KPM CT/PT Analyzer

A ground breaking all in one solution for testing of CT / PT

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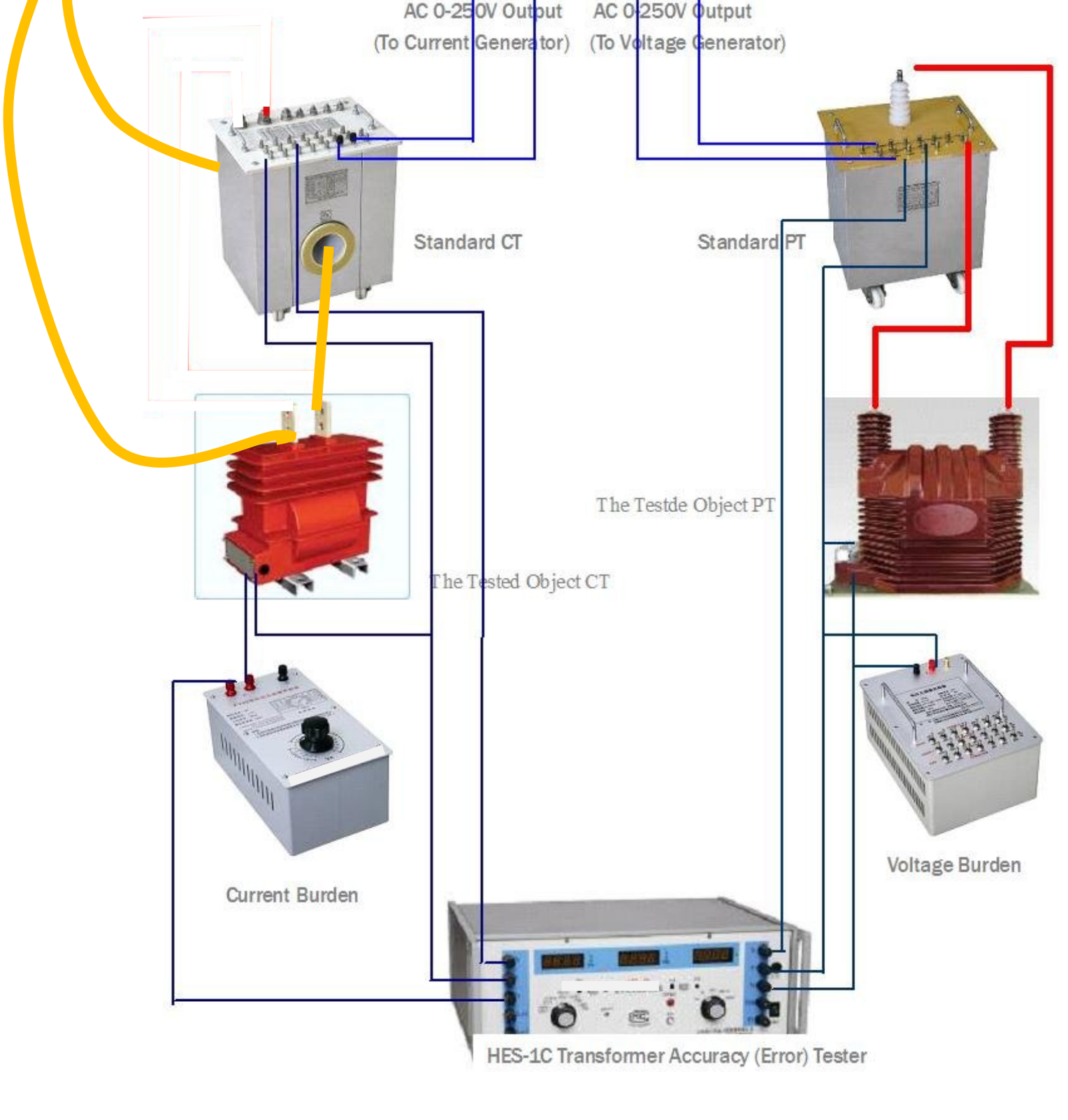
Key Parameter Monitoring

Traditional Setup (Example)

Primary Injection Kit & Cable

AC Hipot

Polarity Tester



Knee Point Tester

Winding Resistance Tester

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Key Parameter Monitoring

KPM CT/PT Analyzer

KPM-CT/PT Analyzer is an all in one solution for testing all type of CT/PT as per IEC standards. It is an equipment with high ROI (Return On Investment) . Below features make KPM CT/PT analyzer and ideal tool for CT/PT Manufacturer , Testing labs , Substations (Upto 765KV) , Power Plants etc.

1. **Low Testing Time** (Completes all basic test for CT Winding & Cores in few minutes)
2. **Simple connection** (Simple one time connection)
3. **Highest Accuracy** (0.05% for turns ratio & winding resistance)
4. **Portable & Light Weight** (< 15KG)
5. **High Interference Rejection** (Can be used in 220/400/765 KV Live Switchyards)

Highlights:

A compact 15kg unit with complete measurement function, it can test all types of current/potential transformer for:

Tests for Current transformer:

- Excitation curve and parameters test
- Turns ratio test
- Ratio and phase error test
- Polarity mark check
- Coil resistance measurement
- Secondary loop burden measurement
- Error line curve test for protection CT
- Transient CT parameters test
- CT nameplate guess
- Saturation hysteresis loop curve measurement

Tests for Voltage transformer:

