

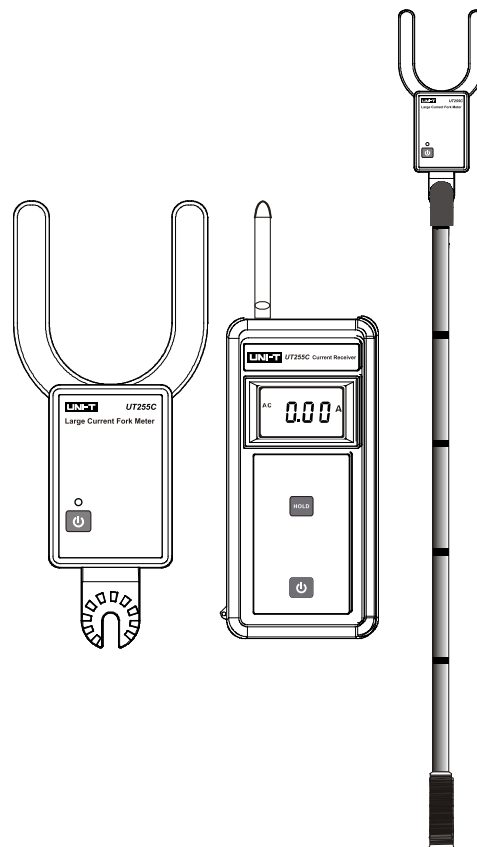
UNI-T®

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P/N:

UNI-T®



Large Current Fork Meter

UT255C
Operating Manual





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Safety Information

Thank you for purchasing the product. Before test, please carefully read the instructions, safety information and precautions in the user manual, and make sure you are skilled at operating the product.

- ◆ Pay special attention to safe use in any case, particularly for measurement of line with voltage over AC100V.
- ◆ Use hot stick when measuring line with voltage over 600V.
- ◆ On-site high-voltage measurement must be performed by authorized trained personnel.
- ◆ It is forbidden to test conductor or bus bar with voltage over 60KV.
- ◆ Please pay attention to the labeled words and symbols at the front and rear panels.
- ◆ Do not place or keep the product in environments with high temperature, high humidity, dew or direct sunlight for a long time.
- ◆ Install battery according to correct polarity, remove battery if the product is not used for a long time.
- ◆ Disassembly and servicing must be performed by authorized qualified personnel.
- ◆ It is forbidden to use if any component of the product is found damaged.
- ◆ If the using of the product presents risk, please stop use and then send the product to authorized body for maintenance.
- ◆ The danger symbol “” at the product and in the user manual identifies that the operator must perform safe operation according to the instructions.
- ◆ The extreme danger symbol “” at the product and in the user manual identifies that the operator must strictly perform safe operation according to the instructions.
- ◆ It is recommended to perform dielectric test once per year at least (apply AC 220kV/rms between both ends of fully-extended hot stick).

I. Introduction

The UT255C Large Current Fork Meter is specifically designed and manufactured to measure high-voltage current. Its innovative U-shaped clamp, which features a breakthrough in conventional structure, makes on-site measurement effortless.






This versatile device comprises a current fork meter, a wireless receiver, and a high-voltage hot stick. With a wireless transfer distance of up to 100 meters and a current range of AC 0.00A~9999A, the UT255C can accurately measure the current of high-voltage lines below 60KV when connected to a hot stick. Conversely, for low-voltage lines below 600V, the hook meter can directly measure the current without the need for a hot stick.

The UT255C is equipped with several useful features, such as data holding and storage. Additionally, the adjustable connector at the hot stick and U-shaped clamp jaws make it easy to clamp the measured conductor. Furthermore, it can serve as an alternative to the High/Low-Voltage Transformer Turns Ratio Tester by measuring the high/low-voltage current of primary and secondary loops and calculating the transformer turns ratio. The hot stick is characterized as being lightweight, retractable, moisture-proof, high temperature resistant, impact-proof, and highly insulated.

The UT255C Large Current Fork Meter is extensively employed in a variety of settings, including substations, power plants, industrial and mining enterprises, detection stations, and electrical servicing departments.


