

ETCR[®] DC CLAMP LEAKER

ETCR 6300D

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USER MANUAL

ETCR Electronic Technology Co.,Ltd

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Warning





Thank you for purchasing our company's product, for better use of this product, please:

—**Read carefully the user's manual.**

—**Follow strictly safety rules and notes listed in this manual.**

- ⊍ Under any circumstances, please pay special attention to your safety in the course of using this leaker.
- ⊍ Give heed to label texts and symbols on panel and back plate of this leaker.
- ⊍ Do not input current more than 7A, the tester measurement cannot exceed 7A, and no OL symbol indicates.
- ⊍ After power on, please calibrate zero before measuring.
- ⊍ Please don't place and store this leaker in hot and humid condition, locations with moisture condensation and under direct sunlight for a long time.
- ⊍ In case voltage of battery was low, please replace batteries.
- ⊍ If you expect not to use the leaker for a long time, please take out batteries.

- ⌚ When changing batteries, please pay attention to the polarity of battery.
- ⌚ Use, disassembly and maintenance of this leaker shall be operated by authorized personnel.
- ⌚ In case dangers would occur if continue to use a faulty leaker, please stop to use it and seal it for safekeeping immediately; and then, send it for disposal of authorized agency.
- ⌚ Users shall carry out operation based on danger signs “  ” on leaker and manual.
- ⌚ Users shall carry out safety operation based on instructions listed in this manual, e.g. “  ” and danger signs on this manual.

I. Introduction

ETCR6300D DC Clamp Leaker is specially designed for measurement of DC leakage current, DC low current; which resolution can reach 0.1mA, by adopting up-to-date CT technology and digital integration technology, it is a product with relatively small size, high accuracy and perfect function compared with similar leakers in the world. The leaker could be widely applied in those fields as electricity, communications, meteorology, railroad, oilfield, construction, measurement, scientific & research teaching institutes, industrial and mining establishments, the car circuit maintenance.

Clamp core of this DC Clamp Leaker adopts high magnetic alloy; in addition, with utilization of multilayer shielding technology, it is almost free from influences of external magnetic field so as to ensure high precision, high stability and high reliability of perennial continuous measurement. it is an essential tool for electrician safety testing.

ETCR6300D DC Clamp Leaker also named: **High Accuracy DC Clamp Leaker, Car DC Clamp Leaker**. This DC Clamp Leaker obtains one **USB**




interface. With the help of the software that we provide, many functions are available. For example, on-line monitoring, historical data inquiry, active curve drawing. There are also functions like saving to documents and printing when connected to PC. It also has functions such as peaking holding, data holding, data storage and adjust zero.




II. Range and Accuracy

Function	Measure Range	Accuracy	Resolution
DC current	0.0mA~6.00A	$\pm 2\%rdg \pm 5dgt$	0.1mA

(Condition: 23°C±5°C, below 75%rh, wire in the center of the jaw)

III. Electrical Signs

	Extremely dangerous! Operators shall strictly keep to safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Dangerous! Operators shall strictly keep to safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Warning! Operators shall strictly keep to safety rules; otherwise personal injuries or equipment damages might

	be caused.
	Double insulation
	AC
	DC

IV. Technical Specifications

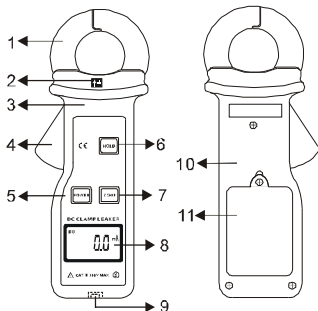
Function	Measurement of DC leakage current, DC current, car leakage
Power	Zn-Mn dry battery, 6F22, 9V DC, continuous use for 60 hours
Test Mode	Clip-on CT, Magnetic modulation
Clamp Size	25mm × 30mm
Range	0.0mA ~ 6.00A DC
Resolution	0.1mA DC
Accuracy (23°C ± 3°C, below 70%RH)	0.0mA ~ 300.0mA DC: ±2%rdg ± 5dgt 0.30A ~ 6.00A DC: ±2%rdg ± 5dgt
Shield Type	Double shielding
Display Mode	Four digits LCD display
Dimension	LWH: 175mm × 70mm × 38mm

LCD Dimension	35mm×21.5mm; display domain:32mm×15mm
Sampling Rate	About 2 times/s
Range Shift	0.0mA~6.00A DC Automatically
Zero-Adjustment	Yes, calibrate zero before measuring
Polarity Indication	Auto identified and display“—”
Test Position	Tested wire in the jaw center
Line Voltage	600V DC
USB Interface	Data stored in the memory of the meter via USB upload to PC, or on-line monitoring
Data Memory	99units, FULL blinks when the memory is full
Peak Hold	Push HOLD without release, the meter will show the peak value during the pushing period
Reading Hold	DH indicating the reading is hold
Out of Range	OL indicating the current is out of range
Auto Power-off	5 Minutes after power on, it will power off automatically to lower the power consumption
Battery Voltage	Indicating the battery voltage is lower than 7.2V.Then the battery have to be changed
Weight	120g (including the battery)
Working Current	20mA

