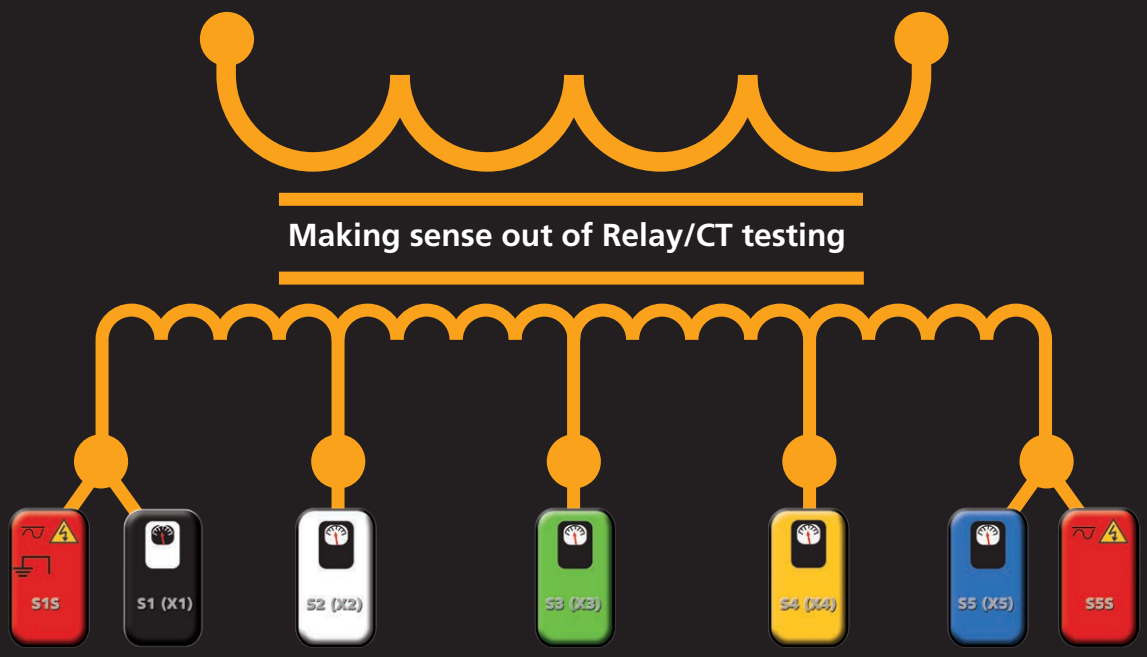
MRCT

Relay and Current Transformer Test Set

Making sense out of Relay/CT testing



Megger

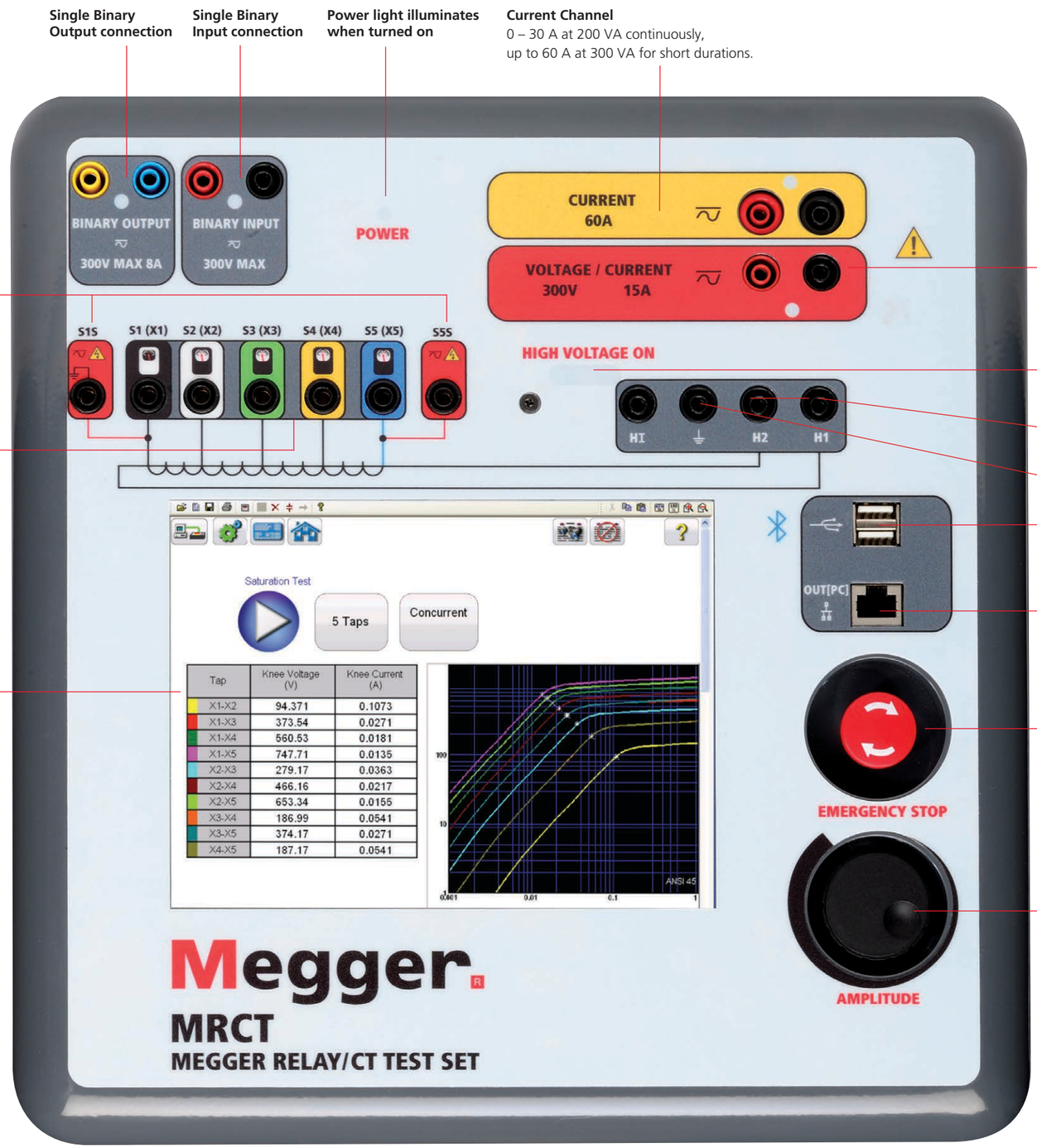
www.megger.com

The new Megger MRCT represents an evolution in instrument transformer testing technology. This unit will simultaneously measure voltages on all taps during CT saturation, ratio and polarity tests, as well as calculate knee points and ratios on all windings.

Multi-tap meets multi-task, cutting your testing time in half.

- **Shortest test duration in the industry**
  Our patented system allows simultaneous measurement on all taps during CT saturation, ratio and polarity, winding resistance and insulation resistance testing. The MRCT eliminates the need to test each tap sequentially and independently, thereby reducing testing time by up to 50%.
- **Improved Ratio Accuracy**
  With up to ± 0.1% ratio accuracy, the MRCT can be used to test both metering and protection class CTs.
- **Intuitive manual control**
  In addition to fully automated testing, the MRCT also allows field users to manually configure all test settings through a user-friendly touchscreen interface.
- **Portable and lightweight**
  At 35lbs, the MRCT is the smallest and lightest secondary voltage injection unit on the market.
- **One-button automated test mode**
  Automatically perform preset test routines on all taps without changing leads and at a single push of a button.
- **Visualize results instantly**
  Multiple instantaneous saturation curves and their knee points are plotted and calculated on the fly as the test is being performed.
- **Easy test data management**
  All test results and saturation curves can be cataloged and stored within the MRCT. Test files are saved in a versatile format and can be exported into data management software such as PowerDB.

MRCT Relay and Current Transformer Test Sets



Single Binary Output connection

Single Binary Input connection

Power light illuminates when turned on

Current Channel
0 – 30 A at 200 VA continuously, up to 60 A at 300 VA for short durations.

Source voltage connections for secondary windings

Connections for secondary windings

LCD touch screen

Voltage Channel
0 - 300 V at 15 VA, convertible to current rated for 5 A at 150 VA continuously, 15 A at 120 VA for short durations.

