

MCTT-10

Current Transformer Tester



- Performs saturation and ratio tests on CTs using the voltage-comparison method
- Tests bushing CTs mounted inside transformers or switchgear
- Eliminates the need for large Primary Injection Test Systems to test CT saturation and ratio
- Saturation and ratio tests performed without changing test lead connections
- Overload and short-circuit protection

DESCRIPTION

The MCTT-10 test set is a portable unit for performing saturation and ratio tests on current transformers using the voltage-comparison method. Model MCTT-10 provides a variable voltage output and precision instrumentation for testing single and multi-ratio CTs. All tests, saturation and ratio – can be performed without changing any leads. Current transformers can be tested in their equipment configuration, such as being mounted in transformers, oil circuit breakers or switchgear. It is necessary for the equipment to be totally isolated from the electrical system prior to testing.

Saturation and ratio tests are critical to ensure proper electrical system reliability. Saturation tests are performed on CT's to make sure that when a fault occurs the proper secondary current signals are delivered to the protective devices. If a CT does not deliver proper secondary current signals to a protective device because of core saturation, it is probable that the protection scheme will not operate correctly. A CT ratio test is performed to ensure that the secondary current signals are proportional and correct, in relation to the primary current.

APPLICATIONS

Saturation Test

MCTT-10 provides a variable voltage output and digital instrumentation for measuring the excitation voltage and excitation current, that results as the voltage applied to the CT under test is increased. As the CT under test begins to saturate, a large increase in current will be detected for a small increase in voltage.

Ratio Test

The ratio test is performed by comparing a voltage applied to the secondary winding to the resulting voltage produced on the primary winding. For example, if 1 volt per turn is applied to the secondary winding, the voltage present on the primary winding will be 1 volt. More specifically, if 120 volts were applied to the secondary of a 600/5 current transformer (120:1 ratio), 1 volt will be present on the primary winding.

FEATURES AND BENEFITS

- The MCTT-10 utilizes the voltage comparison method. This provides the user with the ability to measure the CT ratio without the heavy and large equipment needed to test a CT ratio using the current method. Many of the devices using the current-comparison method exceed 100 lbs (45 kg). The MCTT-10 is only 37 lbs (16.8 kg).
- A RUN/HOLD switch freezes readings on instruments when switched to the HOLD position. This permits the user to freeze all the MCTT-10 meters for simultaneous readings.
- A low range of 40 volts is provided for CTs that saturate at low voltages. A low voltage output range permits the MCTT-10 to test low saturation CT's with the appropriate resolution.
- The unit provides a high range of 1000 volts. This allows the MCTT-10 to test nearly all protection CT's with high saturation knee points.
- A zero-start interlock is incorporated in the unit. This minimizes the possibility of energizing the CT test with a sudden high voltage, while under test.

SPECIFICATIONS

Input

115 V +10/-5%, 1 ϕ , 50/60 Hz **OR** 230 V +10/-5%, 1 ϕ , 50/60 Hz

Output

Continuously variable in four ranges:

0 to 40 V at 1.5 A max

0 to 150 V at 1.5 A max

0 to 600 V at 1.5 A max

0 to 1000 V at 1.0 A max (5 min on, 15 min off)

Instrumentation

Voltmeters

Two 4½ digit, auto ranging

Solid-state Instruments

Ranges: 0.0000 to 1.9999/19.999/199.99/1000 V

Accuracy: $\pm 0.25\%$ of reading, ± 1 digit for 1 to 1000 V;

$\pm 1\%$ of reading ± 1 digit for 0.2 to 1 V

Ammeter

One 4½ digit

Solid-state Instrument

Range: 0.0000 to 1.9999 A

Accuracy: $\pm 0.85\%$ of reading, ± 1 digit

Enclosure

The unit is housed in a high-strength, molded suitcase-type enclosure with carrying handle and removable cover. Storage space is provided for test leads.

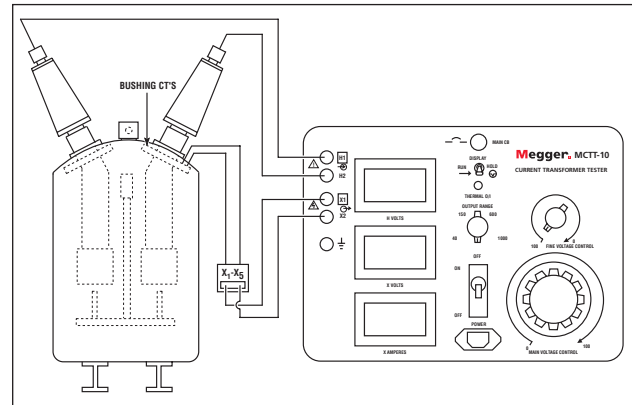
Dimensions

9.9 H x 14.1 W x 11.9 D in.

(251 H x 357 W x 287 D mm)

Weight

37 lbs (16.8 kg)



Connections for performing saturation, ratio and polarity tests

ORDERING INFORMATION

| Item (Qty) | Cat. No. |
|---------------------------------------|-------------|
| Model MCTT-10 | |
| 115 volt input 50/60 Hz | MCTT-10-115 |
| 230 volt input 50/60 Hz | MCTT-10-230 |
| Included Accessories | |
| Test Leads | |
| Lead, Red, 200cm CAT III (2 qty) | 684022 |
| Lead, Black, 200cm CATIII (2 qty) | 684023 |
| Alligator Clip, Red, CATIII (2 qty) | 684006 |
| Alligator Clip, Black, CATIII (2 qty) | 684007 |
| Line Cord (1 qty) Model MCTT-10-115 | 6828 |
| Line Cord (1 qty) Model MCTT-10-230 | 15065 |
| Instruction Manual | 710019 |