- Turns ratio and phase angle error test
- Polarity test
- Secondary burden test
- Winding resistance test

Specifications

Input Supply

Voltage	AC220V±10%
Frequency	50/60Hz±10%
Power	500VA

Output Supply

Voltage	0.1~180V (AC)
Current	0.001~5A (RMS)
VA	500VA
Maximum knee voltage	Upto 45kV
Current measurement:	Range: 0~10A (auto change range in 0.1/0.4/2/10A) Error: <±0.1%+0.01%FS
Voltage measurement	Range: 0~200V (auto change range in 1V/10V/70V/200V) Error: < ±0.1%+0.01%FS
Test standards :	IEC60044-1, IEC60044-6, C57.13 IEC 61869-2,3

Turns ratio measurement

- Range: 1~35000 ,
- 1~2000 error<0.05% , 0.02% typ
- 2000~5000 error>0.1% , 0.02% typ
- 5000~35000 error<0.2%

Maximum knee voltage measurement	45kV

Phase Displacement

Resolution	0.01 min
Accuracy	1 min (typical) /3 min (guaranteed)

Winding Resistance

Resolution	1 mΩ
Accuracy	0.05% (typical)/0.1% (guar)
Range	0-160 Ω (Auto Range)

Physical Dimensions

Size (WXHXD) in mm	485 X 356 X 183
Weight	< 15Kg

Working condition

Temperature	-10°C～50°C (Operational) -25°C～70°C (Storage)
Humidity	≤90% (not condensing)
Certificates From Ext Labs (Optional)	Wuhan HV Research Report KEMA Report

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Key Parameter Monitoring

GREEN-WATT KPM-CT/PT Analyzer

Traditional Method V/s KPM-CT/PT Analyzer:

Mobility & Time:

Traditional Method:
- Tons of equipment (Primary Injection Kit, huge cables, current boosters, burden box etc.)
- Takes Whole day for testing a CT with numerous change of connections increasing mistakes .

KPM-CT/PT Analyzer:
- <15kg, ideal for handling on-site
- Simple test connections with automatic schedule completes all the basic tests in few minutes .

Safety:

Traditional Method:
- Uses dangerously High Voltages & Currents (primary nominal current injection)

KPM-CT/PT Analyzer:
- Capable of testing all the parameters with maximum output voltage of 180V

Accuracy:

Traditional Method:
- High accuracy, but complicated wiring makes testing error-prone.

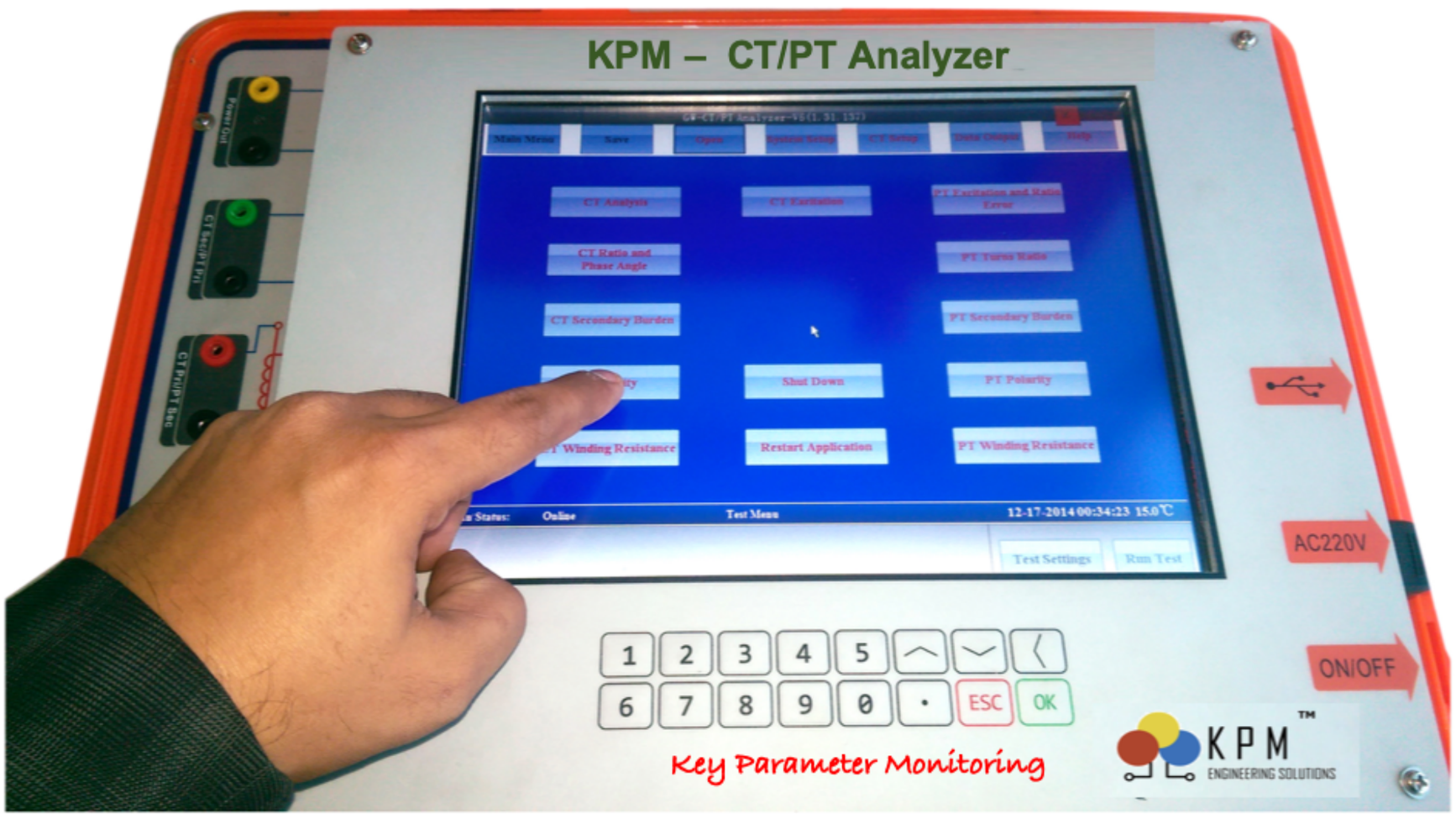
KPM-CT/PT Analyzer:
- Measurement of class 0.1 metering CTs
- Turns Ratio Accuracy of 0.05%
- Excellent noise suppression in charge substations of 220KV ,400KV & 765KV

