YC-98A+

Integrated Voltage (Capacitive/Electromagnetic) Transformer On-Site Calibrator

I. Overview

Traditional methods for error calibration of electromagnetic and capacitive voltage transformers √3require multiple devices, complex wiring, and bulky equipment, making on-site handling difficult. The YC-98DCR Capacitive/GIS Electromagnetic Voltage Transformer On-Site Tester can measure actual errors under high-voltage operating conditions at low voltage. It meets on-site error measurement requirements for both electromagnetic and capacitive voltage transformers, covering voltage classes including 6KV/100V, 6KV/ $\sqrt{3}$ /100V/ $\sqrt{3}$, 10KV/100V, 10KV/ $\sqrt{3}$ /100V/ $\sqrt{3}$, 35KV/100V, 35V/ $\sqrt{3}$ /100V/ $\sqrt{3}$, 110kV/100V, 110kV/ $\sqrt{3}$ /100V/ $\sqrt{3}$, 220kV/100V, 220kV/$\sqrt{3}$/100V /$\sqrt{3}$ and 500kV/$\sqrt{3}$/100V /$\sqrt{3}$.

The design incorporates user-friendly features such as a color touchscreen interface, WINCE operating system, off-frequency power supply technology, universal platform, voltage simulation load, internal high-accuracy voltage transformer, and self-boosting power supply, ensuring convenient, fast, and efficient operation.

Ⅱ. Features

1. Adopts WINCE OS with a user-friendly 800×600 color touchscreen for intuitive operation.

2. Eliminates the need for a booster, standard transformer, or load bank, enabling on-site measurement of ratio and phase errors.
3. Completes all tests with single wiring, improving efficiency and safety by avoiding operational errors.
4. Features polarity, ratio, and wiring inspection functions.
5. Single device performs comprehensive voltage transformer error measurements.
6. Fast testing speed, large data processing capacity, and massive storage (up to 1,000,000 data records).
7. Uses frequency conversion and digital processing for strong anti-interference capability in field environments.
8. Maximum test voltage ≤3KV with multiple protection measures to ensure safety.
9. Dual USB ports for data export to USB drives and mouse operation for enhanced convenience.
10. Supports WLAN or Bluetooth communication for real-time data transmission to handheld terminals.
11. Built-in wiring diagrams for intuitive, error-free connection setup, reducing preparation time.

Ⅲ. Technical Parameters

1. Environment Condition:

Temperature: -25~50°C; Relative Humidity: <95%

Altitude: <4500m; Power Frequency: 50±0.5Hz

2. Tested Transformer Types: Electromagnetic and capacitive voltage transformers

3. Accuracy:

Error Measurement Accuracy: 0.05%

Voltage Division Ratio Accuracy: 0.5%

Capacitive Voltage Divider Measurement Accuracy: 2%

DC Resistance Measurement Accuracy: 0–0.1Ω: 3%; 0.1–50Ω: 1%

4. Internal Standard Voltage Transformer:

a. Ratio Range:

6KV/100V, 6KV/$\sqrt{3}$/100V/$\sqrt{3}$
10KV/100V, 10KV/$\sqrt{3}$/100V/$\sqrt{3}$
35KV/100V, 35KV/$\sqrt{3}$/100V/$\sqrt{3}$
110KV/100V, 110KV/$\sqrt{3}$/100V/$\sqrt{3}$
220KV/100V, 220KV/$\sqrt{3}$/100V/$\sqrt{3}$
500KV/100V, 500KV/$\sqrt{3}$/100V/$\sqrt{3}$

b. Accuracy Class: 0.02%

5. Calibration Section:

Voltage Range: 0–100V (Percentage Meter Error: 0.5%)

Ratio Error: 0.001%–3% (100V)

Phase Error: 0.00′–50′ (100V)

Error Formula: X = (2%×X + 2%×Y ± 2 digits), Y = (2%×X + 2%×Y ± 2 digits)

Admittance: 0.1mS–199.9mS

Admittance Error: X = (2%×X + 2%×Y ± 2 digits), Y = (2%×X + 2%×Y ± 2 digits)