Safety light illuminates when high voltage is present

Connections for primary windings

Ground connection

USB Ports Bluetooth® Enabled

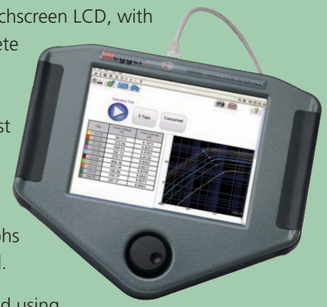
OUT/PC Ethernet Port
Out Control port when used with PC

Large emergency stop button

Easy-to-use control knob

Control it your way

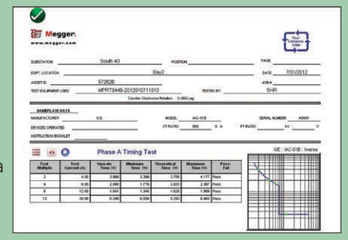
The MRCT is available with or without a built-in touchscreen display, with identical features and capabilities. Units without the built-in display can be controlled using Megger's Smart Touch View Interface (STVI) controller. The STVI controller has a full color, high resolution, touchscreen LCD, with an intuitive interface for complete manual configuration of all test parameters. The STVI can also store a large library of preset test parameters for fully automated one-button testing. The large color display makes it easy to read all pertinent data and graphs while tests are being performed.



The MRCT can also be controlled using a personal computer running PowerDB Lite via Ethernet communication. PowerDB Lite is included with the purchase of all MRCTs.

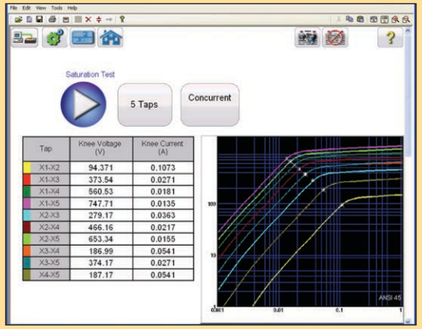
PowerDB Acceptance & Maintenance Test Data Management Software

PowerDB is a comprehensive and powerful data management software package developed for collecting, reporting and organizing test data from maintenance and inspection activities. PowerDB provides a user-friendly interface to many Megger instruments, giving users the ability to perform automated testing and test data acquisition. It is able to import data from a variety of instruments and supports many common industry file formats.

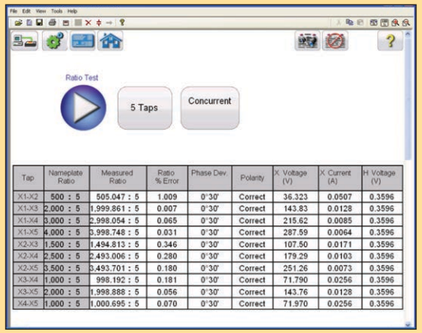


PowerDB test report for GE IAC-51B relay

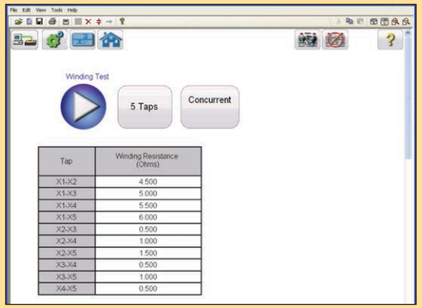
IEEE and IEC compliant testing



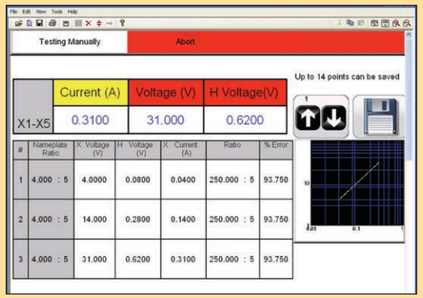
Saturation test screen



Ratio test screen



Winding Resistance test screen



Manual test screen

Saturation test

Saturation tests are used to confirm that the CT, as supplied, is of the correct accuracy rating, there are no shorted turns in the CT and that no wiring or physical short circuits have developed in the primary or secondary windings of the CT after installation.

When the test is being performed, the MRCT plots the saturation curves and calculates the rated knee point in compliance with IEEE C57.13.1, IEC 60044-1 or IEC 60044-6 based on user selection. The MRCT can plot up to 10 saturation curves simultaneously for testing CTs with multi-ratio secondary windings.