Handling:

Traditional Method:
- Several people required to set up and conduct the test.

KPM-CT/PT Analyzer:
- One step test determining all key parameters evaluation(<5min)
- Quick word document preparation with adequate graphs

Reveal the Power of "30CM" TFT-Touch Screen



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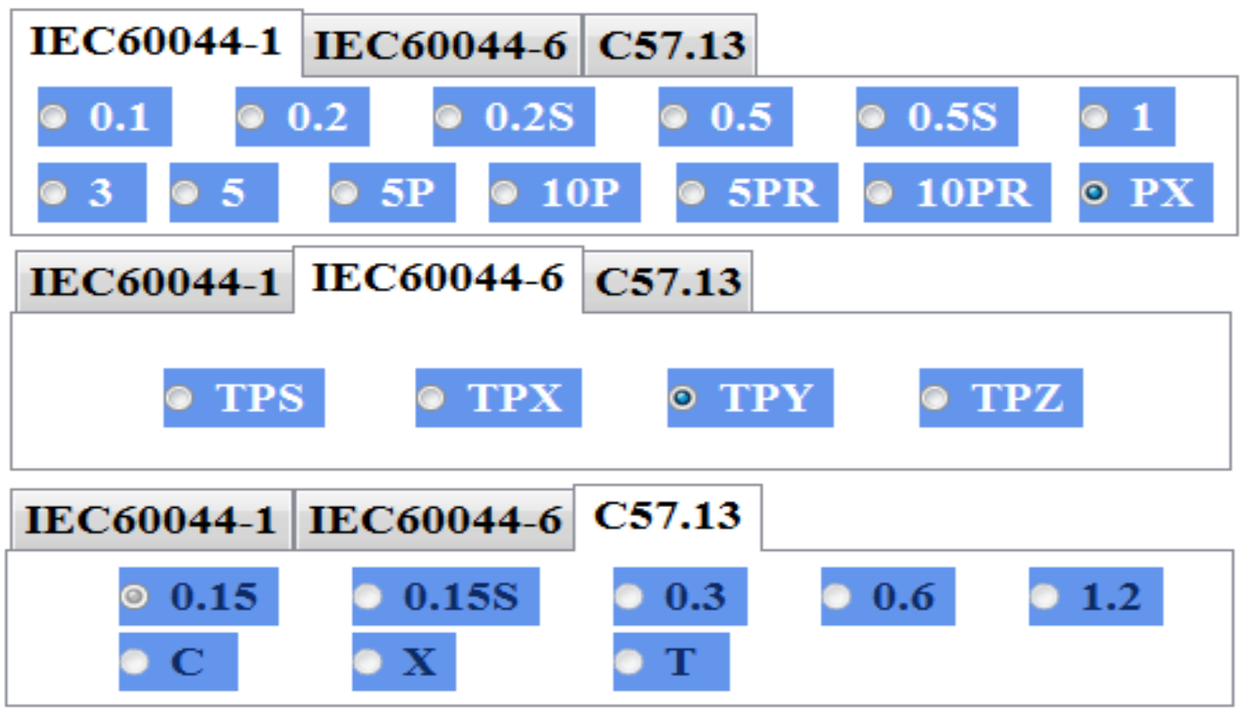
KPM-CT/PT Analyzer

Standards Complied:

KPM-CT/PT Analyzer perform automatic assessment of CT as per below standards -:

