NJTy T-6125

NJTy T-6125 Digital Isolation Tester User Manual

Model: T-6125

1. Introduction

Thank you for choosing the NJTy T-6125 Digital Isolation Tester. This device is a professional-grade instrument designed for accurate measurement of insulation resistance, absorption ratio, polarization index, AC voltage, and low resistance. It features a high-performance integrated circuit, wide measurement range, and multiple test voltage levels, making it an essential tool for electricians and maintenance technicians. This manual provides detailed instructions for safe and effective operation, maintenance, and troubleshooting.

Figure 1: Front view of the NJTy T-6125 Digital Isolation Tester, showing the large LCD display and control dial.

2. Safety Information

Please read and understand all safety warnings and operating instructions before using this instrument. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Always ensure the device is in good working condition before use. Do not use if damaged.
- Do not operate the tester in wet environments or explosive atmospheres.
- Wear appropriate personal protective equipment (PPE), such as insulated gloves and safety glasses, when performing electrical measurements.
- Verify that the circuit under test is de-energized before connecting or disconnecting test leads, unless performing live voltage measurements as specified.
- Do not exceed the maximum input ratings for voltage and current.
- Ensure the battery compartment is securely closed before operation.
- Refer to the warning label on the back of the device: "TO AVOID ELECTRICAL SHOCK, REMOVE TEST LEADS BEFORE OPENING CASE. READ OPERATING MANUAL."

3. Product Overview

3.1 Key Features

- **Versatile Measurement:** Measures insulation resistance, absorption ratio (DAR), polarization index (PI), AC voltage, and low resistance.
- **High Performance:** Professional-grade integrated circuit design with wide measurement range and high output power.
- **Multiple Test Voltages:** Offers 100V, 250V, 500V, 1000V, and 2500V test voltage options for insulation resistance.
- **User-Friendly Display:** Large LCD screen with grey-white backlight for easy readability.
- **Data Management:** Features measurement data retention (HOLD), excessive alarm, and automatic shutdown.
- **Durable Construction:** Designed to be shock-resistant and dust-proof, suitable for various electrical equipment testing.
- **Automatic Discharge:** Includes an automatic discharge function after insulation resistance testing.

3.2 Components and Accessories

Figure 2: The NJTy T-6125 Isolation Tester shown with its carrying case, test leads, and alligator clips.

The package typically includes:

- NJTy T-6125 Digital Isolation Tester
- Test Leads (Red, Black, Green)
- Alligator Clips
- Carrying Case
- User Manual (this document)

Figure 3: Detail showing the large backlit LCD display and the robust, anti-fall plastic shell design of the T-6125.

4. Setup

4.1 Battery Installation

1. Ensure the device is powered off and all test leads are disconnected.
2. Locate the battery compartment cover on the back of the tester.
3. Use a screwdriver to open the battery compartment cover.
4. Insert 8 x 1.5V AA batteries, observing the correct polarity (+/-) as indicated inside the compartment.
5. Securely close the battery compartment cover and fasten the screws.

Figure 4: Rear view of the T-6125, highlighting the battery compartment cover.

Figure 5: The open battery compartment, showing the slots for 8 AA batteries.

4.2 Connecting Test Leads

Connect the test leads to the appropriate input terminals on the tester. Ensure a secure connection before proceeding with any measurements.

5. Operating Instructions

5.1 Powering On/Off

- To power on, rotate the central rotary switch from the "OFF" position to the desired measurement function.
- To power off, rotate the central rotary switch to the "OFF" position.
- The device features an automatic shutdown function after 30 minutes of inactivity to conserve battery life.

Figure 6: Illustration of the 30-minute automatic shutdown feature for battery conservation.

5.2 Insulation Resistance Measurement

1. Ensure the circuit under test is de-energized and safely discharged.
2. Connect the test leads to the circuit or component to be tested.
3. Rotate the central switch to one of the insulation resistance test voltage settings (e.g., 250V, 500V, 1000V, 2500V).
4. Press the **TEST** button to initiate the measurement. The display will show the insulation resistance value.
5. After the test, the device will automatically discharge the circuit.
6. Press the **HOLD** button to retain the displayed measurement. Press again to release.

5.3 Absorption Ratio (DAR) and Polarization Index (PI) Measurement

1. Follow steps 1-3 for insulation resistance measurement.
2. Rotate the central switch to the "DAR/PI" position.
3. Press the **TEST** button. The device will perform timed insulation resistance measurements to calculate DAR and PI.

4. The results will be displayed sequentially.

5.4 AC Voltage Measurement

1. Connect the test leads to the AC voltage source.
2. Rotate the central switch to the "ACV" position.
3. The AC voltage will be displayed on the screen.

5.5 Low Resistance Measurement

1. Ensure the circuit under test is de-energized.
2. Connect the test leads to the component for low resistance measurement.
3. Rotate the central switch to the "Low Resistance" position (indicated by Ω).
4. The resistance value will be displayed.

Figure 7: The T-6125 being used in diverse applications such as industrial control panels, telecommunication towers, circuit boards, and automotive electrical systems.

6. Maintenance

- **Cleaning:** Use a soft, damp cloth to clean the exterior of the device. Do not use abrasive cleaners or solvents.
- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears. Always use new, identical batteries.
- **Storage:** When not in use for extended periods, remove the batteries to prevent leakage. Store the device in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Calibration:** For professional use, periodic calibration by qualified personnel is recommended to ensure accuracy.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed batteries.	Check battery polarity and replace with new batteries if necessary.
Inaccurate readings.	Poor test lead connection, dirty terminals, or device needs calibration.	Ensure test leads are securely connected. Clean terminals. Consider professional calibration.
Display is dim or flickering.	Low battery power.	Replace all batteries.
Device shuts off unexpectedly.	Automatic shutdown due to inactivity, or low battery.	This is a normal feature after 30 minutes of inactivity. If it happens during active use, replace batteries.

8. Specifications

Parameter	Value
Model	T-6125
Material	ABS
Insulation Test Measurement Range	0.01MΩ ~ 200.0 GΩ
Insulation Test Voltages	100V, 250V, 500V, 1000V, 2500V
Insulation Test Output Voltage Accuracy	±10%
Insulation Test Short-Circuit Current	Approximately 2 mA
Automatic Discharge Function	Yes
Storage Temperature	-20 °C ~ 60 °C
Operating Conditions Temperature	0 °C ~ 40 °C
Altitude	2000m
Relative Humidity	40% ~ 75%

Parameter	Value
Power Supply	8 x 1.5V AA Batteries (not included)
Package Dimensions	22 x 19 x 9 cm
Weight	923 grams
Manufacturer	EVTSCAN
Country of Origin	China

9. Warranty and Support

For warranty information and technical support, please refer to the documentation provided at the time of purchase or contact your retailer. Specific warranty terms may vary by region and seller.