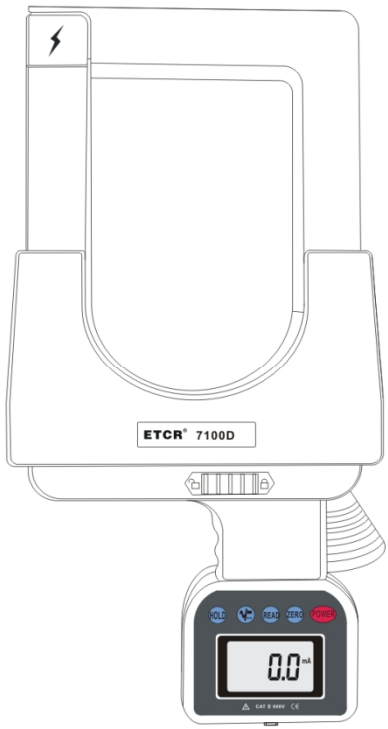
ETCR®

Super Large Caliber DC/AC Clamp Meter

ETCR7100D



http://www.etcr.cc

MANUAL

ETCR Electronic Technology Company

CONTENT

⚠ Warning ⚠

Thanks for your purchase of ETCR7100D Super Large Caliber AC/DC Clamp Me
of our company. For better use of the product, please make sure:
---To read this user manual in details.
---To abide by the safety regulations and precautions strictly.

♦Under any circumstance, it shall pay special attention on safety in use of this teste
♦ Pay attention to words and symbols stick on the Tester.
♦Be careful while the measured line voltage is Exceed 60VDC or 30VAC.
♦ Measured wire should at approximately the geometric center of the clamp,
The location deviation would increasing the measure error.
♦ Please don't place and store the instrument at the place with high temperatu
humidity, moisture condensation and straight sunlight for a long time.
♦Replace battery in time when the battery voltage is low.
♦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
brought up in case of continued use; only a competent body can be authorized to d
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. Safety Precautions And Procedures

This instrument was designed in compliance with IEC1010-1& IEC1010-2-032 saf guideline relative to electronic equipment.

For your own safety and to avoid damaging the instrument you are recommended follow the procedures described in this manual and read carefully all instructic preceded by this symbol ⚠

Before and during measurements keep to the following instructions:

- Do not take current measurements in wet places
- Do not take the measurements in the presence of explosive gas and combustib or in dusty places
- Avoid any contact with the circuit under test even though you are not taking a measurement
- Avoid any contact with exposed metal parts, unused measuring terminals, circu etc. Do not take any measurement whenever anomalous conditions occur such deformations, breaks, leakages, blind display etc

The herewith symbols are used in this manual and on the meter

 CAUTION: refer to the instruction manual. An improper use may dama the instrument or its components as well as endanger the user.

 High voltage danger: risk of electric shock

1. Preliminary Instructions

● This instrument has been designer for use in environments with pollution degree

● It can be used for voltage and current measurements on electrical installations w overvoltage CAT III 600V

● You are recommended to respect the usual safety regulations aimed at protecti you against dangerous current and protecting the instrument against improper use

● Only the original accessories supplied along with the instrument guarant compliance with the safety standards in force. They must be in a good conditions a if necessary, replaced with identical ones

● Do not test nor connect to any circuit exceeding the specified overload protectior

● Do not take measurements under environmental conditions exceeding the lim indicated in this manual

● Make sure that batteries are correctly installed

2. During Use

You are recommended to read carefully the following instructions:

CAUTION
Failure to comply with warnings and instructions may damage the instrument and/or its components as well as injure the operator

● Do not measure in the presence of external voltages. Although the instrument protected, an excessive voltage may cause malfunction

● Avoid submitting the instrument to voltage while measuring (i.e. a test le slipping off the measuring point accidentally touching an energized point)

CAUTION
If the “low battery” symbol  is displayed during use interrupt testing, switch off the instrument and replace batteries. **u** (Take note of the polarity when replace the battery.)

3. After Use

- Turn off the instrument pressing ON/OFF key after using it
- If you expect not to use the instrument for a long time remove batteries

II. Introduction

ETCR7100D Super Large Caliber AC/DC Clamp Meter is well designed a manufactured for measuring AC/DC current below 600V line Measure, it adopt t latest CT technology and digital integrated technology. No exposed metal conduc in the Clamp and no-contact measure model mean current measure operation m safer and quicker. Super large Caliber is particularly suitable for thick wire curr measure. This meter is widely used in electric power, communication, meteorolo railway, oil field, architecture, measuring, teaching research unit, industrial mini enterprises, etc.

