KINGSINE

KT220 Handheld CT/PT Analyzer

Fast, Precise, and Convenient
— Testing Made Simple

0.05% High Accuracy
Replaceable Battery Design
10.1-inch High-Resolution Touchscreen
Lightweight & Portable

— Only 3.5 kg

Product Highlights

- **10.1-inch Full HD Touchscreen** - Clear, intuitive operation interface.
- **Weight:** Ultra-light main unit at only **3.5 kg**, easy to carry.
- **Built-in Battery Design** - Operates effortlessly even in environments without power supply.
- **0.05% High Accuracy** - Delivers faster and more reliable testing.
- **Low-Voltage Variable Frequency Testing** - Safe, interference-free, and more intelligent operation.
- **Automatic CT Error Testing** - No external equipment required; precise, efficient, and time-saving.
- **Multi-Function Measurements** - Supports ratio, polarity, excitation, and more, meeting diverse CT testing needs.
- **Ethernet & Wi-Fi Connectivity** - Supports external mouse and keyboard for simple, convenient testing.
- **Massive Storage Capacity** - Stores over 10,000 reports, with memory that keeps data even when powered off, plus USB export for easy data management.
- **One-Click Report Generation & Traceable Review** - Simplifies reporting and ensures result traceability.
- **Nameplate Guessing Function** - Automatically identifies CT parameters, even without a physical nameplate, for smart and worry-free operation.
- **Advanced Analysis Software** - Enables curve overlap comparison, visualized results, and clear data-based diagnostics.

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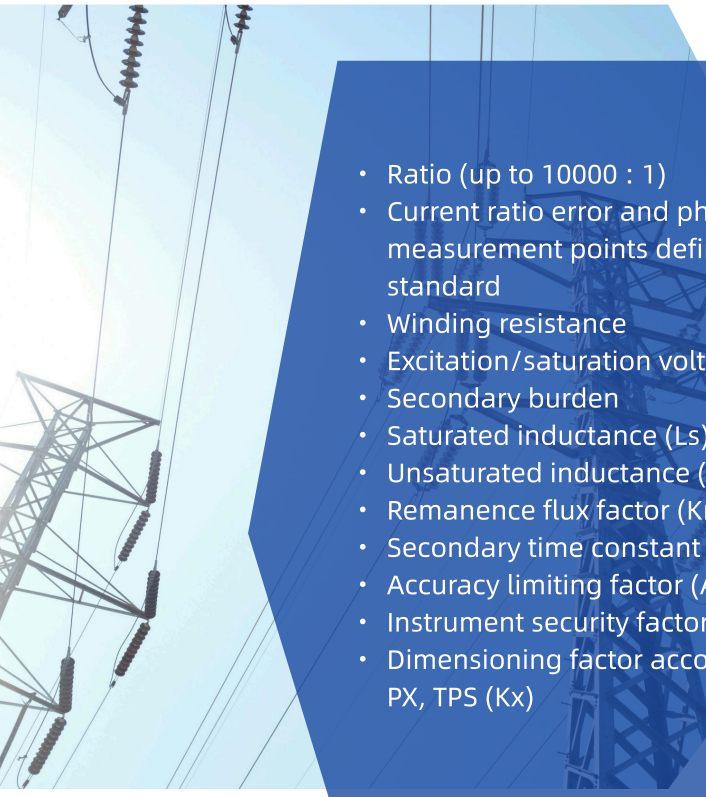
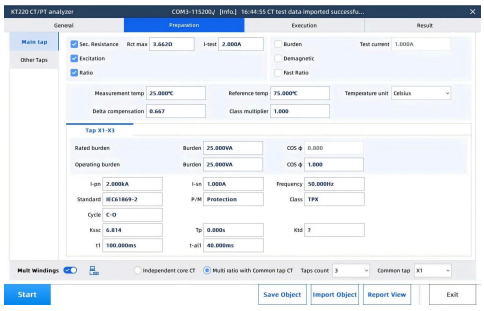
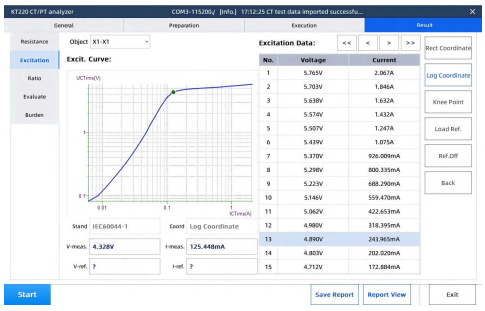
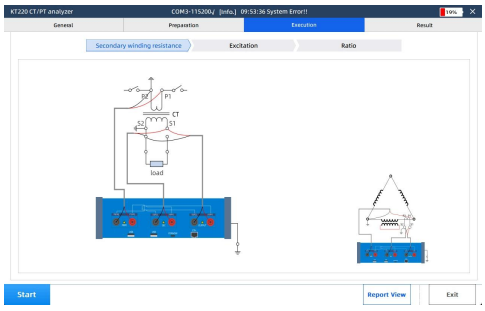
Complete More Tests in Less Time with KT220 CT/PT Analyzer



- Ratio (up to 10000 : 1)
- Current ratio error and phase error for all measurement points defined in selected standard
- Winding resistance
- Excitation/saturation voltage current
- Secondary burden
- Saturated inductance (Ls)
- Unsaturated inductance (Lm)
- Remanence flux factor (Kr)
- Secondary time constant (Ts)
- Accuracy limiting factor (ALF / ALFi)
- Instrument security factor (FS / FSi)
- Dimensioning factor according to class PX, TPS (Kx)
- Accuracy limiting voltage/current according to class PX (Ek / Ie)
- Turns ratio according to class PX (N)
- Turns ratio and composite error (εt ,εc)
- Rated symmetrical short-circuit current factor (Kssc)
- Transient dimensioning factor (Ktd)
- Peak instantaneous error (ε^)
- Maximum emf voltage (Emax - calculated value)
- Accuracy limiting voltage/current (Val/Ial)
- Knee-point voltage/current (Vkn / Ikn)
- The impedance / admittance of CT secondary Load, Like the burdens of various meters, relays, selector switches etc. are measured







Automated Testing Procedure

The KT220 is designed to accurately measure all relevant CT parameters and compare them to the requirements of the defined IEEE or IEC standard. Due to this automated assessment, testing engineers receive the'passed' or 'failed' decision within seconds.

