

EZCT

Current Transformer Test Set



Vanguard Instruments Co., Inc.
Ontario, California, USA



Vanguard Instruments Company

www.vanguard-instruments.com



EZCT™

Current-Transformer Testing Made Easy

The EZCT is a microprocessor-based, current-transformer test set. This rugged and portable test set can perform the current transformer (CT) excitation, CT current-ratio, and winding polarity tests. Current transformers can be tested in their field-mounted configuration, eliminating the need to remove bushings or current transformers from the host equipment.

Excitation Test

The CT excitation test is performed using the ANSI/IEEE C57.13.1, IEC 60044-1 test method. The EZCT applies an AC variable test voltage (up to 1,200 Vac) to the CT's secondary windings. The EZCT records and displays the test voltage and excitation current applied to the current transformer during the excitation test. Once tests are completed, up to 10 excitation curves and knee-point voltages of the tests can be plotted on the built-in thermal printer. IEEE-30, IEEE-45, ANSI/IEC 60044-1 (10/50) knee point voltages are also calculated and printed on the test report.

CT Ratio and Polarity Tests

The EZCT determines the CT current-ratio using the ANSI/IEEE C57.12.90 measurement method. A test voltage is applied on the CT's X terminals and the induced voltage is measured across the CT's H1 and H2 terminals. The current-ratio is displayed on the screen and stored in memory. The current-ratio measuring range is from 0.8 to 5,000. Winding polarity is displayed as a "+" sign (in-phase) or "-" sign (out-of-phase) and is annotated with the phase angle in degrees.

Simplify

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1. RUN TEST 02/14/09
2. SETUP    15:12:46
3. CAL CHECK
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User Interface

The EZCT features a back-lit LCD screen (4 lines by 20 characters) that is viewable in both bright sunlight and low-light levels. A rugged, alpha-numeric, membrane keypad is used to enter test information and to control the unit's functions. The test voltage range (50V at 2A, 200V at 2A, 1,200V at 1.5A) is selected with a switch on the control panel. A voltage control knob is used to control the variable test voltage output.

Thermal Printer

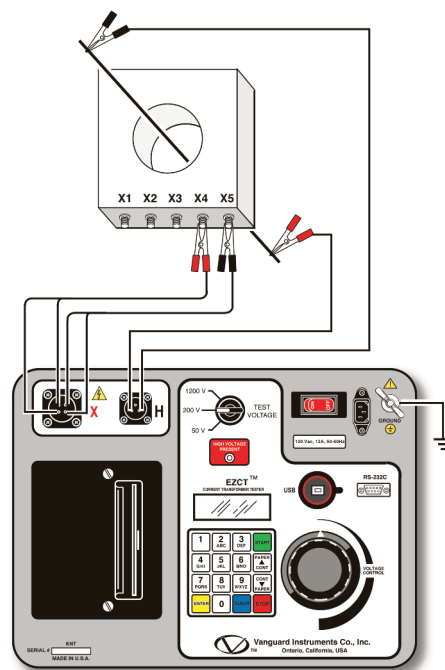
A built-in 4.5-inch wide thermal printer can print the current transformer test report and plot the excitation curves.

Internal Test Record Storage Capacity

The EZCT can store up to 128 current-transformer test records in Flash EEPROM. Each test record may contain up to 10 excitation curves, polarity, and current-ratio test data sets. Test records can be recalled and printed on the built-in thermal printer.

Computer Interface

The EZCT can be used as a stand-alone unit or can be computer-controlled via the built-in RS-232C or USB interfaces. Windows® XP/Vista-based Current Transformer Analysis software is provided with each EZCT. This software can be used to retrieve test records from the EZCT and can also be used to run CT tests from the PC. Tabulated test records can be exported in Microsoft® Excel format.

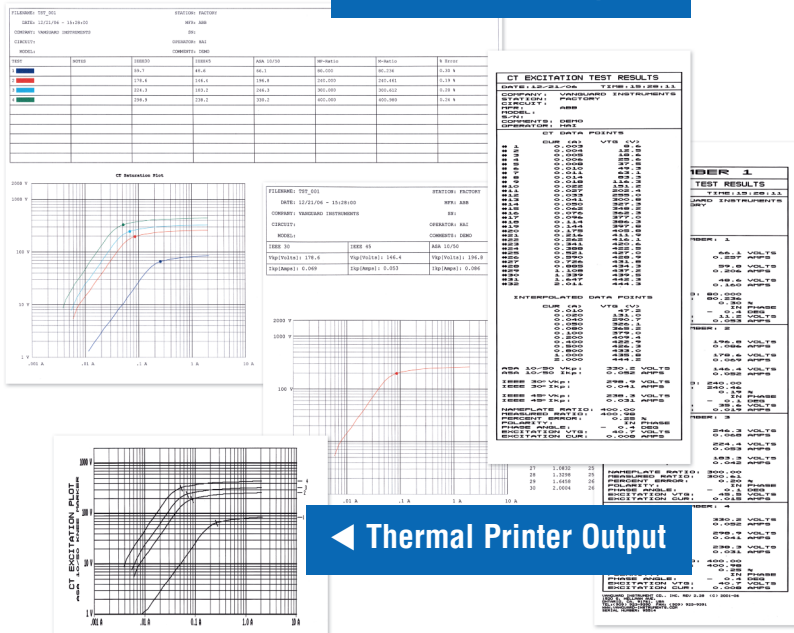


Ordering Information EZCT™ Current-Transformer Test Set
 EZCT™, Cable, Software Part No: EZCT
 EZCT™ Shipping Case Part No: EZCT Case
 4.5-inch Printer Paper Part No: Paper TP4