The instrument with current peak value holding, data holding, data storage and otl function. Equipped

With USB interface, communication line and supervision software, this meter co achieve current online monitoring, show the real time current condition via comput with consult historical data, saving, print and other functions.

III. Model

Model	Range	Resolution	Note
ETCR 7100D	DC:0.0A- 2000A AC:0.0A~1000A	0.1A	Measure current

IV. 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)

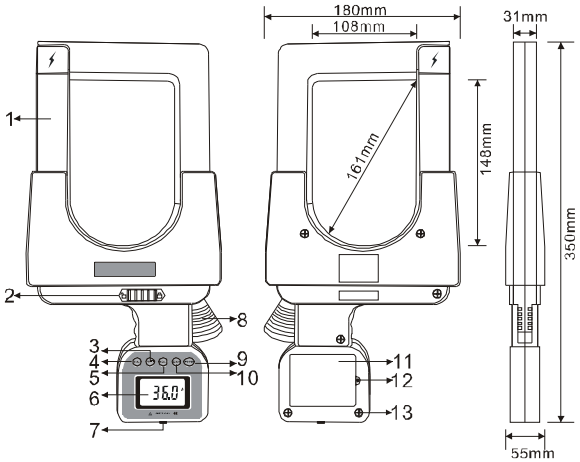
V. Technical Specification

Function	Measure AC/DC current, Current peak value holding, Online current supervision
Power	6V DC(LR6×4 alkaline dry batteries)
Test Mode	Clamp CT, Non-contact Test mode
Clamp Size	108mm×148mm (can clamp electric cable of 108mm diameter, or 160mm×4mm flat cable and steel earth wires)
Measurement Range	DC:0.0A~2000A, AC:0.0A~1000A
Resolution	0.1A AC/DC
Measurement Accuracy (Reference condition)	0.0mA~999A ±2%±5dgt
	1000A~1499A ±3%±5dgt
	1500A~2000A ±4%±5dgt
Reference condition	23°C±3°C, below 75%RH, measured wire at the center of the clamp
Frequency response	AC:45Hz~400Hz
Sample Rate	About 2 seconds per time
Measured Wire Position	Measured wire at approximately the geometric center of the clamp,the location deviation could increasing the measurement error(maximum2%)
Display Mode	4 digitals LCD display

Dimension	L×W×H:350×180×55(mm)
LCD Dimension	L×W:47×28.5(mm)
Polarity Indication	Automatic recognize in AC test model ,display "-"
Gear Shift	Automatic shift
Line Voltage	Below 600V Line Measure
Software	Available, The stored data in instrument would upload to computer via software.
USB interface	With USB interface ,upload data to computer ,software supervision.
USB Line	1.5m
Data Storage	99 sets, "**FULL**" symbol indicate the memory is full
Peak Holding	Measure and Maintain the peak value, Press **HOLD** and not let it go would show the peak value in test model .
Data Hold	"**HOLD**" symbol appears
Overflow	"**OL**" symbol appears
Automatic Shutdown	Automatically shutdown about 5 minutes after power on t o reduce battery consumption
Voltage Detection	Low battery symbol " − + " appears to remind the replac ement of battery when the battery voltage drops below 4. 6V.
Weight of Meter	1.5kg (with batteries)
Weight of Package	2.6kg (with accessories)
Reference Power	About 17mW
Working Temperature and Humidity	-10°C ~ 40°C; 80%rh
Storage Temperature and Humidity	-10°C ~ 60°C; below 70%rh
Insulation strength	AC 3700kV/rms(between core and shell)
Safety Specifications	IEC1010-1, IEC1010-2-032, 2 class of pollution, CAT III 600V

VI. Instrument Structure

1. Clamp (108mm×148mm)
2. Lock switch (after lock, the clamp can't be open)
3. ⏦ AC/DC Switch Key(Combination Key)
4. **HOLD** key (Combination Key)
5. **READ** display (Combination Key)
6. LCD Display
7. USB Interface
8. Opening lever(Operate the clamp)
9. **POWER** key
10. **ZERO** key(DC Adjust zero key)
11. Battery cover
12. Battery cover screw
13. Up and down cover connecting screws (6 pieces)



VIII. Method of Operation

1. Switch On/Off

Press **POWER** key to switch on, LCD display, in test mode, press **POWI** key to switch off. The meter LCD will twinkling 30 seconds after booting 5 minu later,then automatically power off. While the LCD is Twinkling, Pre **POWER** ,**HOLD** or **READ** ,the meter will keep working for 5 minutes. If L display is darker, maybe the battery voltage is too low, please replace batteries.

