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Product Specifications

Thermo Scientific ECAT®

Expert Computer-Aided Testing
for pulsed EMI immunity

The Thermo Scientific ECAT is a modular, full capability EMC test system for measuring and analyzing the vulnerability of telecom, electronic, and electrical equipment/components to pulsed EMI hazards, including EFT, Surge & PQF™ (Power Quality Failure). Its powerful design enables easy and rapid testing for all pulsed EMI threats and meets Telcordia, UL, FCC, and IEC standards, including pre-compliance, production sampling and final compliance.







Features & Benefits

- Tests for pulsed EMI hazards: EFT, Surge, PQF
- Ideal test system to address most applicable EMC & Telecom standards, including CE Mark/IEC standards
- Easy-to-use Windows-based application software for quick implementation of international & national test routines
- Virtual Front Panel™ retains key operating parameters during set up & testing
- Multi-level system interlock architecture provides maximum safety
- Single output port/instant mode switching
- AC Mains current monitoring
- Accurate automatic report generation
- Flexible, economically upgradable architecture



Modular, full capability EMC test systems & instruments

Our flagship EMC test system, the Thermo Scientific ECAT, is a modular, full capability test system for measuring and analyzing the vulnerability of electronic equipment and components to pulsed EMI hazards to virtually all applicable national and international standards.

A powerful design & production tool

The Thermo Scientific ECAT features a totally integrated modular architecture that enables manufacturers and designers of communications equipment, computers, and other electronic and electrical products to easily and rapidly test for pulsed EMI threats including pre-compliance, production sampling and final compliance.

Flexible options

The Thermo Scientific ECAT gives you the option to purchase a complete integrated system for all pulsed EMI tests, or individual test modules that can be used as stand-alone testers. If you need to test for additional threats, or as standards change, the system can be easily expanded or upgraded, reducing costly equipment obsolescence. Systems and modules are delivered ready for immediate EMC testing and provide an unprecedented level of operating ease, accuracy and safety.

Ready-to-use test software

Proprietary Windows-based software eliminates the need to spend hours programming in order to run meaningful, accurate compliance tests. Its flexibility allows users to quickly implement required routines.

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ECAT Model E103 Series Control Center



Computer-driven control center and power units required for the operation of any Thermo Scientific ECAT test system

Virtual Front Panel™ control	8 x 40 character keyboard entry & LCD display – allows operator to see vital test parameters without list scrolling
FiberCom™ fiber-optic interface & control system	Uses ECAT software for full computer control of ECAT test equipment (user-supplied PC running Windows, 8 MB RAM, one serial port)
Module Bay	For one full-width plug-in module or two half-width modules. Up to five additional bays (for a total of six) and/or S-ECAT for floor-standing system available (required for more than three docking bays)
Surge V & I monitor ports	For waveform monitoring with an external (user-supplied) oscilloscope at 1kV/V and 200A/V;V & I signals supplied from optional AC coupler/decoupler or ECAT modules/options
Input voltage	100V to 240VAC, 50/60 Hz
Typical input current	3.5A @ 100V; 1.5A @ 240V
Operating temperature	15° to 35° C
Operating humidity	10% to 75% non-condensing
Options	E103-S - adds oscilloscope trigger for installed surge modules

AC input connectors are available for most national and international standards.

TRUE-EFT™ SIMULATOR MODULES

ECAT Model E411



EFT/Noise Burst simulator for testing in accordance with IEC 61000-4-4 Edition 2 to 4.4kV.

ELECTRICAL

Burst Polarity	Positive, negative, alternating
Burst Voltage	200V to 4.4kV
Burst Voltage Resolution	5V
Burst Voltage Tolerance	±10% of setting with no load ÷ 2 with 50 load; ±20% of setting
Burst Frequency	Adjustable from 1kHz to 1MHz up to 4.4kV
Burst Duration	1.0ms to 20ms; 1.0ms resolution or 1 to 200 pulses
Period Between Bursts	Adjustable from 300ms to 5s; 1ms resolution
Burst Test Length	1 to 360 sec.; 1 sec. resolution 1 to 240 min.; 1 min. resolution 1 to 24 hours; 1 hour resolution
Wait Time Between Tests	1 to 360 sec.; 1 sec. resolution 1 to 240 min.; 1 min. resolution 1 to 24 hours; 1 hour resolution
Voltage Monitor	Built-in; 150MHz bandwidth
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)
Coupler/decoupler	Model E455X

Note: For any combination of frequency, duration and period, the number of pulses cannot exceed 600 per second and 200 per burst.