Ratio and Polarity test

The MRCT performs ratio testing by using the voltage comparison method. Voltage applied on the secondary winding is compared to the resulting voltage produced on the primary winding. For example, if 120 V were applied to the secondary winding of a 600:5 CT (120:1 ratio), then 1V should be present on the primary winding.

Winding Resistance test

The MRCT measures the CT secondary winding resistance by using the current voltage method. A test current is injected into the winding and the corresponding voltage drop across the winding is measured. The resistance is calculated using Ohm's law, taking temperature compensation into consideration. The CT should be demagnetized after completion of this test as outlined in IEEE C37.110.

Demagnetization

A CT can become magnetized during normal operation and also during offline routine testing. The MRCT includes an automated CT demagnetization routine so that CT saturation tests are performed in compliance with IEEE C57.13.1 recommendations.

CT Burden

The CT burden test measures the effect of additional resistive load on the CT secondary output current. The CT secondary is isolated from all connected load and the rated secondary current is injected. The voltage drop across the injection points can be measured and then used to calculate the burden VA.

Insulation Resistance test

The MRCT includes a 1kV insulation resistance test system to measure integrity of the inter-turn insulation. The MRCT will automatically switch test leads to perform three of the recommended five tests in compliance with IEEE C57.13.1.

Relay testing

The MRCT offers fully automated relay testing capabilities with the ATVS software, which includes a huge library of over 100 manufacturer-specific relay time curves. It possesses the "smart" combination of high compliance voltage and high current (75 A at 400 VA RMS) to test electromechanical, solid-state and microprocessor-based overcurrent relays.

Data storage and printing

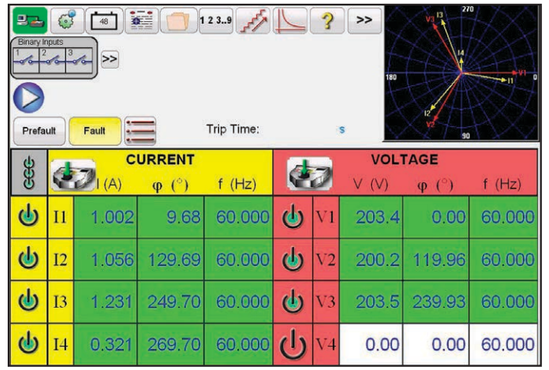
The MRCT catalogs and stores all test results within the unit itself or on the connected STVI controller. A physical copy can be printed from units with the optional printer module. Test results can be exported to the included PowerDB Lite software for report generation on a PC. Users can also upgrade to PowerDB Pro for full featured data management and trending capabilities.

Upgradability

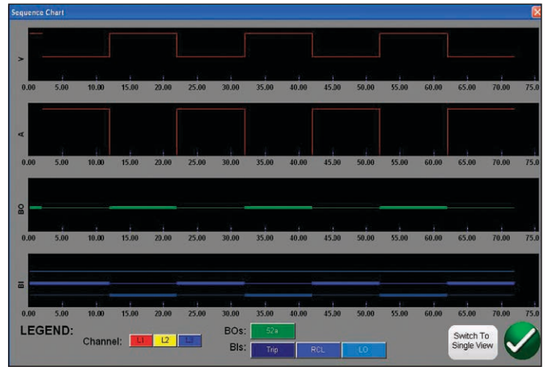
The MRCT firmware can be upgraded to support new testing standards as they are developed. With its multiple configurations and accessories, the system can be upgraded to meet your future testing needs.

