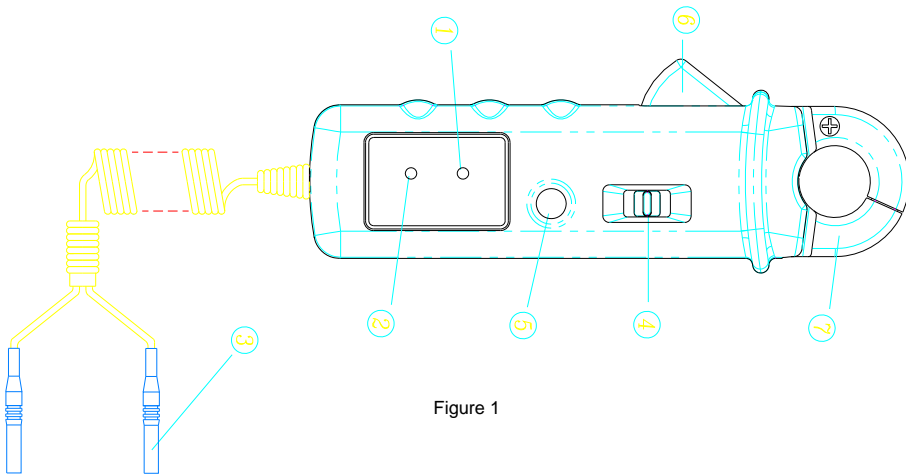


Figure 1

SPECIFICATIONS

2-1 General Specifications

Position Error	+/- 1% of Reading.
Type Of Sensing	Hall effect sensing for AC and DC.
Low Battery Indicator	Red LED indicator.
Power On Indicator	Green LED indicator , flashing.
Temperature Coefficient	0.2 x (Spec.Acc'y) / °C , < 18°C or > 28°C .
Power Requirement	Single 9V battery (NEDA 1604A or IEC 6LF22) (Use supplied)
Battery Life	66 hours typical (Alkaline).
Max / Conductor Size	22mm diameter.
Size	66mm (W) x 185mm (L) x 40mm (H)
Weight	270 grams
Accessories	Coiled cable output plugs (installed) , manual and carrying case.

2-2 Environmental Conditions

Indoor use	
Maximum Altitude	2000 Meter
Measurement Category	IEC 61010-1 600V CAT. III.
Pollution Degree	2
Operating Ambient	0°C ~ 50°C , <75%R.H.
Storage Temperature	-20°C ~ 60°C, < 80% R.H.

2-3 Electrical Specifications

All at 23°C ± 5°C, less than 75% R.H.

Ranges	0 ~ 40A / 300A AC
	0 ~ 40A / 300A DC
(1) DC Current	
Ranges	40A, 300A
Output Voltage	10mV / A for 40A Range
	1mV / A for 300A Range
Accuracy	40A Range (0 - 40)A ±(1.0% + 0.2A)
	300A Range (40 - 200)A ± (1.0% + 1A)

(2) AC Current	300A Range	(200 - 300)A \pm (1.9% + 2A)
Ranges	40A, 300A	
Output Voltage	10mV / A for 40A Range	
	1mV / A for 300A Range	
Accuracy	40A Range	(0 - 40)A \pm (1.0% + 0.2A) 40-400Hz
	300A Range	(40 - 200)A \pm (1.0% + 1A) 40-400Hz
	300A Range	(200 - 300)A \pm (1.9% + 2A) 40-400Hz
Load Impedence	100K Ω	min.AC/DC

OPERATION

This instrument has been designed and tested in accordance with IEC Publications 61010-1 and 61010-2-032, Safety Requirements For Electronic Measuring Apparatus / current sensors and has been supplied in a safe condition. This instruction manual contains some information and warnings which have to be followed by the user to ensure safe operation and to retain the instrument in safe condition.

3-1 Precautions and Preparations for measurement

1. Do not apply the voltage to the output plugs.
2. Make sure that the battery is connected properly.
3. Operate the instrument only in temperature between 0°C ~ 50°C and less than 75% R.H.
4. Do not use or store this instrument in high temperature or high humidity and do not store the unit in direct sunlight.
5. If the unit is not to be used for a long period of time, remove the battery.
6. Do not forget to turn power switch off after use.
7. If the meter is used near equipment that generates electro-magnetic, the output may be unstable or indicate incorrect measurement values.
8. If the current clamp is used in a manner not specified in this User manual, the provided protection can be impaired
9. Do not extend hands over safety barrier to prevent of electric shock! Only handles are allowed to be touched during measurement!
10. Consider all generally known precautions in order to avoid risk of electric shock while dealing with electric installations!



THIS INSTRUMENT MUST NOT BE USED ON UNINSULATED CONDUCTORS AT A VOLTAGE GREATER THAN 300V ac/dc.