Options	E411-2MHz - increases EFT burst frequency to 2MHz @ </= 3kV E411-CH - adds Chirp CCL - capacitive coupling clamp per IEC 61000-4-4

ECAT Model E412



EFT/Noise Burst simulator with built-in, single phase AC mains coupler/decoupler for testing in accordance with IEC 61000-4-4 Edition 2 to 4.4kV

Model E412 features all Specifications and Options noted in Model E411 (please see above)

PLUS:

COUPLER/DECOUPLER

Coupling Capacitors	33nf per line
Voltage	0-277/250* AC rms or DC
Current	16A continuous*
Coupling Modes	Software selectable
Line Sync	Software selectable 0-360°
Line Sync Accuracy	±15°
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)

*The actual AC mains voltage and current limit is based on the mains connector selected.

ECAT Model E421



EFT/Noise™ Burst Simulator for IEC 61000-4-4 Edition 2 to 8kV

ELECTRICAL

Burst Polarity	Positive, negative, alternating
Burst Voltage	200V to 8.0kV, ±10%; 5V resolution
Burst Frequency	Adjustable from 1kHz to 1MHz up to 4.4kV; 1kHz to 250kHz from 4.4kV to 8.0kV
Burst Duration	1.0ms to 20ms; 1.0ms resolution
Period Between Bursts	Adjustable from 300ms to 5s; 1ms resolution
Burst Test Length	1 to 360 sec.; 1 sec. resolution 1 to 240 min.; 1 min. resolution 1 to 24 hours; 1 hour resolution
Wait Time Between Tests	1 to 360 sec.; 1 sec. resolution 1 to 240 min.; 1 min. resolution 1 to 24 hours; 1 hour resolution
Voltage Monitor	Built-in; 150MHz bandwidth
Minimum System Requirements	E100 series control center
Coupler/decoupler	See Model E455X
Options	E421-2MHz - increases EFT burst frequency to 2MHz @ </= 3kV E421-CH - adds Chirp CCL - capacitive coupling clamp per IEC 61000-4-4

Note: For any combination of frequency, duration and period, the number of pulses can not exceed 600 per second and 200 per burst.

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SURGE SIMULATOR MODULES

ECAT Model E501B



Plug-in combination wave surge simulator to produce the combination waves required by IEC 6100-4-5, ANSI/IEEE C62.41 Cat. B and UL 1449 at 3kA

ELECTRICAL

Open-Circuit Voltage	1.2/50µs, 200V - 6.6kV -5 +10% in 1 volt steps
Short-Circuit Current	8/20µs, 100A - 3.3kA -0 +10% with 2 ohm effective source impedance. With a 12 ohm effective source impedance, the peak short-circuit current = open-circuit voltage ÷ 12
Rise Time Tolerance	±30% for voltage; ±20% for current
Duration Tolerance	±20%

Note: When used with a three-phase coupler/decoupler, the voltage waveform durations may be reduced when coupling with multiple lines to PE.

Surge Repetition Rate	1 shot/12 seconds
Line Sync Accuracy	±15° with optional coupler/decoupler
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)
Options	E501B-VI - adds voltage and current monitoring

ECAT Model E502B



Plug-in module to produce the telecommunications surge wave required by IEC 61000-4-5, FCC Part 68 and ITU Rec K.17, K.20, and K.21 (formerly CCITT)

ELECTRICAL

Open-Circuit Voltage	10/700µs and 0.5/700µs, 200V - 6.6kV ±10% in 1 volt steps.10/700µs waveform meets both IEC and FCC Part 68 9/720µs requirements. Tighter tolerances for front time and duration ensure compliance with both requirements
Short-Circuit Current	Open-circuit voltage ÷ 15 with 0 ohm effective source impedance; open-circuit voltage ÷ 40 with 25 ohm effective source impedance. Tolerance is -0/+10%
Front time tolerance	Voltage: 7.0µs to 11.7µs Current: 5.0µs ±30%
Duration	Voltage: 576µs to 840µs Current: 320µs ±20%
Surge Repetition Rate	1 shot/18 seconds
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)
Options	E502B-VI - adds voltage and current monitoring

ECAT Model E503



Plug-in module to produce the ring waves specified by ANSI/IEEE C62.41 Cat. A and B, and various UL standards, including UL 864