Model	Range	Resolution	Clamp jaws size	Clamp jaws structure	Wireless distance
UT255C	0.00A~9999A	0.01A	68 mm	Fork shaped	100 M

II. Electrical Symbols

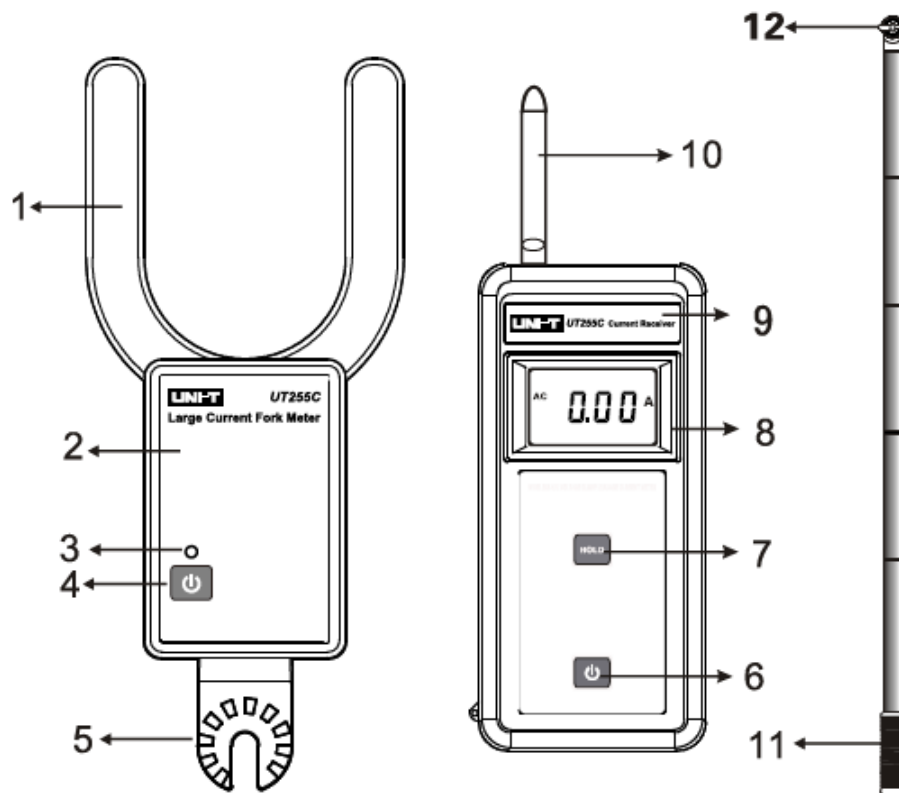
	Extremely dangerous! The operator must follow the safety information strictly, otherwise it may present a risk of electric shock, which can cause personal injury or death.
	Danger! The operator must follow the safety information strictly, otherwise it may present a risk of electric shock, which can cause personal injury or death.
	Warning! The operator must follow the safety information strictly, otherwise it can cause personal injury or product damage.
	Alternating Current (AC)
	Direct Current (DC)

III. Technical Specifications

Function	Measure high-voltage AC current, monitor low-voltage AC current and on-line AC current.
Power supply	DC6V alkaline dry battery (1.5V AAA × 4)
Testing mode	Non-contact U-shaped CT
Transfer mode	433MHz wireless transfer, with transfer distance at about 100 meters.
Display mode	4-digit LCD display (designed with backlight function, suitable for use in dark places)
LCD size	47 mm × 28.5 mm
Product dimensions (W×H×T)	Detector: 107 mm × 252 mm × 31 mm Receiver: 78 mm × 165 mm × 42 mm
Clamp jaws size	68mm
Hot stick size	Diameter: 45mm Length: 850 mm (retracted); 3600 mm (extended)
Voltage class of hot stick	110 KV
Sampling rate	2 times per second
Measurement range	0.00A~9999A (50/60Hz, automatic)
Resolution	0.01A
Range switching	0.00A~9999A (fully automatic)
Testing accuracy	±2%±5dgt (The measured conductor shall be near the center of the bottom of the clamp jaws, with temperature at 23°C±2°C)
Error by testing area	The measured conductor shall be near the center of the bottom of the clamp jaws. If the measured conductor is near the top of the clamp jaws, the testing error will be doubled approximately or more. (See "Operating Instructions")
Data storage	The receiver can store 99 groups of data. The symbol "MEM" flashes once when performing data storage. If full storage occurs, the symbol "FULL" will flash.

