YTE610 Three-Phase Energy Meter Field Calibrator

YTE610-10 / YTE610-30 / YTE610-100 — On-Site Meter Verification & Power Quality



OVERVIEW

The YTE610 three-phase energy meter field calibrator is a portable instrument designed for on-site verification of single- and three-phase active and reactive energy meters — inductive and electronic — and of many other electrical instruments. It is widely used in electric power, metallurgy, chemical, tobacco, textile, railway, shipping and property industries. It lets utility metering departments verify meter errors on site without removing the meter or cutting the power, and gives electricity-inspection departments a practical tool for investigating electricity theft.

The instrument verifies energy meter errors, checks whether metering installations are wired correctly, tests the ratio and polarity of metering current transformers, and measures user power quality — including voltage and current harmonics, total harmonic distortion and voltage unbalance.

FEATURES

- 5-inch TFT LCD, 800 × 480 resolution
- Chinese / English display
- Accurate measurement of voltage, current, active power, reactive power, phase angle, power factor and frequency — verifies three-phase three-wire, three-phase four-wire and single-phase active / reactive energy meters
- Real-time detection of three-phase voltage, current, active and reactive power, phase angle, power factor and frequency; measures low-voltage CT primary and secondary current, ratio, polarity, ratio error and phase error
- Vector diagram of three-phase voltage and current, with 144 wiring-error discriminations (48 for three-wire, 96 for four-wire) — the error is described clearly in words and a correction coefficient is given
- Energy meter verification by photoelectric, manual or pulse method
- Barcode scanner input — scans the meter ID and user information directly
- Real-time waveform display of each phase voltage and current, for judging voltage and current quality
- Harmonic measurement from the 2nd to the 50th — content or amplitude of each harmonic, automatic total harmonic distortion calculation, histogram display
- Three-phase unbalance measurement and display
- 10,000 historical records stored; export by USB drive or upload to a PC via the communication port
- Current, voltage, active power and active energy accuracy: class 0.05 (Type A), class 0.1 (Type B)

- Two power modes — adapter or built-in lithium battery, which works continuously for 8 hours or more
- RS232, USB Host, USB Device and LAN interfaces; WiFi optional
- Optional built-in micro printer for printing test data on site

TECHNICAL SPECIFICATIONS

Item	YTE610-10	YTE610-30	YTE610-100
Clamp CT range (AC input)	10 A	30 A	100 A
Custom sensors	Custom sensor function — clamp CTs of other ranges can be selected as required		
Direct current input range (AC / DC)	0–10 A; auto ranges 1 A, 5 A, 10 A		
Voltage input range (AC / DC)	0–750 V; auto ranges 57.7 V, 100 V, 220 V, 380 V, 750 V		
Verification accuracy — voltage	±0.05 %		
Verification accuracy — current	Direct input ±0.05 % · clamp CT ±0.5 %		
Verification accuracy — active power	Direct input ±0.05 % · clamp CT ±0.5 %		
Verification accuracy — reactive power	Direct input ±0.3 % · clamp CT ±1.0 %		
Verification accuracy — active energy	Direct input ±0.05 % · clamp CT ±0.5 %		
Verification accuracy — reactive energy	Direct input ±0.3 % · clamp CT ±1.0 %		
Frequency measurement	Range 10–100 Hz · resolution 0.001 Hz · accuracy ±0.01 Hz		
Phase measurement	Range 0–359.999° · accuracy ±0.05°		
Energy pulse input	Max. pulse input frequency 1 kHz · constant settable 1–100000 · divider coefficient 1–9999		
Harmonic measurement (2nd–50th)	Fundamental voltage / current amplitude accuracy ±0.2 % · phase difference accuracy ±0.1° · harmonic content accuracy ±0.2 % · total harmonic distortion ±0.2 %		
Three-phase unbalance	±0.2 %		

GENERAL SPECIFICATIONS

Power supply	Battery, or 5 V / 3 A adapter (charging)
Power consumption	≤ 3 W
Display	5-inch TFT LCD, 800 × 480
Interfaces	Standard: RS232, USB Host, USB Device, LAN · Optional: WiFi, micro printer
Dimensions	300 × 270 × 165 mm (L × W × H)

Weight	2.8 kg
Working temperature	−25 °C to +55 °C · relative humidity 15–85 %