

# LNDT-101 Transformer Polarity Tester Manual



## **Warning**

Due to the possibility of voltage in

the input and output terminals, as well as test posts, there may be electric sparks when plugging or unplugging test wires and power plugs. Be cautious of electric shock, avoid the risk of electric shock, and prioritize personal safety!

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## 1、Overview



The Transformer Polarity Tester is a new generation CT (Current Transformer) and PT (Potential Transformer) polarity testing instrument developed by our company after extensively collecting user feedback and conducting thorough market research.

The traditional method for testing transformer polarity involves connecting the positive and negative terminals of a dry cell battery to the polarity and non-polarity terminals of the

## LNDT-101 Transformer Polarity Tester

primary side of the current transformer for a tap test. Simultaneously, a current meter or multimeter is connected to the secondary side to observe the direction of the pointer deflection. This process requires one person to observe the pointer deflection and another person to perform the tap test. For each set of three-phase CTs, including protection, measurement, and metering coils, multiple tap tests are needed, making the process cumbersome. Additionally, when the transformation ratio of the current transformer is large, the induced current on the secondary side is very small, making it almost impossible to observe pointer deflection.

This product is designed for polarity testing of transformers. The testing process is simple, and the results are reliable.

This instrument possesses prominent features such as novel practicality, attractive appearance, convenient portability, strong anti-interference capability, and stable reliability.

## 1.1 Main Functions:

1.1.1 Able to measure CT polarity, including high transformation ratio CT polarity.

1.1.2 Capable of measuring electromagnetic PT polarity.

1.1.3 Capable of measuring transformer polarity.

1.1.4 Powered by lithium battery, providing continuous operation for 5 hours on a single charge. 1.1.6 Automatic low battery voltage alarm.

## 1.2 Performance Features:

1.2.1 Utilizes ultra-high brightness light-emitting diodes for clear and accurate indications.

1.2.2 Adopts advanced electronic technology for stable and reliable operation.

1.2.3 Portable design for convenient carrying.

1.2.4 Simple operation; after powering on, testing can be completed with the control button.

## **2. Main Technical Specifications:**

2.1 Transformer, CT transformation ratio testing range: 1~10000.

2.2 Maximum output voltage of the instrument: 24V.

2.3 Maximum output current of the instrument: 3A.

2.4 Power adapter: 4.2V/1A.

2.5 Operating temperature: -10°C to 50°C.

2.6 Instrument dimensions: 100mm × 210mm × 32mm.

## **3. Panel and Wiring Ports:**

### **3.1 Buttons:**

This tester has a single button, as shown in Figure 1.



图 1

## 3.1 Power Button:

Equipped with a self-locking function, pressing the button engages the self-locking mechanism, powers on the device, and initiates the testing process. Pressing the button again releases the lock, powers off the device, stops the testing, and the button features



an indicator light that flashes during the testing process.

## 3.2 Wiring Ports:

This tester has two external wiring ports located at the top of the housing, as shown in Figure 1.

OUT: Output terminal of the instrument, connected to the primary terminal of CT or the secondary terminal of PT.

IN: Input detection terminal of the instrument, connected to the secondary terminal of CT or the primary terminal of PT.

## 3.3 Indicator Lights:

Same/Decrease (-) Polarity Indicator Light: Green

Opposite/Increase (+) Polarity Indicator Light: Red

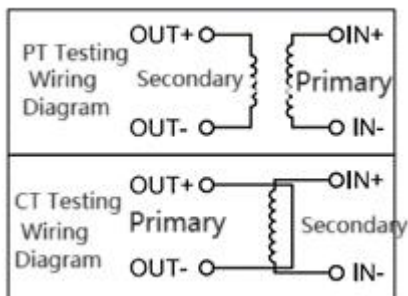
Low Battery Warning Light (BATT LOW): Red. During the testing process, intermittent blinking of this indicator light is normal, indicating that the battery is not fully charged. When the light

is constantly on, it signals that the battery needs to be recharged.

If testing continues in this state, it may lead to slow testing or errors.

**Battery Charging Indicator Light on the Charger:** When red, it indicates that the device is charging. When off, charging is complete. When green, it indicates that no charging is taking place at that moment.

## 4. Wiring Diagram:



## **5. Operation Instructions:**

5.1 For PT Polarity Testing, connect OUT to PT secondary and IN to PT primary.

5.2 For CT Polarity Testing, connect OUT to CT primary and IN to CT secondary.

5.3 For Transformer Polarity Testing, connect OUT to the low-voltage side of the transformer and IN to the high-voltage side of the transformer.

5.4 If the instrument is to be stored for an extended period, it should be fully charged first.

5.5 Please use the dedicated power adapter provided by our company for charging the instrument.

5.6 When the low battery warning light is constantly on, recharge the instrument promptly.

5.7 Do not charge the instrument when the ambient temperature is below 0°C or above 45°C to avoid damaging the battery.

5.8 During testing, disconnect the transformer and the secondary circuit of the transformer from connections with other instruments or devices.

## 6. Precautions:

### Safety Requirements

Please read the following safety precautions to prevent personal injury. To avoid potential dangers, use the instrument only within the specified range.

### Preventing Fires or Personal Injury:

Use the appropriate power adapter. Only use a dedicated and specification-compliant adapter.

Connect and disconnect correctly. Do not randomly connect or disconnect test leads when they are connected to live terminals.

## **LNDT-101 Transformer Polarity Tester**

Avoid contact with exposed circuits and charged metal. Do not touch exposed contacts and parts when there is electricity.

### **Qualified Personnel for Repairs:**

Only qualified technical personnel are allowed to perform repairs.

### **Environmental Safety:**

Avoid operating in humid environments and explosive atmospheres.