WAVEFORMS

Voltage Rise Time	0.5µs ±30%
Ringing Frequency	100kHz ±20%, 40% decay per peak
Open-Circuit Voltage	200V - 6.6kV ± 10%
Short-Circuit Current	Selectable at 200A max. or 500A max., when the open-circuit voltage is set to 6.0kV. (Actual short-circuit current at other voltage settings will be open-circuit voltage ÷ 30 when 200A is selected and open-circuit voltage ÷ 12 when 500A is selected.)
Surge Repetition Rate	1 shot/9 seconds
Line Sync accuracy	±15° with optional coupler/decoupler
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)
Options	E503-VI - adds voltage and current monitoring

ECAT Model E504A



Plug-in module to produce the combination wave required by UL 1449 (some devices must also be tested using the E501A surge module)

WAVEFORMS

Open-Circuit Voltage	1.2/50µs, 0 - 6.6kV ±5% in 1 volt steps
Short-Circuit Current	8/20µs, selectable at 125A, 500A and 750A ±10% when the open-circuit voltage is set to 6.0kV. (Actual short-circuit current = open-circuit voltage ÷ 48 when 125A is selected; open-circuit voltage ÷ 12 when 500A is selected, and open-circuit voltage = 8 when 750A is selected.)
Front Time Tolerance	±30% for voltage; ±20% for current
Duration Tolerance	±20% (Note: When used with an AC mains coupler /decoupler, open-circuit voltage wave durations may be significantly reduced when certain coupling modes are selected.)
Surge Repetition Rate	1 shot/12 seconds
Line Sync Accuracy	±15° with optional AC mains: coupler/decoupler
Minimum System Requirements	E100 series control center
Options	E504A-VI - adds voltage and current monitoring

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ECAT Model E505A



Plug-in module that produces the lightning surge waveforms required by FCC Part 68

ELECTRICAL

Waveforms	<10/>160µs, 50-1650V ±10%; peak short-circuit current is 200A, -0% +10% when the open-circuit voltage is set to 1500V <10/>560µs, 50-880V ±10%; peak short-circuit current is 100A, -0% +10% when the open-circuit voltage is set to 800V <2/>10µs, 100-2750V ±10%; peak short-circuit current is 1000A, -0% +10% when the open-circuit voltage is set to 2500V Note: All voltage and current specifications are minimum values in accordance with FCC Part 68
Surge Repetition Rate	1 shot/18 seconds for all waves except <2/>10µs which is 1 shot/24 seconds
Line Sync Accuracy	±15° with optional coupler/decoupler
Minimum System Requirements	E100 series control center
Options	E505A-VI - adds voltage and current monitoring

ECAT Model E506-4W



Plug-in module to produce the 2/10µs surges required by Telcordia GR-1089 CORE for up to five-wire (four terminal) testing

ELECTRICAL

Waveforms	<2/>10µs, 50-800V, 100A/terminal with 800V open-circuit voltage <2/>10µs, 50-1500V, 100A/terminal with 1500V open-circuit voltage <2/>10µs, 100-2500V, 500A/terminal with 2500V open-circuit voltage <2/>10µs, 200-5000V, 500A/terminal with 5000V open-circuit voltage
Tolerances	All peak open-circuit voltages and short-circuit currents are -0%/+20%
Outputs	Front panel terminals for connection to T1, R1, T2, R2 and Ground
Surge	Repetition Rate: 1 shot/16 seconds
Minimum System Requirements	E100 series control center
Options	E506-4W-VI - adds voltage and current monitoring

ECAT Model E508 and E508-12P





Plug-in modules to produce the 10/360µs surges required by Telcordia GR-1089 CORE

E508 WAVEFORMS

Open-Circuit Voltage	10/360µs, 50-1100V, -0/+15% in 1 volt steps. Tip and ring outputs independent and isolated to ensure true, three-terminal simultaneous testing of up to 12 pair. Waveforms as defined by Telcordia GR-1089-CORE
Short-Circuit Current	100A/side -0/+15% at a voltage setting of 1.0kV
Front Time Tolerance	-30/+0% for voltage and current
Duration Tolerance	-0/+30%
Surge Repetition Rate	1 shot/50 seconds

E508-12P WAVEFORMS

Open-Circuit Voltage	10/360µs, 50-1100V, -0/+15% in 1 volt steps. Tip and ring outputs independent and isolated to insure true, three-terminal simultaneous testing of up to 12 pair. Waveforms as defined by Telcordia GR-1089-CORE.
Short-Circuit Current	25A/side -0/+15% at a voltage setting of 1.0kV
Front Time Tolerance	-25%/+0 for voltage; -30%/+0 for current
Duration Tolerance	-0/+30%
Surge Repetition Rate	1 shot/150 seconds
Minimum System Requirements	E100 series control center
Options	E508-VI - adds voltage and current monitoring