6. Dimensions: L/W/H: 370×280×160mm

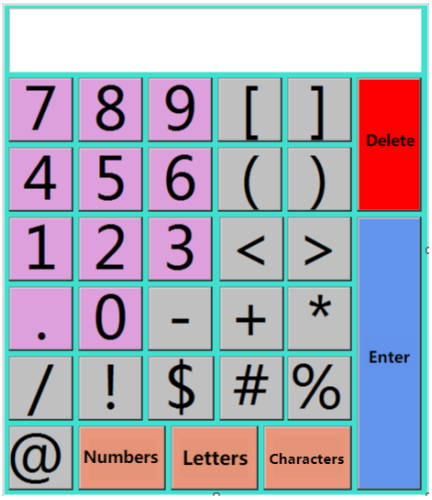
7. Weight: 11.0Kg

Ⅳ. Preparation

1. Basic Operations

Instrument Operation: Touchscreen or USB mouse control (the instrument is a pre-installed WINCE computer).

Parameter Input: Tap the parameter field to activate the on-screen keyboard, enter values.



Input all required parameters according to the nameplate of the transformer under test to complete the setup.

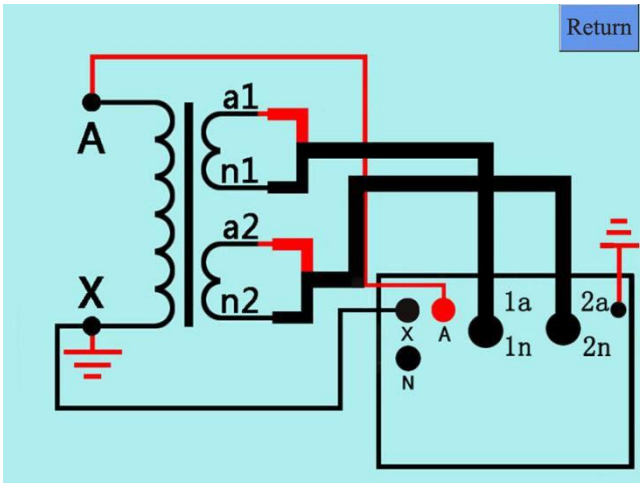
2. Power Connection:

Connect to AC220V/50HZ power. Use the emergency stop button to halt operations in case of anomalies. Turn on the power switch after the button resets, and the system will boot in ~30 seconds to display the main interface.

IV. Instrument Operation Instructions

1. Measurement of Electromagnetic Voltage Transformers

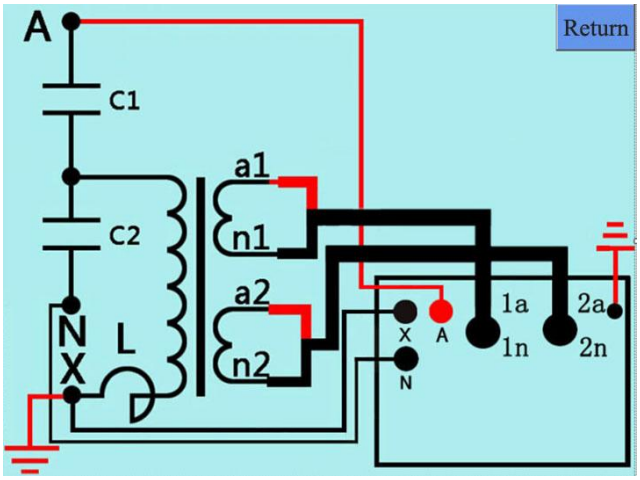
On the main interface, tap “Electromagnetic Measurement” to enter the electromagnetic voltage transformer measurement function.



Connect the instrument to the transformer as shown in the diagram above.
To return to the main interface, tap "Back".
After wiring as shown, tap anywhere on the interface to enter the parameter setup screen.

2. Measurement of capacitive voltage transformer

On the main interface, tap “Capacitive Measurement” to enter the capacitive voltage transformer measurement function.



Connect the instrument to the transformer as shown in the diagram above.
To return to the main interface, tap "Back".
After wiring as shown, tap anywhere on the interface to enter the parameter setup screen.