



# KVTS voltage transformer testing system



## description

The Knopp Voltage Transformer Testing System is designed to measure the accuracy of instrument transformers having 120 volt secondaries and up to 14,400 volt primaries (special order for up to 36,000 volt primaries is available). The system includes a control console which contains the control circuitry, ANSI standard burdens, and the Knopp Automatic Transformer Comparator. The Knopp precision and loading transformer set is also included (see picture above) and is connected to the console via a special cable.

Some of the features of the KVTS are:

- AUTOMATIC and AUTORANGING Voltage Transformer Comparator (Type KATC-V2) provides minimal measurement time (typically a few seconds after adjustment of test voltage).
- DIGITAL DISPLAY of test voltage, ratio error (in percent or ratio correction factor), and phase error (in minutes or milliradians) is provided by the Comparator (KATC-V2).
- ACCURACY CLASS for which the transformer-under-test qualifies is calculated and digitally displayed by the Comparator (KATC-V2).
- SELF CHECK feature allows the system accuracy to be easily verified without the use of an external standard.
- PROTECTIVE CIRCUITRY senses unusual error conditions such as wrong ratio or polarity and then automatically removes power from the KVTS loading circuitry to protect the KVTS, precision transformer, and the transformer-under-test.
- ZERO START feature requires that both coarse and fine controls of test voltage be at zero before power can be applied to the loading circuitry.
- COMPUTER or PRINTER communication is available through an RS-232 port.
- VOLTAGE TRANSFORMER TEST SET includes a high precision multi-range voltage transformer and a heavy duty supply transformer plus the T-bar assembly and wheeled base.
- INTERCONNECTING CABLES between the control console and the transformer test set.
- All ANSI BURDENS including W, X, M, Y, Z and ZZ.

## operation

The desired ANSI burden is selected by a rotary switch on the console. The appropriate range is selected at the precision/loading transformer set. After the operator connects the transformer-under-test and adjusts the test voltage, the HOLD button on the Comparator is pressed. The results will be automatically sent to a computer/data collection system.

## specifications

dimensions:	61.5" (156.5 cm) High; 24" (61 cm) Wide; 37" (94cm) Deep (console) and 36" (91.5 cm) High; 25" (63.5 cm) Wide; 20" (50.8 cm) (Deep) Voltage Test Set
weight:	350 lbs. (159.7 kg) (console) and 300 lbs (transformer test set)
input power:	120 VAC, 60 Hz; single phase; 10 amperes maximum
system accuracy:	Within $\pm 0.025\%$ on ratio and $\pm 2$ minutes on phase angle at 1.2 accuracy class or less.
primary ranges:	120 / 240 / 288 / 300 / 480 / 600 / 2,400 / 4,200 / 4,800 / 7,200 / 8,400 / 12,000 / 14,400 volts.  Consult factory on other ranges.
burdens:	ANSI W, X, M, Y, Z, and ZZ; switch selectable. Provisions are made for use of an external burden.
connecting cable:	15 feet long (between transformer set and console).

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