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ECAT Model E510A



Plug-in module to produce combination wave specified by ANSI/IEEE C62.41 Cat. B and IEC 61000 4-5 to 10kV and 5kA

Electrical Open-Circuit Voltage	1.2/50µs, 0-10.1kV ±10% in 1 volt steps
Short-Circuit Current	8/20µs, 0-5.05kA with 2 ohm effective source impedance, ±10%

With the additional 10 ohm resistor, the peak short-circuit current = open-circuit voltage ÷12, ±10%. (The short-circuit current waveform is modified by the additional resistance.)

Front Time Tolerance	±30% for voltage ±20% for current
Duration Tolerance	±20% voltage and current
Surge Repetition Rate	1 shot/18 seconds
Line Sync Accuracy	+15° with optional coupler/decoupler
Compatible Powerline Coupler/Decouplers	E455x-kV, E4555, E4556
Minimum System Requirements	E100 series control center
Options	E510A-VI - adds voltage and current monitoring

ECAT Model E511



Plug-in module to provide combination waves to 6 kV and 5kA, as required by British Telecom standards

ELECTRICAL

Open-Circuit Voltage	1.2/50µs, 200V to 6.6kV ±5% in 1 volt steps
Short-Circuit Current	8/20µs, 170A to 5.5kA with 1.2 ohm effective source impedance, ±10%
Front Time Tolerance	±30% for voltage ±20% for current
Duration Tolerance	±20% voltage and current
Surge Repetition Rate:	1 shot/12 seconds
Line Sync Accuracy	±15° with optional coupler/decoupler
Minimum System Requirements	E100 Series control center with blank plug-in module (if no other half-width module is ordered)
Options	E511-VI - adds voltage and current monitoring

ECAT Model E513



Plug-in module to produce voltage ramps for testing surge protection components such as gas tube arrestors; meets surge simulator requirements of UL 864

WAVEFORMS

Voltage Ramps	0.1kV/µs, 0.5kV/µs, 1.0kV/µs, 5.0kV/µs, 10kV/µs, 0.1kV/µs is linear to 2.5kV; all other ramps linear to 3.0kV

Note: Specified ramp rates are obtained with an open-circuit voltage setting of 3.0kV.

Voltage Durations	~65µs for 0.1kV/µs; ~40µs for 0.5kV/µs and 1kV/µs; ~5µs for 5kV/µs and 10kV/µs
Current Durations	~45µs at 0.1kV/µs; ~40µs at 0.5kV/µs and 1.0kV/µs; ~5µs at 5kV/µs and 10kV/µs
Open-Circuit Voltage	0-3000V; ±5% in 1 volt steps
Short-Circuit Current	50A, ±10% when the peak open-circuit voltage is set to 3.0kV
Minimum System Requirements	E100 series control center with blank plug-in module (if no other half-width module is ordered)
Options	E513-VI - adds voltage and current monitoring

NOTE: To obtain linear fronts, waves are quasi-square waves with 20-25% initial overshoots beyond peak open-circuit voltages, except for the 0.1kV/µs which is roughly triangular. Undershoots range from 5 to 25%

ECAT Model E514



Surge simulator for 10/1000µs current waves

WAVEFORMS

Open-Circuit Voltage

Open-circuit voltage waveforms vary according to the peak short-circuit current level selected:

Peak I	Open-Circuit V
15A	10/1000µs, 50-1650V ±10%
60A	1kV/µs linear ramp, 50-1650V
100A	10/1000µs, 50-1000V
250A	1kV/µs linear ramp, 50-1650V ±10%

Short-Circuit Current	10/1000µs; software selectable at 15A, 60A, 100A, and 250A, ±10%
Rise Time Tolerance	±30%
Duration Tolerance	±20%
Surge Repetition Rate	15A, 60A - 1 shot/21 seconds 100A, 250A - 1 shot/59 seconds
Minimum System Requirements	E100 series control center
Options	E514-VI: Provides monitoring of the peak surge voltages and currents at the output of the E514 module. All measurements are logged by software for diagnostic evaluation of 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 the E514 VI option.