- IEC 60044-1
- IEC 60044-6
- C57.13
- IEC 61869-2,3

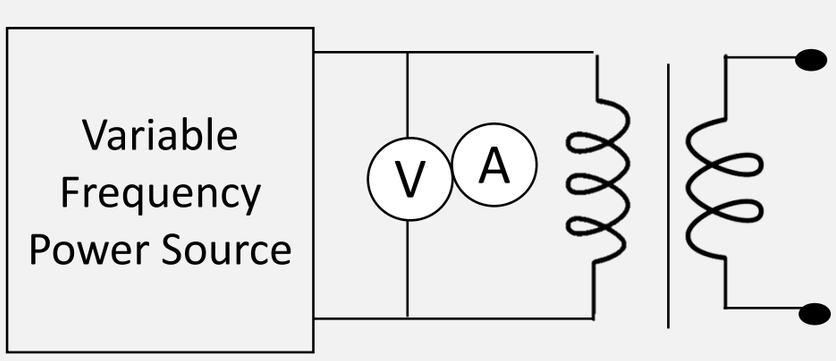


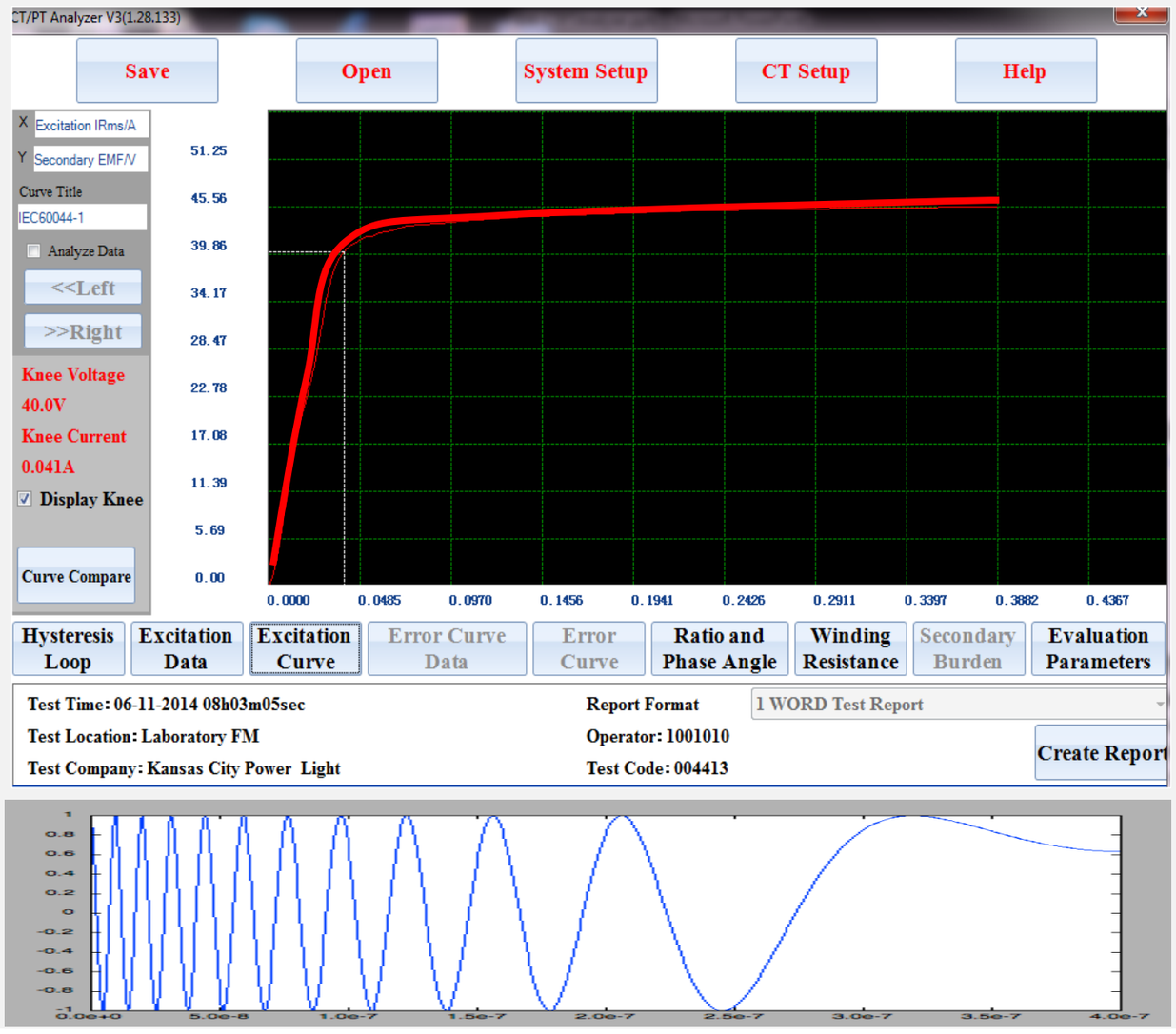
Excitation Curve:

Excitation Curve plotting as per IEC60044-1, IEC60044-6. Excitation Curve is a graph showing the relation between excitation current and secondary terminal voltage.

As per IEC 60044-1 Knee Point Voltage is defined as minimum sinusoidal e.m.f.(r.m.s.) at rated power frequency when applied to the secondary terminals of the transformer, all other terminals being open-circuited, which when increased by 10 % causes the r.m.s. exciting current to increase by no more than 50 % .

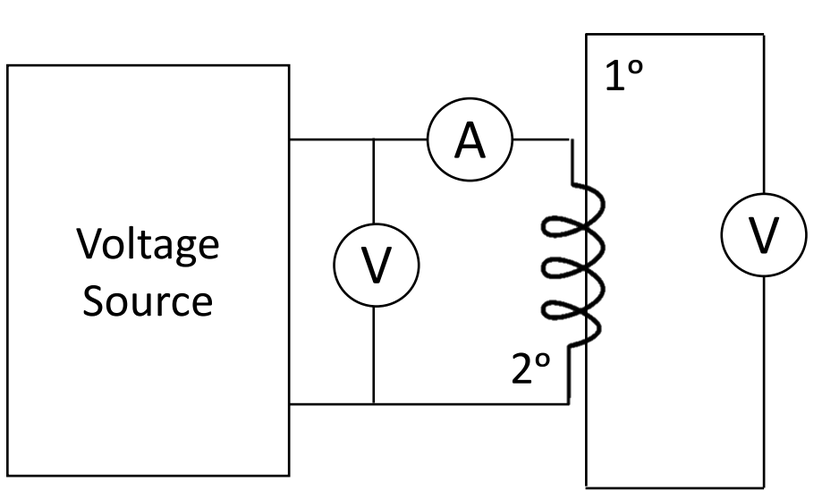
KPM-CT/PT Analyzer can attain a highest Knee Voltage of 45kV, by decreasing the frequency accordingly .



