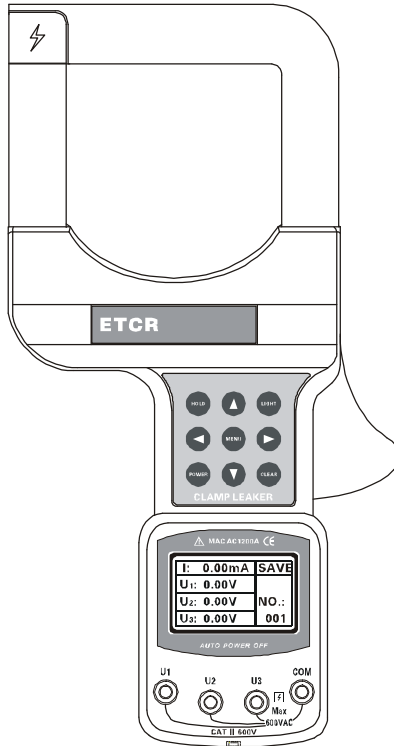


ETCR[®] LARGE CALIBER LEAKAGE CLAMP METER

ETCR 7000A
ETCR 7000B

<http://www.etcrc.com>



MANUAL

ETCR Electronic Technology Co.,Ltd

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Warning



Thank you for purchasing ETCR7000 Series Meters, in order to better use of this product, be sure to:

----To read this user manual carefully.

----Comply strictly with safety rules and precautions set out in this manual.

- ⌋ Pay special attention to safety under any circumstances while using the instrument.
- ⌋ Take note of the label text and symbols on the panel and back of the instrument.
- ⌋ Keep the clamp clean and maintain regularly.
- ⌋ Please don't place and store the instrument at the place with high temperature, humidity, moisture condensation and straight sunlight for a long time.
- ⌋ Replace battery in time when the battery voltage is low.
- ⌋ Remove or replace the battery if you expect not to use the instrument for a long time.
- ⌋ Take note of the polarity when replace the battery.
- ⌋ The operation, demolition, calibration and maintenance of the instrument must be carried out by qualified personnel authorized to do so.
- ⌋ The meter should be stopped from being used immediately and sealed if danger is brought up in case of continued use; only a competent body can be authorized to deal with it.
- ⌋ “  ” in the manual is the safety warning sign, the contents of this manual must be followed for safe operation.
- ⌋ “  ” and other safety signs, the contents of this manual must be followed for safe operation.

I. Introduction







ETCR7000 series of **Large Caliber Leakage Clamp Meter** is well designed and manufactured for measuring AC leakage current, current, voltage, adopt the latest CT technology and digital integrated technology. Its large caliber 80mm×80mm can clamp electric cable of 80mm diameter, or 96mm×4mm flat cable and steel earth wires, particularly suitable for leakage current measurement of cable and transformer earth steel. Full automatically and simultaneously measure one leakage current and three voltages, all the data are displayed in the screen, which is very clear and convenient. The meter is widely used in electric power, communication, meteorology, railway, oil field, architecture, measuring, teaching research unit, industrial mining enterprises, etc.

ETCR7000 series of **Large Caliber Leakage Clamp Meter's** clamp core is made of special alloy, adopt the latest magnetic shielding techniques, can almost shield the influence from external magnetic field, to ensure the high precision, high stability and high reliability of perennial uninterrupted measurement. The meter can store 200 sets of data, with RS232 interface, upload stored data to the computer through the system software, implementing online real-time monitoring, historical inquires, dynamic display. With the function of historical data read, preserve, print, and backlight, data hold, etc. It is a necessary tool for electrical safety testing.

II. Model


Model	Measurement Range	Resolution	Note
ETCR7000A	AC0.00mA-2000A	0.01mA	Measure leakage current
	AC 0.00V-600V	0.01V	
ETCR7000B	AC 0.0A-2500A	0.1A	Measure big current
	AC 0.00V-600V	0.01V	

III. Electrical Symbols

	Extremely dangerous! The operator must strictly abide by the safety rules; otherwise there is risk of electric shock, resulting in bodily injury or fatalities.
	Dangerous! The operator must strictly abide by safety rules; otherwise there is risk of electric shock, resulting in bodily injury or fatalities.
	Warning! Safety rules must be strictly abided by, otherwise personal injury or equipment damage may be caused.
	Alternate Current (AC)
	Direct Current (DC)
	Double Insulation