Conductor voltage	Measure bare conductor with voltage below 60KV (operate with fully-extended hot stick)
Data hold	In testing mode, press HOLD to hold data (with the symbol “HOLD” displayed), press again to disable data hold.
Data viewing	The symbol “MR” appears when entering data viewing mode. User can cycle through the stored data.
Overload indication	The symbol “OL A” appears.
No-signal indication	The symbol “no- -” is displayed dynamically if the receiver does not receive transmission signal.
Auto power off	About 15 minutes after the detector/receiver is powered on, it powers off automatically to reduce power consumption.
Battery voltage	If the battery voltage of detector/receiver is lower than $4.8V \pm 0.2V$, the symbol “  ” flashes for detector and is displayed continuously for receiver, to indicate replacing battery.
Product weight	Detector: 235g (including battery) Receiver: 280g (including battery) Total weight: 2300g (including hot stick and battery)
Operating temperature & humidity	-10°C~40°C; 80%Rh
Storage temperature & humidity	-10°C~60°C; 70%Rh
Interference	Avoid interference from co-channel signal of 315MHz and 433MHz
Dielectric strength	AC 220kV/rms (between both ends of fully-extended hot stick)
Structure	Anti-dripping type II

IV. Structure

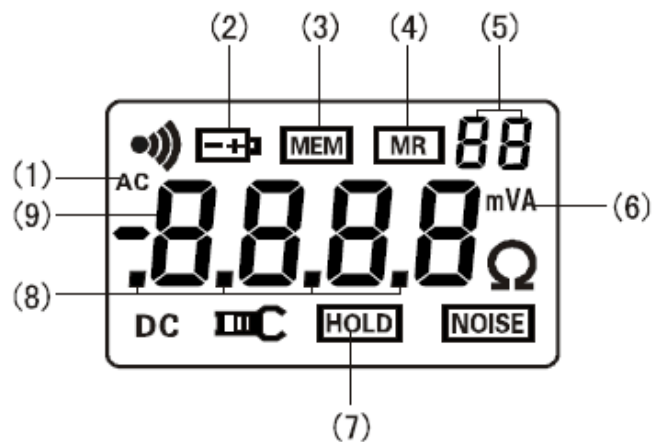


1. U-shaped clamp jaws
2. Detector
3. Power indicator light
4. Power button
5. Adjustable connector
6. Power button

7. HOLD button
8. LCD display
9. Receiver
10. Antenna
11. Retractable hot stick
12. Adjustable connector


v. LCD Display

1) Display screen



- | | |
|---------------------------------------|------------------------------|
| (1). Alternating current symbol | (6). Unit symbol |
| (2). Low battery symbol | (7). Data hold symbol |
| (3). Data storage symbol | (8). Decimal point |
| (4). Data viewing symbol | (9). 4-digit digital display |
| (5). 2-digit group No. of stored data | |

2) Symbols description

- (1). : Low battery symbol. If the battery voltage is lower than $4.8V \pm 0.2V$, this symbol appears to indicate replacing battery in time.
- (2). "OLA": This symbol indicates the measured current exceeds the specified upper range.
- (3). "MEM": This symbol represents storage mode, it appears when storing data.
- (4). "FULL": When 99 groups of data are stored, this symbol appears and flashes to indicate data cannot be stored anymore.
- (5). "MR": This is data viewing symbol. When viewing data, this symbol appears and the group No. of stored data is displayed.
- (6). "END": This is exit symbol. The symbol appears when performing exit operation.
- (7). "dEL": This is data deletion symbol. The symbol appears when performing data deletion.
- (8). "no- -": This is no-signal symbol. This symbol is displayed dynamically to indicate the detector may not be in testing mode, or receiving location and distance need to be adjusted.


3) Illustrations



- (1). The measured current is 2.00A
- (2). The displayed data is held and automatically stored in group No. 3, and the measured current is 160A.
- (3). The measured current is 571A. The low battery symbol appears to indicate replacing battery.
- (4). Data of group No. 3 is viewed, the measured current is 160A.
- (5). The symbol "FULL" appears and flashes to indicate full storage (99 groups).
- (6). This is data deletion symbol.
- (7). This is exit symbol.


(8). “no - -” is displayed dynamically to indicate no signal is received.

VI. Operating Instructions


	Please carefully check before use if any component of the detector/receiver is damaged, do not use if any damage is found.
	Install battery according to the instructions in the user manual.