Step 1:

Measurement of parameters

Measurement of CT parameters like
Excitation curve
Eddy current
Ratio, etc

Step 2:

Modeling

Definition of CT model elements with variable frequency and calculation of CT parameters through embedded mathematical functions.

Step 3:

Assessment according to IEEE or IEC standard

Automated comparison of test results with the defined values according to the selected IEEE or IEC standard.

Step 4:

Reporting

All data is delivered in an XML file and can be displayed via the reporting tool.

The KT220 is the most complete testing system for protection and metering CTs according to IEEE and IEC standards. It allows all types of single and multi-ratio current transformers to be tested on-site in power system grids. Manufacturer of CTs, transformers or GIS use the KT220 in their production facilities and test / development labs.

The KT220 offers a wide range of measurements, such as:

- CT-ratio and phase-angle accuracy with consideration of nominal and operational burden for various currents
- CT winding resistance
- CT excitation / saturation (unsaturated and saturated)
- ALF and FS (direct and indirect)
- Burden impedance
- CT residual magnetism
- PT ratio, polarity and excitation curve

Auto Demagnetizes

- Software-based tool to determine the residual magnetism in current transformers
- Analysis of the remanence condition before putting into operation the CT to assure proper function
- Simplifies power grid failure analysis after unwanted operation of protective relays
- Demagnetizes the CT core after measurement

PC Control Available

- Full access to all functions of the KT220 via a PC using the RJ45 interface
- Optimizes the integration into automated testing procedures in production lines
- Data export into Word
- Customizable testing and reports

Data Handling and Reporting

- Test reports can be saved on the host and transferred to a PC
- Data and protocols can be shown on a PC via the Word file loader program

"Guessing" Nameplates（Reference for unknown CT）

- Determination of unknown CT data
- Older CTs can be classified and put into service without contacting the manufacturer
- Determinable parameters include:
- CT type
- Class
- Ratio
- Knee point
- Power Factor
- Nominal and operating burden
- Secondary winding resistance

Technical Features Standard Package

- Excellent noise immunity to disturbances from energized power lines close to the measurement
- CT ratio and phase measurement with consideration of nominal and connected secondary burden; CT ratio up to 10000:1
- Knee-point voltage from 1 V up to 30 kV can be Measured
- Currents from 1% up to 400 % of the rated value
- Different burdens (full, ½, ¼, ⅛ burden)
- Determination of ALF/ALFi and FS/FSi, Ts, and composite error for nominal and connected burden
- CT winding resistance measurement
- CT excitation curve (unsaturated and saturated)
- Saturation characteristic recording
- Direct comparison of excitation curve to a reference curve
- CT phase and polarity check
- Secondary burden measurement
- Automatic demagnetization of the CT after the test
- Small and lightweight (3.5kg)
- Short testing time due to fully automatic testing
- High level of safety using patented variable frequency method (max. 120 V)
- "Nameplate guesser" function for CTs with unknown data
- PC control interface
- QuickTest: Manual testing interface
- Color display readable in bright sunlight
- Simulation of measured data with different burdens and currents
- Easily adaptable reports (customizable)
- Knee-point voltage from 1 V up to 30 kV can be Measured
- Automatic assessment according to IEC 60044-1, IEC 60044-6, IEC61869-2, ANSI30/45, IEEE C57.13
- Automatic assessment for accuracy class > 0.1
- Measurement of transient behavior of TPS, TPX, TPY and TPZ type CTs
- PT ratio, polarity and excitation curve according to IEC60044-2

Technical Data of KT220 CT/PT Analyzer

Current Ratio Accuracy	
Ratio 1 - 5000	0.02% (typical) / 0.05 % (guaranteed)
Ratio 5000 - 10000	0.03% (typical) / 0.05 % (guaranteed)
Winding Resistance	
Range	0.1 - 300 Ω
Resolution	1 mΩ
Accuracy	0.05 % (typical) / 0.1 % + 1 mΩ (guaranteed)
Phase Displacement	
Resolution	0.01 min
Accuracy	1 min (typical) / 3 min (guaranteed)
Output	
Output Voltage	0 Vac to 120 Vac
Output Current	0 A to 5 A (15 A peak)
Output Power	0 VA to 250 VA (750 VA peak)
Power Supply	
Battery Volume	10.8V, 2x47.52Wh (4500mAh)
Power Input	Type-C，PD3.0，20V/3.25A，20V/5A
Operating Temperature	Charge: 0 to 45°C (Ambient)
	Discharge: -20 to 60°C (Ambient)
AC Charger input	100~264Vac, 47~63Hz
Physical Dimensions	
Size (W x H x D)	288 x 185 x 95mm
Weight	<3.5 kg (without accessories)
Environment Conditions	
Operating Temperature	-10°C up to + 55°C
Storage Temperature	-25°C up to + 70°C
Humidity	Relative humidity 5% up to 95% not condensing