

## 3-Phase Relay testing

# AKT-200 CT/PT ANALYZER



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- KT200 is designed for the Protection CT and Metering CT complete test, and partial PT test
- Modular design of plug-in architecture for convenient customer site maintenance
- One-step test determining all parameters (<3 min), Automatic test winding resistance, Excitation, saturation, CT ratio, etc...
- Automatic assessment to IEC/ANSI standard and integrated report functionality
- Test CT knee point voltage up to 30KV
- High ratio measurement up to 50,000:1
- Compiling of IEC60044-1, IEC60044-6 and ANSI30/45, etc
- Lightweight, <10Kg
- Mobility, Accuracy, Safety and Handling
- "Guessing" Nameplates, determination of unknown CT data

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## Purpose

- Ratio (up to 50000 : 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 / le)
- Turns ratio according to class PX (N)
- Turns ratio and composite error ( $\epsilon_t, \epsilon_c$ )
- Rated symmetrical short-circuit current factor (Kssc)
- Transient dimensioning factor (Ktd)
- Peak instantaneous error ( $\epsilon^{\wedge}$ )
- Maximum emf voltage (Emax - calculated value)
- Accuracy limiting voltage/current (Val/lal)
- 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
- Data Handling and Reporting
- Determination of unknown CT data, Older CTs can be classified and put into service without contacting the manufacturer

## Characteristics

- Excellent noise immunity to disturbances from energized power lines close to the measurement
- Determination of ALF/ALFi and FS/FSi, Ts, and composite error for nominal and connected burden
- CT ratio and phase measurement with consideration of nominal and connected secondary burden
- Currents from 1% up to 400 % of the rated value
- Different burdens (full,  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$  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 (< 10 kg)
- 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
- Knee-point voltage from 1 V up to 30 kV can be Measured
- Automatic assessment according to IEC 60044-1 or IEC 60044-6
- 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 Datasheet:

Current Ratio Accuracy	Ratio 1 - 5000	0.03 % (typical) / 0.1 % (guaranteed)
	Ratio 5000 - 10000	0.05 % (typical) / 0.2 % (guaranteed)
	Ratio 10000 - 50000	0.1 % (typical) / 0.2 % (guaranteed)
Phase Displacement	Resolution	0.01 min
	Accuracy	1 min (typical) / 3 min (guaranteed)
Winding Resistance	Range	0.1 - 100 $\Omega$
	Resolution	1 m $\Omega$
	Accuracy	0.05 % (typical) / 0.1 % + 1 m $\Omega$ (guaranteed)
Outputs	Output Voltage	0 Vac to 120 Vac
	Output Current	0 A to 5 A (15 A peak)
	Output Power	0 VA to 450 VA (1500 VA peak)
Power Supply	Input Voltage	100 ~ 240 Vac @ 10A Max
	Permissible Input Voltage	85 ~ 260 Vac, 120 ~ 370 Vdc
	Frequency	50 / 60 Hz
	Permissible Frequency	47 Hz to 63 Hz
	Connection Type	Standard AC socket 60320
Physical Dimensions	Size (W x D x H)	360 x 325 x 140mm
	Weight	< 10 kg
Environment Conditions	Operating Temperature	-10°C up to + 55°C
	Storage Temperature	-25°C up to + 70°C
	Humidity	5%-95%RH, not condensing

NOTE: the above specifications are valid at nominal voltage and ambient temperature of +25°C (+77°F). Specifications are subject to change without notice