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ECAT Model E515



Module to produce the 10/250µs surges required by Telcordia GR-1089-CORE

ELECTRICAL

Waveform	<10/>250µs, 200-4000V -0/+16% peak open-circuit voltage; 100-2000A -0/+16% peak short-circuit current.
Front Time Tolerance	-60%/+0 for voltage; -30%/+0 for current
Duration Tolerance	-0/+60% for voltage; -0/+20% for current
Surge Repetition Rate	1 shot/126 seconds 0 to 4kV range 1 shot/63 seconds 0 to 2kV range
Minimum System Requirements	E100 series control center
Options	E515-VI - adds voltage and current monitoring

ECAT Model E518



Plug-in module to produce the 10/1000µs waveforms to 2kV as required by Telcordia GR-1089-CORE for both Lightning Surge and Protection Coordination. Includes HB-ECAT.

ELECTRICAL

Waveforms	10/1000µs, 50-600V -0/+15% peak open-circuit voltage; 100A/side -0/+15% peak short-circuit current
	10/1000µs, 50-1000V -0/+15% peak open-circuit voltage; 100A/side -0/+15% peak short-circuit current
	10/1000µs, 50-2000V -0/+15% peak open-circuit voltage; 100A/side @ 1kV; 200A/side @ 2kV -0/+15% peak short-circuit current

NOTE: All voltage and current specifications are minimum values, in accordance with Telcordia GR-1089-CORE

Outputs are all true three-terminal outputs for testing either two or three-terminal devices or inputs. Outputs can be connected in parallel to double the available peak short-circuit current when testing two-terminal devices.

Front time tolerance	-30%/+0%
Duration tolerance	-0/+50%
Surge repetition rate	1 shot/40 seconds at 600V and 1kV; longer charging times at higher voltages
Minimum System Requirements:	E100 series control center
Options	E518-VI - adds voltage and current monitoring

ECAT Models E521 and E522



Surge systems that produce the high voltage, high current combination waves required by ANSI standards for service entrance and outside connected electronics; meets requirements of IEC 61000-4-5 for all exposure categories. **ECAT Model E521** includes built-in AC coupler/decoupler for single-phase lines to 480V, 32A; **ECAT Model E522** includes built-in AC coupler/decoupler for three-phase lines to 480V, 32A/phase (actual AC mains current per AC line connector limits).

ELECTRICAL

Open-Circuit Voltage	1.2/50µs, 200V to 20.2kV ±10%
Short-Circuit Current	8/20µs, 100A to 10.1kA ±10%, with 2 ohm effective source impedance. With a 12 ohm effective source impedance, the peak short-circuit current = open-circuit voltage ÷ 12
Rise Time Tolerance	±30% for voltage; ±20% for current
Duration Tolerance	±20% for voltage and current
Surge Repetition Rate	1 shot/30 seconds @ <=10kV 1 shot/minute @ >10kV
Line Sync Accuracy:	±5°
Minimum System Requirements:	E100 series control center
Options	E521-VI - adds 3-wire VI monitoring plus automatic software selection to Model E521 E522-VI - adds 5-wire VI monitoring plus automatic software selection to Model E522

SURGE COUPLER/DECOUPLERS

ECAT Model E551



A single-phase AC line (power lines) coupler/decoupler for surge waves, as specified by IEC 61000-4-5.

ELECTRICAL

Voltage	250V rms AC, single-phase
Current	16A continuous with appropriate connectors (i.e. Schuko or other) 15A continuous with NEMA 5-15 style connector used in the U.S.A.
Coupling Mode Selection	Coupling mode selection is programmable - manually from the control center, or automatically using SurgeWare™ software.
Monitoring	Monitoring and peak detection of surge voltage across any two manually-selected lines. Monitoring can be at the EUT or at the front panel of the coupler/decoupler. Monitoring and peak detection of surge current in either High or Neutral, selected by the ECAT Control Center or the computer, measured without including back-filter surge current.
Minimum System Requirements:	E100 series control center and AC mains surge network
Options	E551-DC - allows use of surge coupler/decouplers on DC power mains

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COMBINED SURGE & EFT COUPLER/DECOUPLERS

ECAT Model E455x



Single and three-phase AC line coupler/decouplers for EFT and Surge waves, as specified by IEC 61000-4-4 Edition 2 and IEC 61000-4-5