1. Operate the detector

1) Power on/off

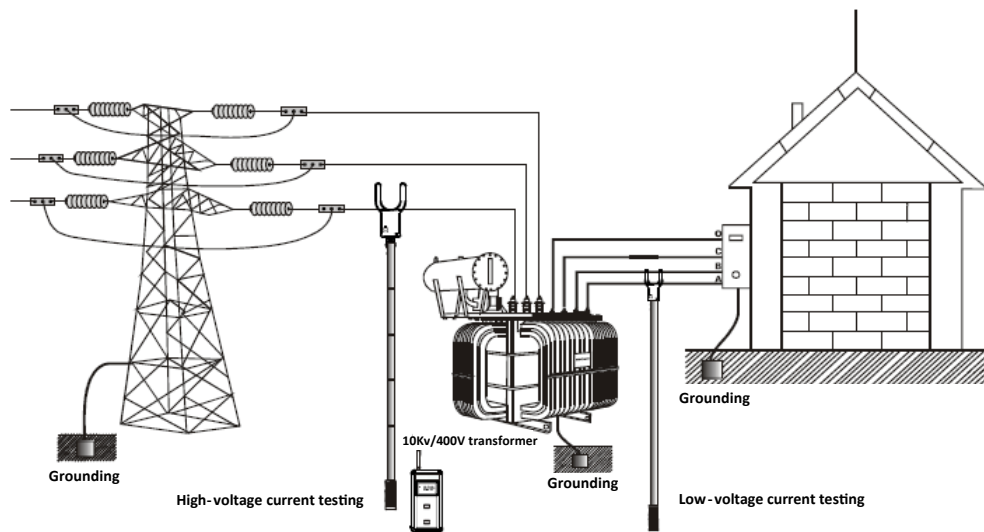
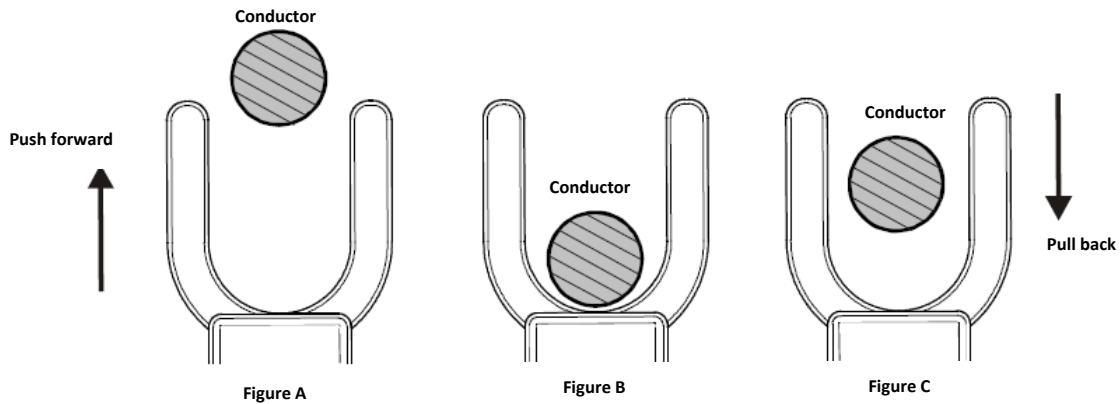
With the pressing of the button “”, the detector powers on with indicator light lit up, then enters general testing mode. The detector powers off automatically about 15 minutes after it is powered on.

2) General testing

	High voltage! Extremely dangerous! The operation must be performed by authorized trained personnel. The operator must follow the safety information strictly, otherwise it may present a risk of electric shock, which can cause personal injury or death.
	Danger! It is forbidden to test bare conductor or bus bar with voltage over 110kV, otherwise it may present a risk of electric shock, which can cause personal injury or equipment damage.

	For high voltage testing, please connect the hot stick and fully extend it, and hold the protective end of hot stick by hand.
	Use the supplied dedicated hot stick only.

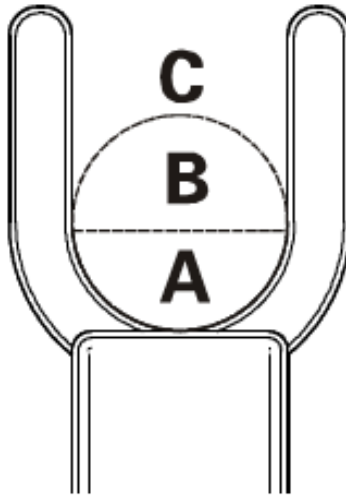
Power on the detector, then use the hot stick to push the detector to approach the measured conductor, as shown in Figure A. Center the conductor at the bottom of the clamp jaws, as close as possible to ensure measurement accuracy, as shown in Figure B. Pull back the detector to remove from the conductor, as shown in Figure C.



