

Model TLMS733 Transformer Power Analyzer



Description:

Transformer power analyzer also called transformer loss measuring test sets, is designed to measure transformer no-load and load loss before factory delivery.

Besides no-load and load loss, TLMS 733 also could measure the specimen V_{rms} , I_{rms} , Impedance Voltage, Zero sequence impedance ,power factor, frequency, Harmonic wave.

Compared with other similar instrument, TLMS 733 have three distinct features:

Auto matching the specimen specification during test, make the test easy and high efficiency;

Amorphous Transformer, Power Transformer with lower Power Factor specimen could be measured;

Voltage & Current measurement for induced voltage test at 150Hz or 200Hz.

Besides transformers, motors also could be measured by TLMS 733.

Test Sets composed of

Transformer Power Analyzer, Model TLMS733,1 piece;

Variable power source, 1 piece; Three phase voltage regulator usually, or M-G set with power frequency output.
its specifications are subject to its Specimen;

Instrument Transformer, CT,PT, Optional, subject to its Specimen

Remark: The same test set may be used for both the no-load loss and load loss measurements ,provided the range of the test set encompasses the test requirements of the both tests.

Application:

- Transformer power analysis, even those lower PF transformers; including No-load loss/Load loss; Harmonic wave analysis @ no load;
- Zero sequence impedance test
- Loss Measure for motors also

Specimen Applied for

- Transformers, Single phase and three phase transformer; including Amorphous Transformer, Power Transformer;
- Motors

Main Feature:

- Mostly conform to: NEMA Standards Publication TP2-2005:Standard Test Method for Measuring the Energy Consumption of Distributor Transformers.
- Its voltage range is up to 1000Vac, and the current range up to 50A;
- High Accuracy, 0.1 % for measurements of current, voltage and power
- Power measurement for Amorphous Transformer, Power Transformer
- Equipped with three voltage channels and three current channels independently;
- Measure and display of no-load loss/ load loss, Vrms, Irms, Impedance Voltage, Zero sequence impedance, power factor, frequency,
- Up to U_{30}/I_{30} Harmonic wave analysis
- Temperature Correction and Waveform Correction applied;
- Test Data searched & locked Automatically;
- Voltage & Current measurement for induced voltage test at 150Hz or 200Hz;
- 8" color LCD, touching screen;
- Data Storage, Data up-loaded by flash disk;
- Micro-Printer inside
- RS485 available

Specifications:

Range

Voltage: 10~1000Vac

Current: 0.1~50A

Accuracy

Voltage:

0.1%±0.005V (40~70Hz); 0.5%±0.005V(70~500Hz)

Current:

0.1%±0.0002A (40~70Hz); 0.5%±0.0002A(70~500Hz)

Power:

$P \times 0.1\% \pm (U \times I \times 0.02\%) \pm 0.05W$

P-Power in reading, U-Vrms in Reading, I-I rms in reading.

Power Supply: 220Vac±10%, 50Hz/60Hz

Working Temperature: -20℃~40℃

RH: ≤80%, No dew

Size: 360mm×360mm×200mm

Weight: 12 Kg

Typical Test Methods

No-load loss:

Description

No-load(excitation) Loss: No-load(excitation) losses are those losses that are incident to excitation of the transformer. No-load losses include core loss, dielectric loss, conductor loss in the winding due to excitation current and conductor loss due to circulating current in parallel windings. These losses change with the excitation voltage

Typical test for No-load loss:

Apply voltage at lower voltage side of the transformer, open circuit at higher voltage of transformer.

Model TLMS733 provides three test methods:

Single-wattmeter, Two-Wattmeter and

Three-Wattmeter. Single-wattmeter method suits

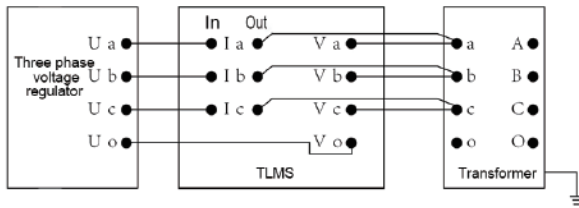
single phase transformers; Two-Wattmeter and

Three-Wattmeter fit three phase transformers.

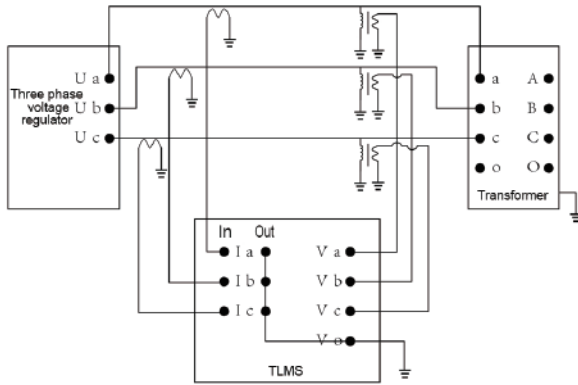
For power source, support with neutral and without

neutral. For measurements and diagram, support

with transformer instrument and without instrument.



Three phase test set+ Power source with neutral for no-load loss test



Three phase test set+ instrument transformer for no-load loss test

Load loss

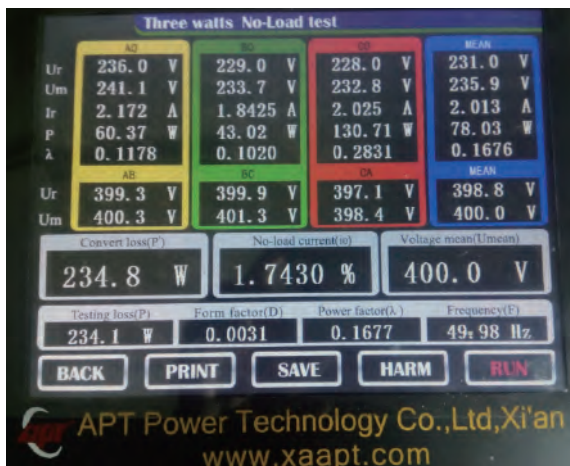
Description

The load losses of a transformer are those losses incident to the carrying of a specified load by the transformer. Load losses include I^2R loss in the windings due to load and eddy current, stray losses due to leakage fluxes in the windings, core clamps and other parts, and the loss due to circulating currents(if any) in parallel windings, or in parallel windings standards.

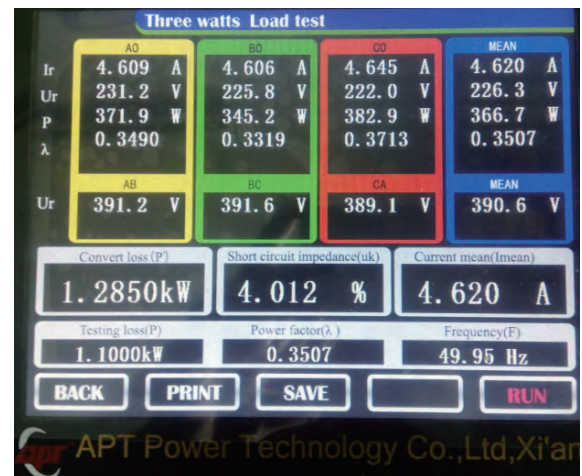
Typical test for load loss:

Apply current at higher voltage side of the transformer, short circuit at lower voltage of transformer.

Model TLMS733 provides three test modes: Single phase current, Two phase current and three Phase current. For power source, support with neutral and without neutral. For measurements and diagram, support with transformer instrument and without instrument.



Test interface of no-load loss with three phase test set



Test interface of load loss together three phase test set



Interface for Harmonic wave analysis, A phase