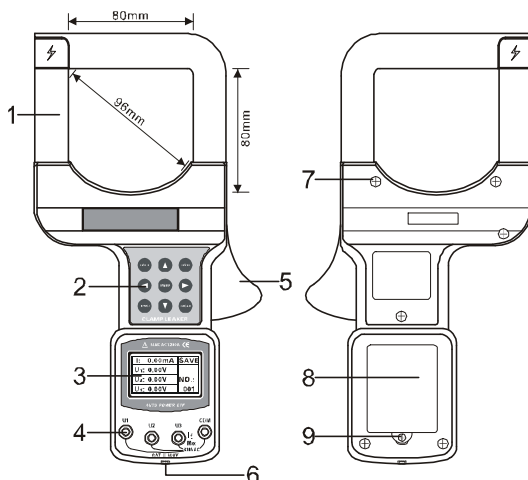
IV. Technical Specification

Function	Measure AC leakage current, current, three-phase, voltage
Power	6V DC(LR6×4 alkaline dry batteries, continuously working for 12 hours)
Test Mode	Clamp CT, integral mode
Clamp Size	80mm×80mm(can clamp electric cable of 80mm diameter, or 96mm×4mm flat cable and steel earth wires)
Measurement Accuracy (23°C±3°C, below 70%RH, measured wire at the center of the clamp)	0.00mA~300A ±1.5%±3dgt
	300A ~ 1200A: ±2%±3dgt
	1200A ~ 2000A: ±3%±3dgt
	2000A~2500A: ±4%±3dgt
	0.00V ~ 600V: ±1.5%±3dgt
Measured Wire Position	Measured wire at approximately the geometric center of the clamp
Data Storage	200 sets, "FULL" symbol indicate the memory is full
RS232 Interface	With RS232 interface, download data to computer for analysis and management
Communication Wire	RS232 communication wire, 1.8m

Frequency	50Hz ,60Hz automatic identification
Gear Shift	Automatic shift
Sample Rate	About 2 times/second
Line Voltage	Below AC 600V line measurement
Display Mode	LCD: 128dots×64dots; Display area: 43mm×29mm
Meter Size	Length 275mm × Width 145mm × Height 40mm
Backlight	Controlled by LIGHT key
Data Hold	“ HOLD ” symbol appears
Overflow	“ OL ” symbol appears
Automatic Shutdown	Automatically shutdown about 15 minutes after power on to reduce battery consumption
Voltage Detection	Low battery symbol “  ” appears to remind the replacement of battery when the battery voltage drops below 5.2V.
Weight	1kg(with batteries and accessories)
Working Current	50mA with enabled backlight; 25mA with disabled backlight
Working Temperature and Humidity	-10°C ~ 40°C; 80%rh
Storage Temperature and Humidity	-10°C ~ 60°C; below 70%rh
Insulation strength	AC 2kV/rms(between core and shell)
Safety Specifications	IEC1010-1, IEC1010-2-032, 2 class of pollution, CAT III (600V)

V. Instrument Structure

1. Clamp
2. Function keys area
3. LCD display
4. Voltage input interface
5. Opening lever
6. RS232 interface
7. Housing screw (6 pieces)
8. Battery cover
9. Battery cover screw (1 piece)



VI. Method of Operation

1. Switch On/Off

Press **POWER** key to switch on, LCD display, in test mode, press **POWER** key to switch off. The meter will automatically power off after booting 15 minutes later. If LCD display is darker, maybe the battery voltage is too low, please replace batteries.

In data hold mode, firstly press **HOLD** key to cancel the lock, then press **POWER** key to switch off.

2. Backlight Control

After booting, press **LIGHT** key to control the backlight, suitable for dim places and night, default open after booting.

3. Data Hold/Storage

In test mode, press **HOLD** key to lock currently displayed value and display “**HOLD**” symbol. At the same time, this locked value as a set of data followed by auto-ID and store, display the group number such as “**SAVE NO.: 001**”, and then press **HOLD** key to cancel the lock, “**HD**” symbol disappear, then continue to measure. Loop operation, the meter can store 200 sets of data. If the memory is full, display “**FULL**” symbol.

4. Data Access/ Exit

In test mode, press **MENU** key to access data inquiry form group “**R: 001**”, and display “**READ**” symbol. It is allowed to rapidly navigate to the desired page number. Press “**△**” key to increase the page number by one, press “**▽**” key to increase the page number by ten. Press **MENU** key to exit date inquiry, back to test mode.





5. Data Upload

Connecting the meter and computer with USB-RS232 communication line attached in package. Start up the meter, run software, choose history access, then read, save, report, print history data, etc. The more data storage, take the longer time to read it. Historical data can be saved in Txt text or Excel format.