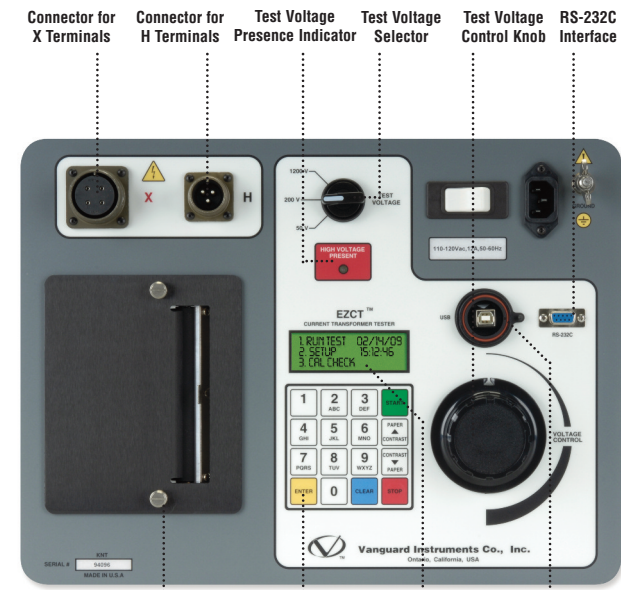
Current-Transformer Test Set

the Tedious Procedure of Current-Transformer Testing with Vanguard's EZCT™ Current Transformer Test Set

▼ PC Printer Output



◀ Thermal Printer Output



Connector for X Terminals

Connector for H Terminals

Test Voltage Presence Indicator

Test Voltage Selector

Test Voltage Control Knob

RS-232C Interface

4.5-inch Wide Thermal Printer

Rugged 16-Key Membrane Keypad

Back-lit LCD Screen (20 characters by 4 lines)

USB Interface

SPECIFICATIONS

TYPE	Portable current-transformer test set
PHYSICAL SPECIFICATIONS	16.8"W x 12.6"H x 12"D (42.7 cm x 32 cm x 26.9 cm); Weight: 55 lbs (25 Kg)
INPUT POWER	100 – 120 Vac or 200 – 240 Vac (factory pre-set), 50/60 Hz
MEASUREMENT METHOD	ANSI/IEEE C57.12.90, IEC 60044-1 and ANSI/IEEE C57.13.1
OUTPUT TEST VOLTAGES	0 – 50 Vac @ 2A max; 0 – 200 Vac @ 2A max; 0 – 1200 Vac @ 1.5A max (5 min on, 10 min off)
VOLTAGE READING RANGE	0 – 1,250 Vac; Accuracy: $\pm 1.0\%$ of reading, ± 0.5 volt
CURRENT READING RANGE	0 – 10A; Accuracy: $\pm 1.0\%$ of reading, $\pm 0.01A$
CURRENT-RATIO RANGE	0.8 – 99: $\pm 0.5\%$, 100 – 999: $\pm 1.0\%$, 1,000 – 5,000: $\pm 2\%$
PHASE ANGLE MEASUREMENT	0 – 360 degrees; Accuracy: ± 1.0 degree
DISPLAY	Back-lit LCD Screen (20 characters by 4 lines); viewable in bright sunlight and low-light levels
PRINTER	Built-in 4.5-inch wide thermal printer
COMPUTER INTERFACES	One RS-232C port, One USB port
PC SOFTWARE	Windows® XP/Vista-based software is included with purchase price
INTERNAL TEST RECORD STORAGE	Stores 128 test records. Each test record may contain up to 10 excitation and ratio data sets
INTERNAL TEST HEADER STORAGE	Stores 10 test header records
SAFETY	Designed to meet UL 61010A-1 and CAN/CSA C22.2 No. 1010.1-92 standards
ENVIRONMENT	Operating: -10° to 50° C (15° F to $+122^{\circ}$ F); Storage: -30° C to 70° C (-22° F to $+158^{\circ}$ F)
CABLES	One 20-foot X cable set, One 35-foot H cable set, power cord, One cable carrying duffel bag
OPTIONS	Transportation case
WARRANTY	One year on parts and labor

Note: The above specifications are valid at nominal voltage and ambient temperature of $+25^{\circ}$ C ($+77^{\circ}$ F). Specifications are subject to change without notice.

Vanguard Instruments Company
Reliability Through Instrumentation

Vanguard Instruments Company, Inc.

Vanguard Instruments Co., (VIC), was founded in 1991. Currently, our 28,000 square-foot facility houses Administration, Design & Engineering, and Manufacturing operations. From its inception, VIC's vision was, and is to develop and manufacture innovative test equipment for use in testing substation EHV circuit breakers and other electrical apparatus.

The first VIC product was a computerized circuit-breaker analyzer, which was a resounding success. It became the forerunner of an entire series of circuit-breaker test equipment. Since its beginning, VIC's product line has expanded to include microcomputer-based, precision micro-ohmmeters, single and three-phase transformer winding turns-ratio testers, winding-resistance meters, transformer tap-changing controllers, megaohm resistance meters, and a variety of other electrical utility maintenance support products.

VIC's performance-oriented products are well suited for the utility industry. They are rugged, reliable, accurate, user friendly, and most are computer controlled. Computer control, with innovative programming, provides many automated testing functions. VIC's instruments eliminate tedious and time-consuming operations, while providing fast, complex, test-result calculations. Errors are reduced and the need to memorize long sequences of procedural steps is eliminated. Every VIC instrument is competitively priced and is covered by a liberal warranty.



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