	<p>Caution! For your safety, please remove the detector from measured conductor after test.</p>
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3) Testing area

The measured conductor shall be near the center of the bottom of the clamp jaws (Area A). If it is near the top of the clamp jaws (Area C), the testing error will be doubled approximately or more; if at Area B, increased by about 1%.





4) Data transfer

The detector has wireless data transfer function. When the detector is in testing mode, the testing results are transferred to the receiver in wireless manner, then the receiver displays the testing results in real time and clearly.



The detector transmits signal only in testing mode. If the receiver does not receive transmission signal, it will display the symbol “no - -” dynamically. The straight-line distance of wireless transfer is about 100m, the wireless signal can penetrate wall to achieve data reception.

2. Operate the receiver

1) Power on/off

With the pressing of the button “”, the receiver is powered on and then enters data reception mode. If the brightness of the LCD is low after the receiver is powered on, the battery voltage may be low, please replace the battery in time. 15 minutes after the receiver is powered on, the LCD flashes continuously to indicate the receiver is going to power off automatically, 30 seconds after that, the receiver powers off automatically, so as to reduce power consumption. The receiver can continue working if “” is pressed when the LCD flashes continuously.

In HOLD mode, press “” to power off the receiver.

In data viewing mode, long press “” (more than 3 seconds) to exit data viewing mode and return to data reception mode, then press “” to power off the receiver. The symbol “End” appears when exiting data viewing mode.

2) Data reception

The receiver enters data reception mode when it is powered on. If the receiver receives transmission data, it will display testing data in real time; if not, it will keep searching signal and display the symbol “no - -”.

The receiver shows the symbol “OL” to indicate the measured current is over the specified upper range.



3) Data hold


In data reception mode, short press “HOLD” to hold data, with the symbol “HOLD” displayed. Short press again to unlock data and return to data reception mode, with the symbol “HOLD” disappearing.

4) Data storage


When “HOLD” is pressed in data reception mode, the receiver holds data, performs automatic numbering, and stores data held currently. The symbol “MEM” flashes once when performing data storage. The receiver can store 99 groups of data. If full storage occurs, the symbol “FULL” flashes continuously, in such case, please clear the data stored so as to store other data.

5) Data viewing


In data reception mode, press “HOLD” and “” to enter data viewing mode, show the symbol “MR”, and automatically display the stored data of Group 01, then press “HOLD” or “” to cycle through the stored data. The receiver automatically displays the data of Group 01 when viewing data of last group.



Long press “” (more than 3 seconds) to exit data viewing mode and return to data reception mode. The symbol “End” appears when exiting data viewing mode.

6) Data deletion


In data viewing mode, press “HOLD” and “” to delete all stored data and return to data reception mode. The symbol “dEL” appears when performing data deletion.

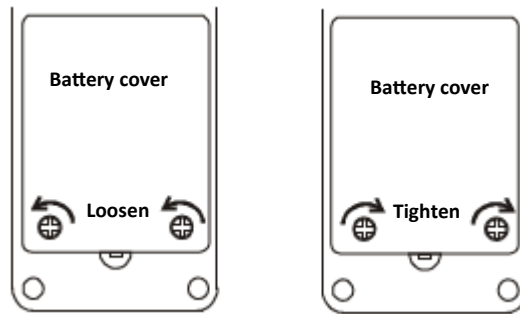
VII. Battery Replacement

	Warning! It is forbidden to test without battery cover closed in place, otherwise it can present risk.
	Please install battery according to correct polarity, otherwise it can cause product damage.
	Do not apply new batteries along with used ones.

1. If the battery voltage of receiver is lower than $4.8V \pm 0.2V$, the symbol “” is displayed continuously to indicate low battery, please replace the battery in time. If the battery voltage of detector is lower than $4.8V \pm 0.2V$, the symbol “” appears and flashes to indicate low battery, please replace the battery in time.

2. Power off the receiver/detector, loosen the two screws at the battery cover, open the battery cover, replace with new batteries (please ensure correct polarity), close the battery cover in place, then tighten the screws.

3. Press the button “” to check if the receiver/detector can power on normally, if not, please repeat Step 2 above.



VIII. Packing List

Detector	1 pc
Receiver	1 pc
Wireless antenna	1 pc
Retractable hot stick	1 pc
Carrying box	1 pc
Battery (AAA alkaline dry battery)	8 pc
User manual	1 pc

Note:

The content of this user manual cannot be used as a reason for using the product for special purposes.

The company is not responsible for other losses caused by use.

The company reserves the right to modify the contents of the user manual. If there are changes, no further notice will be given.