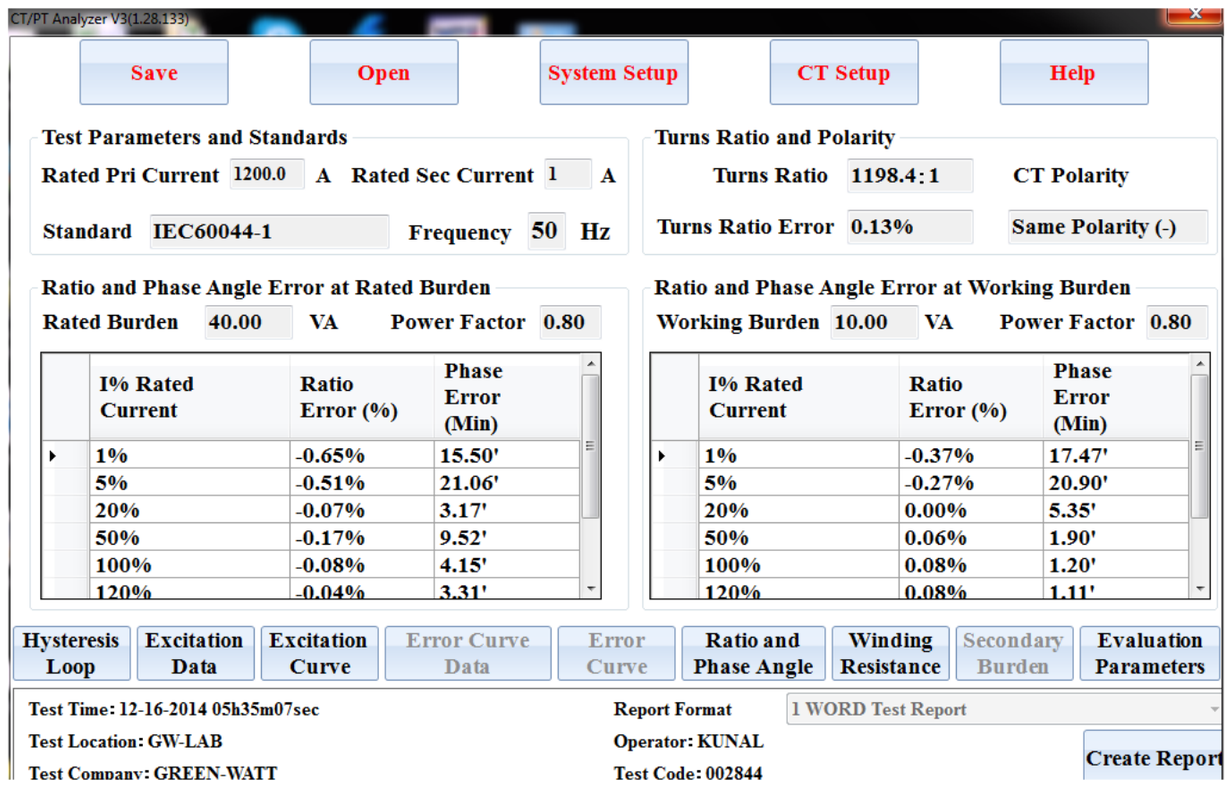


Ratio Error & Phase Error :

Ratio error ,Phase error & Turns Ratio error are calculated on the basis of extrapolation method which eliminates the use of an extra standard CT or standard load.