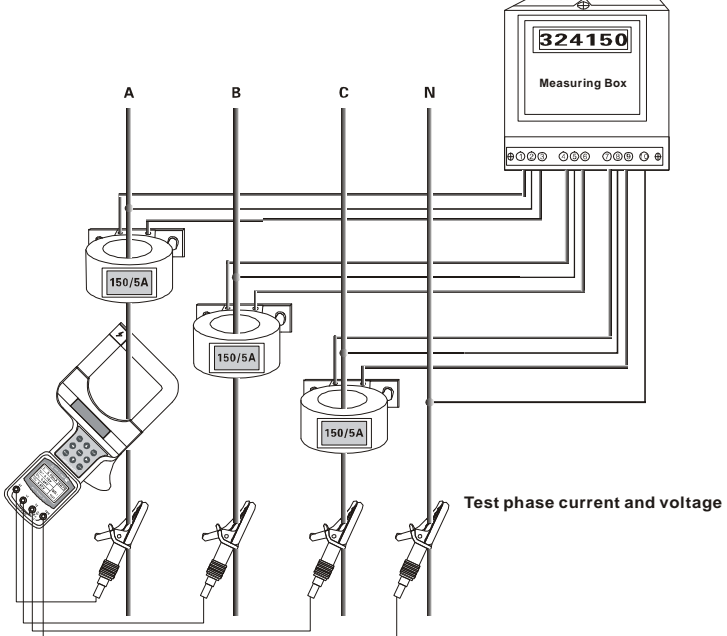
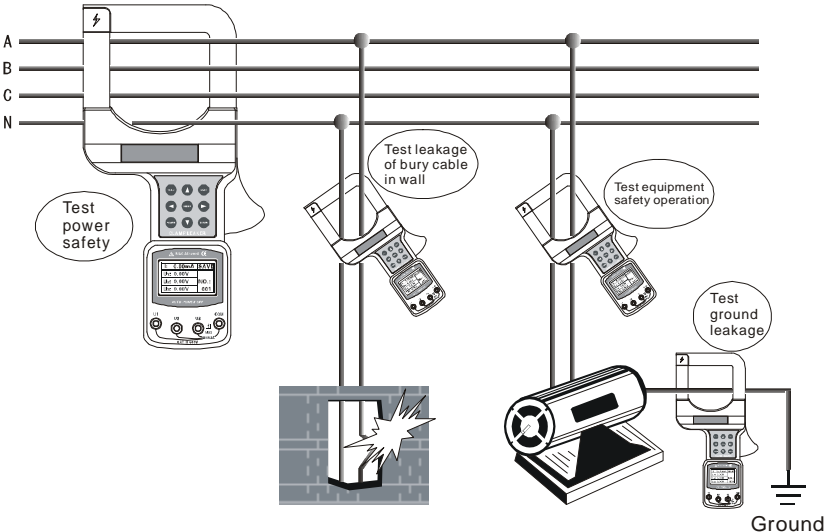
6. Delete Data

At the date inquiry mode, press **CLEAR** key to access deleting data menu, then press “**◀**” or “**▶**” keys to move the cursor to “**YES**” or “**NO**” item. Press **MENU** key to confirm deletion or return to the test mode.


7. Leakage Current/Current/Voltage Measurement


	<p>High voltage, very dangerous! Only qualified personnel after training could conduct operation on it. The operator should obey safety regulations; Otherwise there will be the danger of electric shock resulting in personal injury or casualty.</p>
	<p>Dangerous! Can not be used to test voltage higher than 600V. Otherwise there will be the danger of electric shock resulting in personal injury or casualty.</p>
	<p>Make sure the clamp well closed when measuring leakage current and current.</p> <p>Make sure the measured wire at approximately the geometric center of the clamp.</p> <p>Clean the clamp after finishing measurement, regularly maintain the meter.</p> <p>Be sure to connect test wires correctly when measuring voltage to avoid short circuit.</p> <p>After measuring voltage, should firstly take the test line away from measured wire, and then draw from meter, in order to avoid shock.</p>
	<p>Clamp live wire and null line together to measure leakage current of electric equipment. (Note: 2 wires)</p> <p>Clamp earth wire to measure grounding line leakage current of electric equipment. (Note: single wire)</p> <p>Clamp four wires of there phase to measure the total leakage current. (Note: 4 wires)</p> <p>Clamp main line to measure total current of that main line. (Note: single wire)</p>

Test reference illustrations:



VII. Battery Replacement

	Warning! Make sure the battery cover is well closed before measurement, otherwise there will be danger.
	Take note of the battery polarity, otherwise it may cause damage to the instrument.
	If the battery power is not enough, please change in time.
	Take out the batteries if you expect not to use the meter for a long time.

1. “” is displayed when the power voltage is lower than 5.2V, indicating that the battery should be replaced.
2. Press **POWER** key, make sure the meter is power off. Loosen the battery cover screw, open the plate, replace new batteries and cover the plate, then tighten screw.
3. Press **POWER** key to check whether the batteries are successfully replaced, repeat step 2 if it doesn't work.

VIII. Accessories

Main Unit	1 piece
Meter Box	1 piece
Test Line	4 pieces (3 red, 1 black)
RS232 Data Line	1 piece
Disk	1 piece
Battery	4 pieces (Alkaline Dry Battery LR6)
User Manual	1 piece
Guarantee Card	1 piece
Certification	1 piece

 **Manufactured by**

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