One controller to run them all

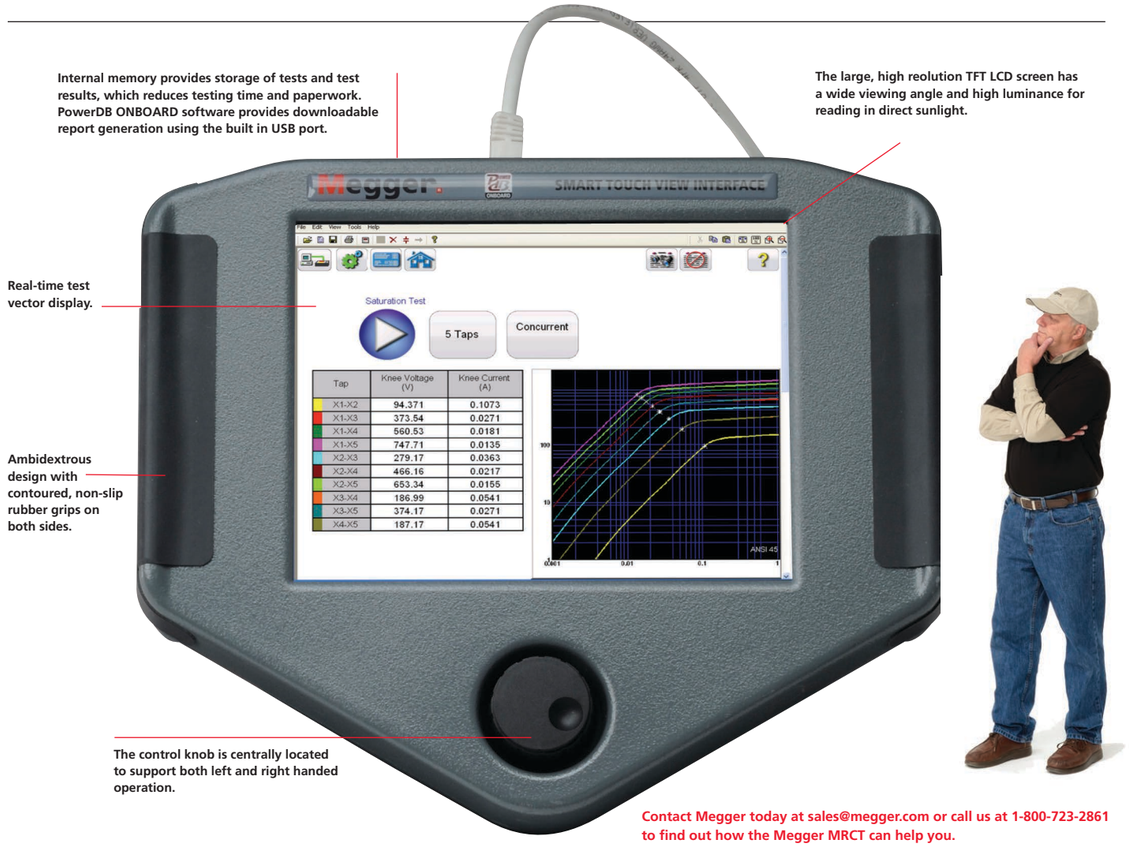
The Smart Touch View Interface (STVI) controller provides outstanding value to MRCT owners. Users can quickly select the desired test functions from the intuitive graphical user interface. The large, high resolution, full color, TFT (thin film transistor) LCD flat panel touch screen can be read in direct sunlight, making it perfect for both indoor and outdoor use. Results can be cataloged and saved using the PowerDB ONBOARD File Manager and be easily exported into a NERC PRC-005-2 compliant format. The STVI can also interface with many other Megger instruments such as our SMRT series of relay and protection test equipment. All these features and capabilities make the STVI one of the most powerful and user-friendly equipment interface available on the market today.



STVI manual test screen



State Sequence preview screen



Contact Megger today at sales@megger.com or call us at 1-800-723-2861 to find out how the Megger MRCT can help you.

Local in more places

Megger is an international company working locally with our customers through our global network of technical sales, support and distribution channels. This network provides a local presence in more than 130 countries. We have ISO 9001 certified manufacturing sites in the USA, Sweden, Germany and England, with direct sales and technical support offices across the USA, Canada, Mexico, England, France, India, and Bahrain. Many of our instruments feature multilingual user interfaces and our product literature and user manuals are offered in 7 languages.

Megger is committed to providing the highest level of technical support and service for our customers. Our team of sales and application support engineers are continually trained on new products and applications so you will always receive the best advice and solutions for your most critical testing needs. Our engineers work with you to conduct post-sale training so that your field team can fully understand the technology and maximize their productivity with Megger instruments.

In addition to our own service and repair facilities, Megger also maintains a worldwide network of authorized service organizations to deliver reliable service and repairs to our customers. Each satellite service location employs Megger certified technicians so that all service and repair work performed meets Megger's high standards. These sites also stock a large inventory of spare parts locally to ensure that turnaround time is kept to a minimum.

4271 Bronze Way
Dallas, TX 75237
1-800-723-2861
www.megger.com/us

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