KPM-CT/PT Analyzer finds the Ratio & Phase error at Rated & Working Burden



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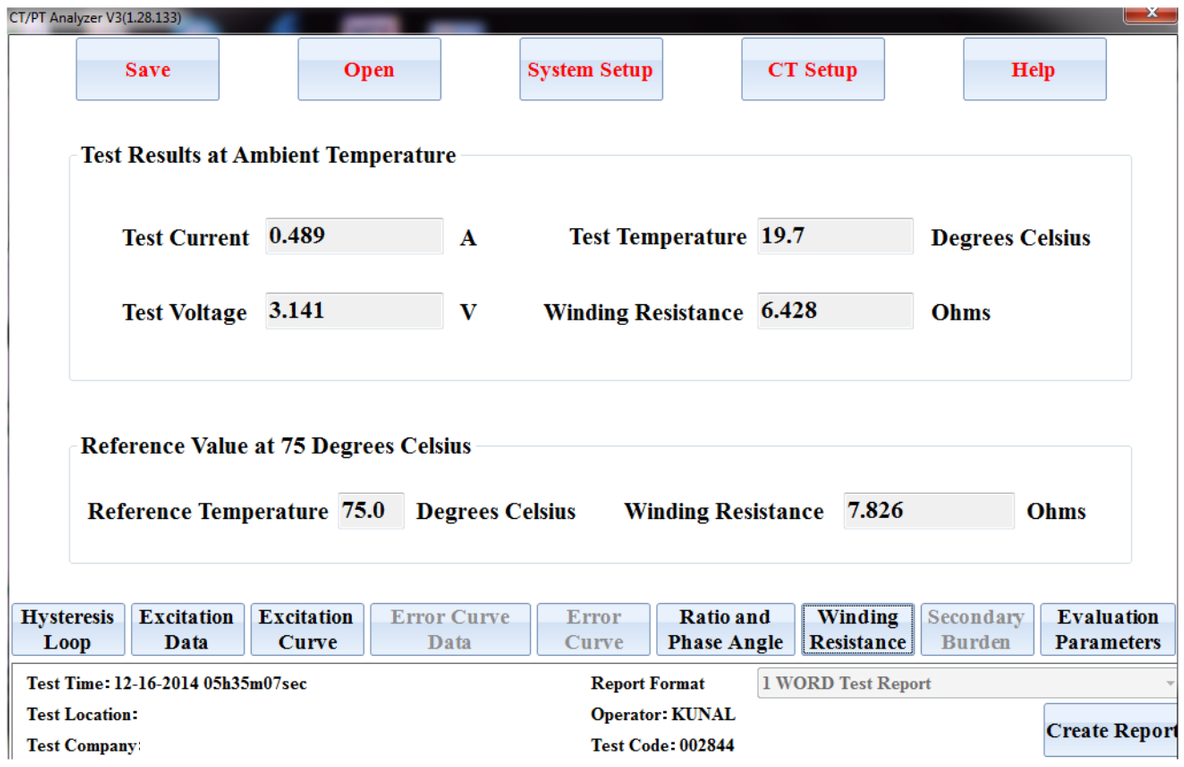
Key Parameter Monitoring

KPM-CT/PT Analyzer

Winding Resistance R_{ct}@ 75°C :

KPM-CT/PT Analyzer finds the winding resistance value at Room temperature . Its inbuilt temperature sensor records the room temperature and provides the corresponding resistance value @75°**C.**

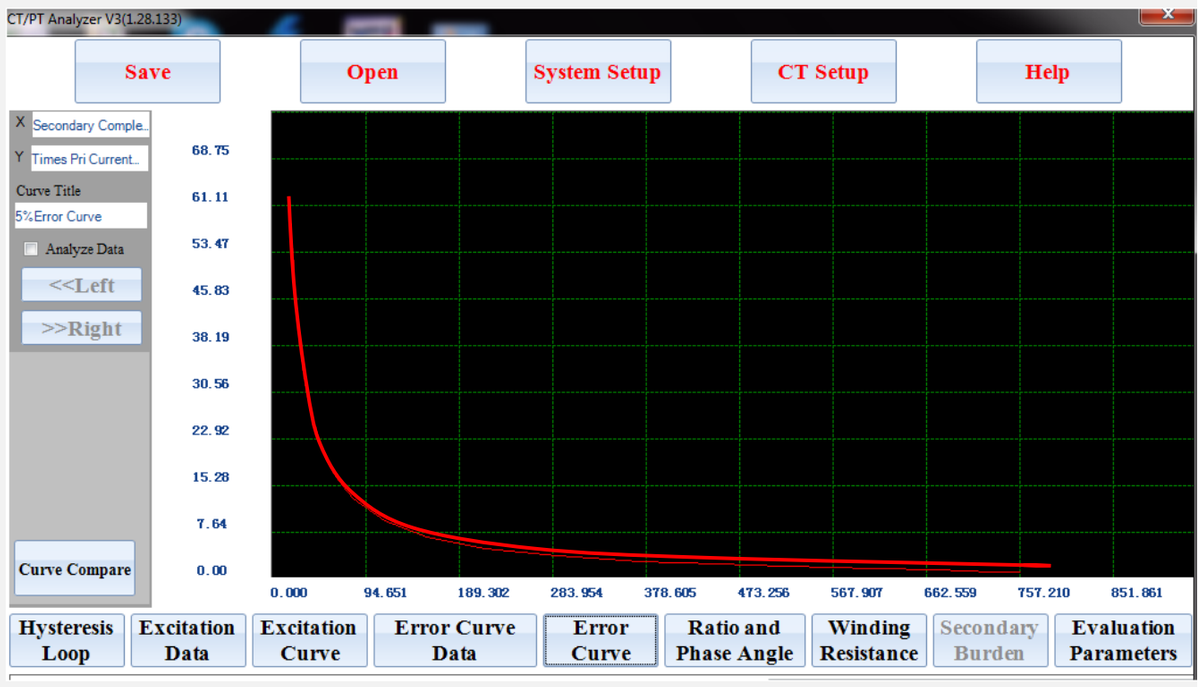
If the calculated value is less than name plate value as per IEC Standard the CT is evaluated pass else fail.