3-2 AC Current Measurement

1. Select the highest anticipated input (300A or 40A) by the function switch.
2. Insert the "Output plugs (red and black)" to the input terminals of a Multimeter. Set the Multimeter to "AC 200mV or 2V" range.
3. Press the trigger to open the transformer jaws and clamp one conductor only, make sure that the jaw is firmly closed around the conductor, then read the display from the multimeter directly.

(For proper current direction, upper side of the current clamp is facing L)

(To eliminate dc offset, zero adjust first. With jaws closed and away from conductor, continue to press DCA AUTO ZERO button until instrument reads all zeroes or very close to it.)

3-3 DC Current Measurement

1. Select the highest anticipated input (300A or 40A) by the function switch.
2. Insert the "Output plugs (red and black) " to the input terminals of a Multimeter.
Set the Multimeter to "DC 200mV or 2V" range.
3. Be sure to zero adjust first. With jaws closed and away from conductor, continue to press DCA AUTO ZERO Button until instrument reads all zeroes or very close to it.

4. For DC measurement, output is positive in the red plug when the current flows from the lower side to the upper side of the current clamp as shown in Figure 2. (Upper side of the current clamp is facing the positive measurement contact)
5. Press the trigger to open the transformer jaws and clamp one conductor only, make sure that the jaw is firmly closed around the conductor, then read the display from the multimeter directly.

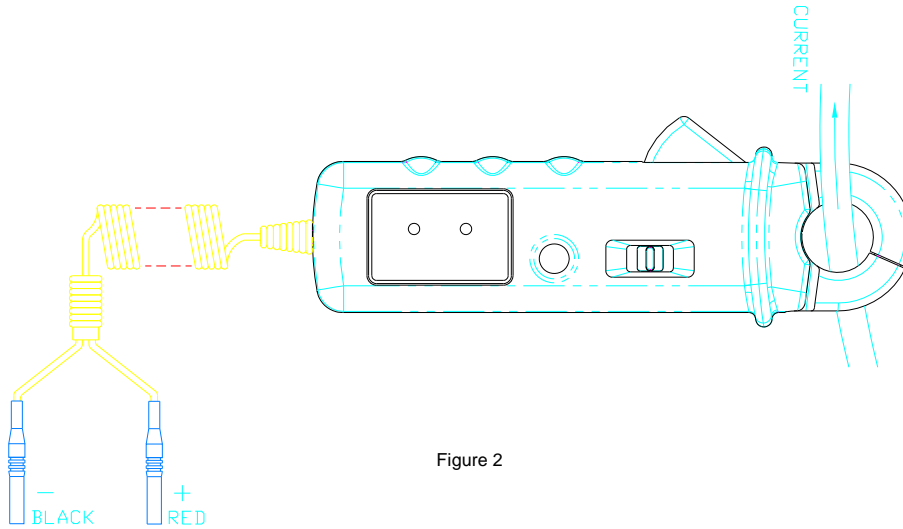


Figure 2

MAINTENANCE



TO AVOID ELECTRICAL SHOCK REMOVE TEST LEADS BEFORE OPENING THE COVER.

General Maintenance

1. Repairs or servicing not covered in this manual should only be performed by qualified personnel.
2. Periodically wipe the case with a dry cloth and detergent. Do not use abrasives or solvents.

Battery Installation Replacement

The meter is powered by a single 9V battery. Refer to Figure 3 and use the following procedure to replace the battery.

1. Disconnect the output plugs and turn the meter off.
2. Position the adaptor face down and remove the screw on the cover of the battery compartment.
3. Unsnap the battery compartment and remove the battery.
4. Install a new 9V battery and refit the battery compartment.

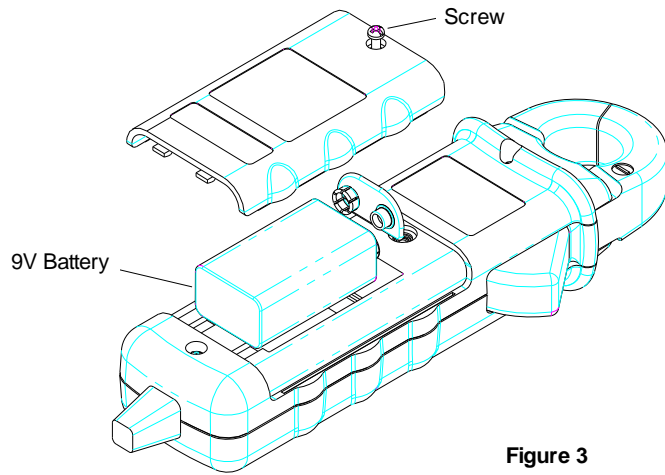


Figure 3

Producer:

METREL d.d.
Ljubljanska 77
SI-1354 Horjul

Tel.: +386 1 75 58 200
Fax: +386 1 75 49 226
E-mail: metrel@metrel.si
<http://www.metrel.si>



Mark on your equipment certifies that this equipment meets the requirements of the EC
(European Community) regulations concerning safety and electromagnetic compatibility.

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