2. Current Measure

	**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.**
	**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.**

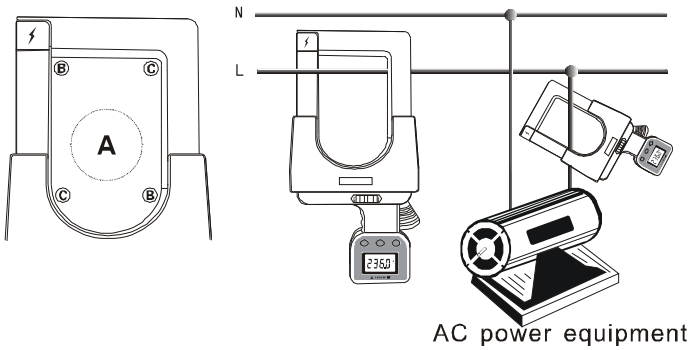
(1).Power

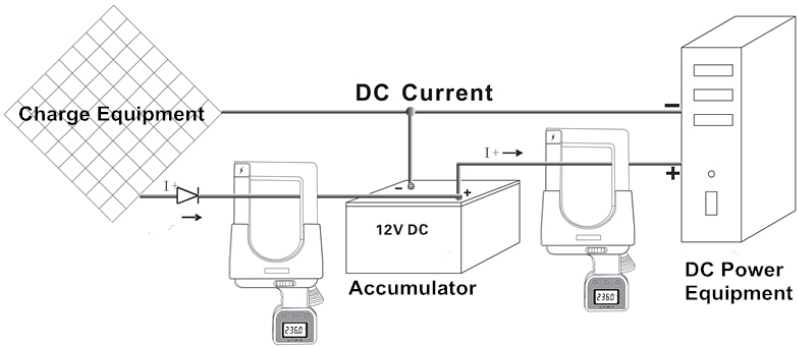
(2). Press ~/⎓ key to choose the kind of measurement. Adjust zero bef DC measure, the DC positive direction should toward the meter front cover.

(3).In Current measure procedure, Measured wire should at approximately t geometric center of the clamp(location:"A")(Attention:Measured wire Location"B" will make error increasing +2%, and in location"C" would ma error increasing -2%)

(4).Read the LCD display data, In case "OL A" symbol was displayed, it mea that current of measured line is beyond the maximum limit of this Meter; w this case, please choose Meter with much higher range limit.

Reference Figure





3. Peak Value Holding

Under the normal testing mode,press **PEAK** button(last more thar seconds), display"PEHd", That means the meter will display a automatically keep the maximum value in the test. Release t **PEAK** to exit from PEAK testing mode, returning to normal testi mode.

4. Data Hold/Cancel/Storage/Consult/Delete

(1).Pressing HOLD key for a short time in the course of measurement (less than seconds),HOLD symbol will display, the meter will hold current measuring data and automatically stored in the memory with a code; press HOLD key again to release the hold state, and the meter continues its measuring; in case stored data reach to 99 groups, press HOLD key again, the "FULL" symbol will display, which means storage memory is full; press HOLD key to cancel "FULL" flickering and return measuring mode.

(2).Press READ keys to enter into data access mode and display Unit 1 storage data automatically; and then press HOLD key again to turn the page of stored data; NU will display when there is no data in stored in the memory, press READ key to exit data access mode.

(3).After entering into data access mode, press HOLD key for more than 3 seconds will clean up all stored data; when the leaker displaying "dEL" symbol, it means that it has finished cleanup process, and then return to measuring state automatically.

5. Data Upload

Make good connection of company with RS232 communication wire of the Tester, switch on the Tester and run monitoring software, and if the software displays that interface is open and the connection is successful, then it can read the stored historical data, upload to company and preserve.

Monitoring software has the function of online real-time monitoring and historical inquiry, dynamic display, with the maximum, minimum, and average value indication with alarm value settings and alarm indicator, and the function of historical data access, reading, preserve, print and other functions.

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 tl

battery should be replaced.

2. Press **POWER** key, make sure the meter is power off. Open the battery cover, replace new batteries and close the battery cover.

VIII. Accessories

Main Unit	1 piece
Meter Box	1 piece
USB Data Line	1 piece
Battery	4 pieces (Alkaline Dry Battery LR6)
User Manual	1 piece
Warranty Card	1 piece
Certification	1 piece

⚠ ***Manufactured by***

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