Error Curve :

This parameter is valid in IEC60044-1 protection CT . KPM-CT/PT Analyzer calculate 5% or 10% error line curve according to the selection of this item

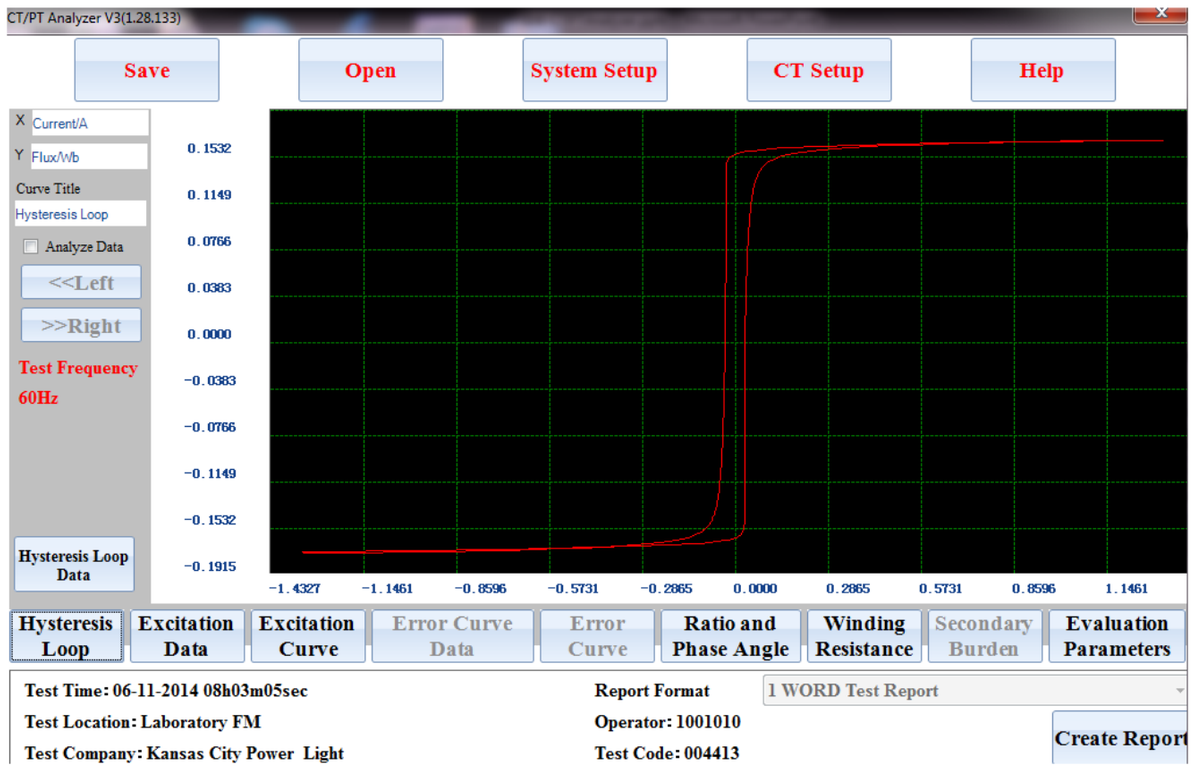
The X coordinates of error curve is maximum burden value allowed. The Y coordinates of error curve is the times of rated primary current. If the value of secondary burden over than the maximum value in error curve the ratio error of sample CT would over than 10%(or 5%).



Hysteresis Loop:

KPM-CT/PT Analyzer is having an option of finding Saturation hysteresis loop curve which is measured in a constant frequency sine voltage. The test frequency is listed on the left of the panel. The X coordinates of the curve is the instantaneous current value and the Y coordinates of the curve is the core flux value.

Residual magnetism, or remanence, has a large impact on transient performance. The cause of the problem is that all magnetic materials display some degree of hysteresis. The manifestation of this is that as flux in the core is not reduced to zero when the excitation stops, a portion of the flux remains in the core as residual magnetism. This can be seen from the core's hysteresis curves. This function is highly helpful to CT manufacturers for finding defect of CT core in early steps of manufacturing.



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KPM-CT/PT Analyzer

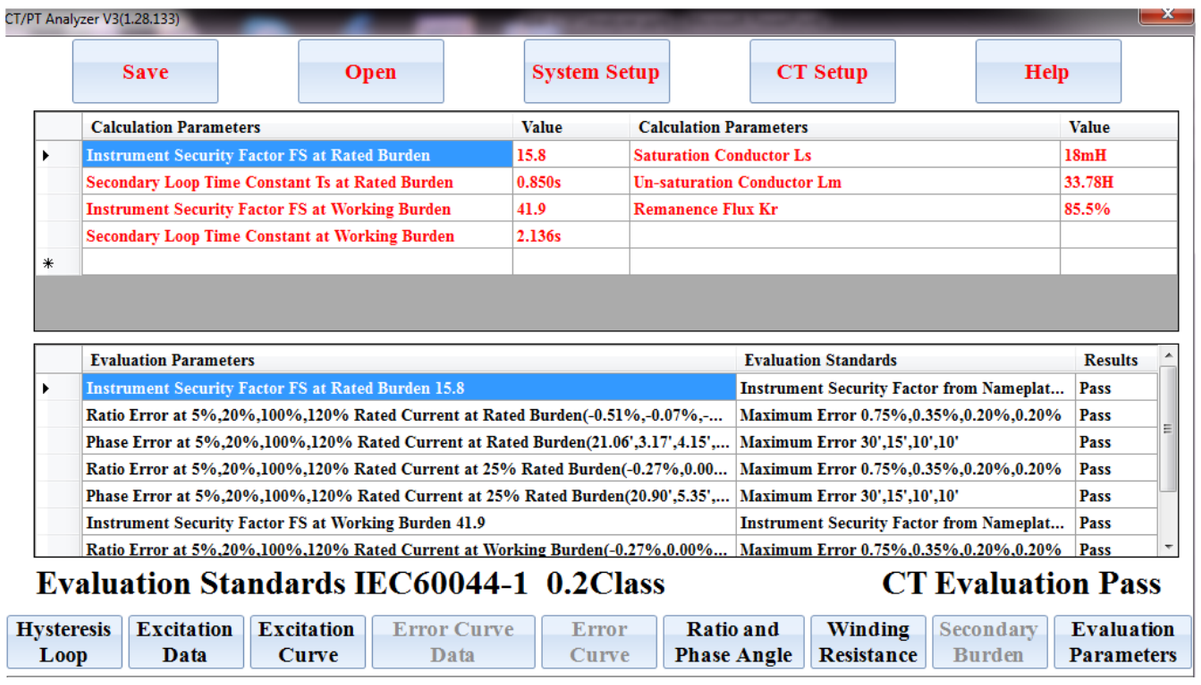
CT/PT Evaluation :

