

ECAT[®]

Model E501B

Combination Wave Surge Simulator



A plug-in module for ECAT systems to produce the combination waves required by IEC 1000-4-5, ANSI/IEEE C62.41 Cat. B and UL 1449 (15 Aug 98) at 3kA.

FEATURES

- **Open-Circuit Voltage: 1.2/50µs to >6kV peak**
- **Short-Circuit Current: 8/20µs to >3kA peak**
- **Complete software-selectable test parameters, including 10-ohm series output resistor** for common mode testing on AC lines per IEC 1000-4-5 (can be in place or removed for all tests, or automatically selected when common mode coupling is selected – an additional ECAT coupler/decoupler is required for surge testing on live AC mains).
- **Ability to add a complete range of additional modules:**
 - Surge and EFT simulator modules for all major national and international standards, including the E504 for UL 1449 low current waves, E502B for FCC and Telecom requirements, and E506 and E509 for Bellcore 1089 tests.
 - AC mains coupler/decouplers for single or three-phase lines, to 600V rms, and 100A continuous AC line current.
 - I/O line coupler/decouplers for all types of lines, including telecom and RS-232.

SYSTEM BENEFITS

- **The ECAT is configurable as a compact, standalone system** with one test capability or as an integrated, multiple capability tester.
- **Unparalleled safety features** for high voltage testing, including a complete interlock system that not only disables simulator operation if activated, but completely removes AC mains power from the EUT, when using any KeyTek AC mains coupler/decoupler.
- **Automatic report generation** using KeyTek's exclusive Windows[®]-based software.
- **Modular system construction** provides the ability to upgrade test capabilities as requirements change or evolve.
- **Single port testing for Surge, EFT and PQF™** mains coupled disturbances allows changing test modes without switching off power to the EUT. This avoids lost time due to re-initializing the EUT between tests.

Model E501B

SPECIFICATIONS AND TOLERANCES

ELECTRICAL

Open-Circuit Voltage:	1.2/50 μ s, 200V – 6.6kV -5% +10% in 1 volt steps (same waveform defined as 1.2/50 μ s in IEC 469-1)
Short-Circuit Current:	8/20 μ s, 100A – 3.3kA -0% +10% with 2 ohm effective source impedance (same waveform defined as 6.4/16 μ s in IEC 469-1) With a 12 ohm effective source impedance, the peak short-circuit current is approximately the open-circuit voltage \div 12. The short-circuit current is then no longer 8/20 μ s and does not fulfill the 500A combination wave requirements of UL 1449.
Rise Time Tolerance:	\pm 30% for voltage; \pm 20% for current
Duration Tolerance:	\pm 20% <i>(Note: When used with a three-phase coupler/decoupler, the voltage waveform durations may be reduced when coupling with multiple lines to PE.)</i>
Surge Repetition Rate:	1 shot/12 seconds
Line Sync Accuracy:	\pm 15° with optional coupler/decoupler

PHYSICAL

Height:	21cm (8 $\frac{1}{4}$ ")
Width:	21cm (8 $\frac{1}{4}$ ")
Depth:	52cm (20 $\frac{3}{8}$ ")
Weight:	11.4kg (25 lbs.)

ECAT: AN EXTRAORDINARY CONCEPT IN EMC TESTING FOR VULNERABILITY TO SURGE, EFT AND POWER QUALITY.

ECAT is a totally integrated and modularized system which offers unprecedented testing ease, accuracy and versatility to manufacturers, test houses, and anyone who will be testing for effects of Pulsed EMI.

ECAT is designed to test products according to a broad range of international standards developed by ANSI, the IEC, CENELEC and other agencies. The European Norms, developed by CENELEC, became mandatory on January 1, 1996 for all equipment shipped into the European Union or shipped across EU borders.

MINIMUM REQUIREMENTS

E100 series control center
E000 blank plug-in module (if no other half-width module is ordered)

AVAILABLE OPTIONS

- E501B-VI:** Provides monitoring of the peak surge voltages and currents at the output of the E501B module. All measurements are logged by software for diagnostic evaluation or Go/No-Go testing.
Note: If an ECAT coupler/decoupler is included, waveform monitoring is available at the output of the coupler/decoupler without the addition of Option E501B-VI.
- E501B-S:** Provides an oscilloscope trigger for the E501B.
-

For additional ECAT® product literature call, email or fax the KeyTek sales department.



One Lowell Research Center
Lowell, Massachusetts 01852-4345 USA
1 800 753 9835 • Tel: 1 978 275 0800 • Fax: 1 978 275 0850
email: sales@keytek.com
http://www.keytek.com

A division of Thermo Voltek, a Thermo Electron company
KeyTek and ECAT are registered trademarks and PQF is a trademark of Thermo Voltek Corporation. ©Thermo Voltek. Specifications are subject to change without notice. Printed in USA.