Limit Temperature Error	-10℃~0℃及 40℃~50℃, within 2%rdg
Temperature and Humidity	Working: -10℃~50℃,below 80%rh Storage: -10℃~60℃,below80%rh
Insulating Strength	AC3700V/rms(between the alloy of the clamp and the housing)
Applicable Safety Rules	IEC1010-1、IEC1010-2-032、Pollution degree 2、CAT III(600V)

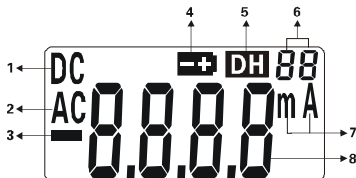
V. Structure of the Leaker

1. Clamp(25mm×30mm)
2. DC current positive input indication
3. Upper Cover
4. Totoid Opening Lever
5. **POWER** key
6. **HOLD** Key
7. **ZERO** Key
8. LCD
9. USB Interface
10. Back cove
11. Battery cover



VI. LCD Display

1. DC indication
2. AC indication
3. AC indication
4. Low battery symbol
5. Data hold indication
6. Stored data code
7. Unit of current indication
8. Value of current





VII. Operating Method


1. Start-up, Shutdown

Press **POWER** key to start up, LCD will begin to display; Press the **POWER** key again, the leak detector will shut down. After starting up for 5 minutes, LCD will flicker to note that the leak detector will shut down automatically; after flickering for 30s, it will shut down formally to reduce battery consumption. In case you have pressed **POWER** key when LCD was flickering, the leak detector will continue to work for 5 minutes. If LCD was very dark after starting up, it might be caused by low-voltage battery, in this case, please change battery immediately.

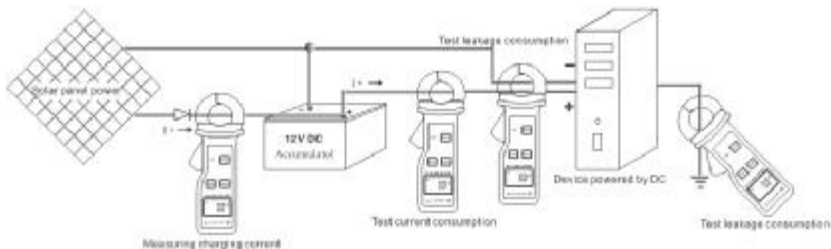
2. Leaker Measurement

	High voltage, extremely dangerous! Operators shall strictly observe safety rules; otherwise there would be risk of electric shock to cause personal injuries or casualties.
	Dangerous! Please don't use it to measure current higher than 300A; otherwise there would be risk of electric shock to cause personal injuries or equipment damages.

- 1) Power on.
- 2) Close to the measured conductor, press the ZERO key to clear
- 3) Press down trigger to open clamp head and clamp to-be-measured conductors. (Be attention that clamp heads must be totally closed)

	Clamp live wire and null line together is to measure leakage current of electrical equipment. (Note: 2 lines)
	Clamp earth wire is to measure grounding line leakage current of electrical equipment. (Note: single line)
	Clamp main line is to measure total current of that

main line. (Note: single line)



Note! In order to ensure the accuracy of measurement, before every measurement, close to the wire, adjust zero, and then clamp into the current line to test.

- 4) Read LCD display data. In case **OL mA** symbol was displayed, it means that current of measured line is beyond the maximum limit of this leaker; with this case, please shift gear with much higher range limit.



In locations with difficulty to read out data, please use the data holding function. If [DH] symbol displayed, please discharge data holding state

	first, and then do the test.
	Do not test DC current exceed 7A, When the input current is more than 7A, the meter reading may become small, and does not display the overrange OL symbol.

3. Peak Holding


Pressing **HOLD** key continually in the course of measurement (More than 3 seconds), the leaker will capture current peak values of lines in this period of time; release the key, it then will return to measuring state.

4. Hold, Storage and Access Reading

- 1) Pressing **HOLD** key for a short time in the course of measurement (less than 3 seconds), **DH** symbol will display, the leaker will hold current measuring data and automatically stored in the memory with a unit ID; press **HOLD** key again to release the hold state, and the leaker continues its measuring; in case stored data reached to 60 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 to measuring mode.
- 2) Press **HOLD**+**POWER** 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; **NULL** will display when there is no data in stored in the memory, press **POWER** 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.

VIII. How to Change Battery

	Warning! It is dangerous to carry out test when the battery cover plate was not on its position.
	Please pay attention to the polarity of battery to avoid damaging the leaker.
	Change the low battery in time
	If you expect not to use the meter for a long time, please get off the battery to storage.

- 1) “**+**” symbol means the battery is undercharge and need to be replaced.
- 2) Press **POWER** key to shut down the leaker; before opening the battery cover, please confirm the leaker is in off position, and then replace

with qualified new battery; special attention shall be paid to the polarity of battery; at last, cover battery cover plate.

IX. Accessories

Clamp tester	1 pc
USB Com cable	1 pc
Software	1 disk
User Manual	1 copy
Warranty card / Certification	1 copy

 **Manufactured by**

ETCR Electronic Technology Company

**Address: F-3F, No.4 Pengshang Zhifu Road, Jiahe,
Baiyun District, Guangzhou, Guangdong, China**

Post Code: 510440

Tel: (86-20)62199556 62199554

Fax: (86-20)61100822

E-mail: info@etcrc.com

Website: www.etcrc.com