CT/PT analyzer provides the automatic assessment of CT as per IEC Standards in term of “Pass” & “Fail”

- IEC 60044-1
- IEC 60044-6
- C57.13
- IEC 61869-2

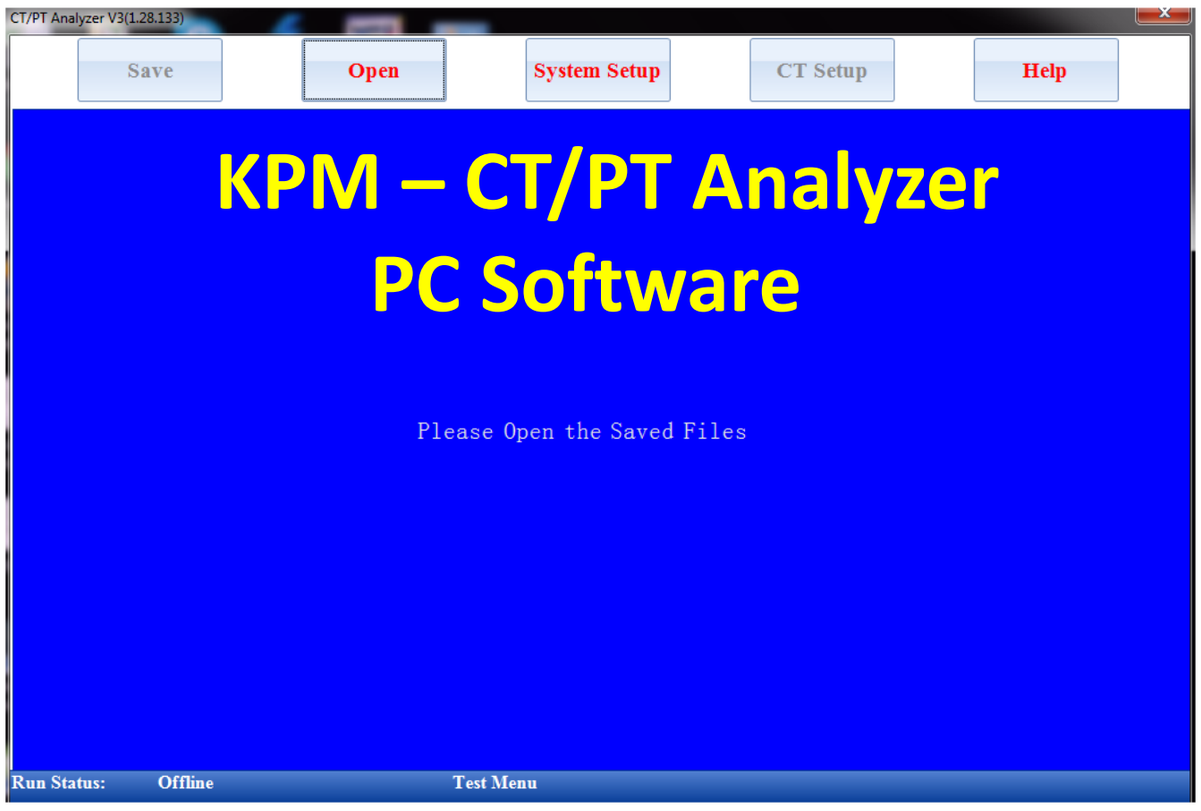
In Evaluation Screen the test result parameters are compared with the name plate parameters as per relevant Standard .

The failed parameter is identified & is shown clearly by Red color .



Accessories :

- PC Software
- Test Leads
- Set Of Clamps
- Power Chord
- Set of Fuse



Practical Demonstrations :

2000:1 ,400KV CT ,S/S

6000:1

Generator Bus Duct CT

8000:1 ,

Generator Bus Duct CT

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Key Parameter Monitoring

KPM-CT/PT Analyzer

2000:1
400 KV CT

All in One Solution for testing of CT / PT / CVT

6000:1
Generator Bus Duct CT

3000:1
765 KV CT

KPM-CT/PT Analyzer with its state of art noise rejection circuitry is capable of testing in high voltage substations with highly inductive environment .

About Us

KPM is a high quality manufacturer & provider of rugged electrical testing equipment for EHV/HV/LV substations. KPM solutions are known for:

- Best in class specifications
- Unique test approach
- Interference rejection capability

Each equipment is supported by advance service center in Gurgaon backed by a team of expert application & service engineers. KPM aims in bringing highest specification products at the doorstep of Indian customers in best rates.

Contact Us

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