ELECTRICAL

Model	Single or Three-phase	Voltage	Current** per phase
E4551A/E4551kV*	Single-phase	250V rms	15/16A***
E4552A/E4552kV*	Single-phase	277V rms	32A
E4553A/E4553kV*	Three-phase	480V rms	16A
E4554A/E4554kV*	Three-phase	480V rms	32A
E4555	Three-phase	600V rms	50A
E4556	Three-phase	600V rms	100A

* kV version is required for operation with surge modules greater than 7kV, such as the E510A. All standard coupler/decoupler options apply

** Actual current capability may be limited by the AC line connectors selected

*** Depends on connector selected. Typically 15A with U.S. NEMA connector; 16A with appropriate European style connectors

Coupling Mode Coupling mode selection is controlled manually from the control selection center, or automatically using SurgeWare™ or BurstWare™ software. Coupling is allowed from any line to any other line or combination of lines.

Monitoring Monitoring and peak detection of surge voltage across any two manually-selected lines. Monitoring can be at the EUT or at the front panel of the coupler/decoupler.

Monitoring and peak detection of surge current in either High or Neutral, selected by the ECAT Control Center or the computer, measured without including back-filter surge current.

Minimum Requirements E100 series control center EFT or mains - coupled surge module

Options

E455x-DC AC Allows the E455x coupler/decoupler to be used with DC as well as mains. The DC current ratings for essentially resistive loads are:

	to 48V	to 110 V	to 220V
E4551A/E4551kV	15A	5A	0.8A
E4552A/E4552kV	15A	5A	0.8A
E4553A/E4553kV	20A	8A	1.2A
E4554A/E4554kV	25A	8A	1.2A
E4555	50A	50A (120V)	30A
E4556	100A	50A (120V)	30A

E455x-VI Enhanced V and I monitoring. Adds monitoring and peak detection of surge voltage and current. Upper and lower limits can be placed on surge peaks. Monitoring of 3 wires is provided in single-phase systems, 5 wires in three-phase systems. Selection of the V and I inputs is performed from the control center or can be made automatically with SurgeWare control software

E455x-HV Increases the AC mains voltage rating from 277V to 480V rms in the E4552, and from 480V to 600V rms in the E4553 and E4554. The HV option is not available in the E4551, E4555 and E4556.

Physical Physical size of module varies depending on model number

PQF (POWER QUALITY FAILURE) MODULES

ECAT Models EP61 and EP62



Plug-in modules provide swells, dips and interrupts on AC power mains in compliance with, and exceeding the requirements of IEC 61000-4-11 Edition 2. Model EP61 for single-phase AC lines to 240 RMS, 16A; Model EP62 for single-phase AC lines to 240 RMS, 32A

AC INPUTS/OUTPUTS

Input Voltage for 100% 50 to 240V at 50Hz and to 277V at 60Hz

Output Voltages on the Selected Phase 0% (open or short), 40%, 50%, 70%, 80%, 90%, 100%, 110%, 120% and 150%

EP61 Output Current 16A at 250V; 20A at 125V*

EP62 Output Current 32A at 250V; 30A at 125V*

*The actual AC mains voltage and current limit is based on the mains connector selected.

Inrush Current >250A at 120V; >500A at 220-240V

Event Duration From 0.03 cycle (10°) to 500 minutes; maximum 12 events per cycle

Switching Times 1-5µs into a 100 ohm load

Overshoot <5%

Undershoot <5%

MEASUREMENTS

rms Voltage 0-300V, 0.5% of range + 1% of reading

rms Current 0-40A, 0.5% of range + 1% of reading

Peak Current 0-1000A, 1% of range + 5% of reading

Inrush Current Qualification Internal, built-in circuit according to IEC 61000-4-11. Automatically measures peak inrush current at 90° and 270°. Peak values are reported via the control software.

Minimum System Requirements: E100 series control center

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Experience the many benefits of working with recognized experts in the field of EMC (Electromagnetic Compatibility) testing. Our commitment to the discipline is wide ranging; we actively participate on global standards committees, and have helped define test methodologies to achieve regulatory standards such as CE Mark requirements, as well as company and market-driven product quality objectives.

Our goal is to support you with lifelong service – from applications support, calibration services and preventative maintenance scheduling to full tactical field support.

Thermo Fisher Scientific can help you reach the next level of success.

Please also see the Thermo Scientific EMC Test System Options & Accessories data sheet for additional ECAT test system options and accessories.

Specialists who understand the challenges you face. Innovative ideas. Leading technologies. Breadth of EMC test equipment. Thermo Fisher Scientific – your EMC test solutions partner. Contact us today for details.

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