

EMC Pro[®]

Advanced EMC Immunity Test System



TECHNICAL SPECIFICATIONS

MODEL PRO-ESD

ESD per IEC 1000-4-2

Trigger Modes:	One shot manual, multi-shot tripod
Repetition Rate:	Single shot, 1pps or 20pps
Air Discharge Voltage:	500V - 8.8kV $\pm 10\%$
Contact Discharge Voltage:	500V - 4.4kV $\pm 10\%$
Discharge Capacitor:	150pF $\pm 10\%$
Discharge Resistance:	330 Ω $\pm 10\%$
Charging Resistance:	50M Ω - 100M Ω
Polarity:	Front panel or software controlled
Shot Counter:	1 - 999 discharges
Energy Storage:	5.8mJ @ 8.8kV

MODEL PRO-EFT

EFT per IEC 1000-4-4 and ANSI

Voltage Waveform:	5/50ns $\pm 30\%$
Peak Voltage:	250V - 4.4kV $\pm 5\%$
Burst Period:	300ms $\pm 10\%$
Burst Duration:	15ms $\pm 20\%$
Frequency:	1-100kHz, in 0.5kHz steps, $\pm 10\%$
DC Blocking Capacitor:	10nF (internal)

MODEL PRO-SURGE

Surge per IEC 1000-4-5, ANSI and UL

Voltage Waveform:	1.2/50 μ s
Peak Voltage:	250V - 6.6kV $\pm 5\%$, 12 Ω mode 250V - 6.0kV $\pm 5\%$, 2 Ω mode
Peak Current:	125A - 3.3kA $\pm 10\%$
Additional 10% Resistor:	Software selectable
Repetition Rate:	Up to 4 per minute
Open-circuit Voltage:	Front time: 1.2 μ s $\pm 30\%$ Duration: 50 μ s $\pm 20\%*$ Undershoot: $\leq 30\%$
Short-circuit Current:	Front time: 8.0 μ s $\pm 20\%$ Duration: 20 μ s $\pm 20\%$ Undershoot: $\leq 30\%$
Line sync accuracy:	$\pm 15\%$, 50 - 277VAC

* Durations are reduced in 12 Ω mode and with multiple lines to PE coupling modes.

MODEL PRO-RING*

Surge Ring Wave per ANSI and UL

Voltage Waveform:	100kHz damped cosine
Peak Voltage:	250 - 6.6kV $\pm 5\%$
Repetition Rate:	<4/minute at 6kV, faster at lower voltages
Open-circuit Voltage:	Rise Time: 0.5 μ s $\pm 30\%$
Short-circuit Current:	Vp/Ip: 12 Ω $\pm 3\Omega$ or 30 Ω $\pm 8\Omega$ software selectable

MODEL PRO-TELECOM*

Surge Telecom per IEC 1000-4-5, FCC, CCITT and ETSI

Voltage Waveform:	10/700 μ s (9/720 μ s FCC Part 68)
Peak Voltage:	250V - 6.6kV $\pm 5\%$
Peak Current:	6.25 - 165A $\pm 10/-0\%$, 40 Ω mode
Repetition Rate:	Up to 4 per minute
Open-circuit Voltage:	Front time: 7.0 μ s to 11.7 μ s Duration: 576 μ s to 840 μ s
Short-circuit Current:	Front time: 3.5 μ s to 6.5 μ s Duration: 256 μ s to 384 μ s

SURGE WAVEFORM MONITORING

Lines Monitored:	Monitors are automatically switched to match generator coupling mode
Open-circuit Voltage:	1000:1 $\pm 10\%$
Short-circuit Current Attenuation:	200:1 $\pm 7\%$

MODEL PRO-HPOWER

Power Frequency Magnetic Field per IEC 1000-4-8

Field Frequency:	50Hz/60Hz
Field Amplitude:	0.5 - 4A/m, in 0.25A steps, $\pm 10\%$ (with CM-HCOIL) up to 100A/m with optional external HPOWER-EXT
AC Source:	Internal
Resolution:	0.25A minimum
Coil Factor:	0.65 to 1.00
Coil Resistance:	0.05 Ω maximum

TECHNICAL SPECIFICATIONS

MODEL PRO-HPULSE

Pulse Magnetic Field per IEC 1000-4-9

Field Pulse:	8/20 μ s
Field Amplitude:	100A/m - 1000A/m, \pm 10%
Resolution:	5A/m
Coil Factor:	0.65 to 1.00

MODEL PRO-PQF

Dips and Interrupts per IEC 1000-4-11

Dips:	70%, 40%
Interrupts:	0% (short and open)
Transition Time:	1 μ s - 5 μ s
Inrush:	Minimum 250Amps @ 100 - 120V, Minimum 500Amps @ 220 - 240V
AC Voltage:	50 - 250VAC, 50/60Hz
AC Current:	16A max.**
PQF Sync Output:	5V signal occurs at each dip or interrupt transition

PQF WAVEFORM MONITORING

Voltage Input Connection:	Fixed, L1 to L2
Voltage Attenuation:	100:1 \pm 5%
Current Input Connection:	Fixed, L1
Peak Current:	Minimum 500A inrush into 1700 μ F
Current Attenuation:	200:1 \pm 5%

MODEL PRO-BASE

SYSTEM VOLTAGE	90-240VAC, 50/60Hz
INTEGRATED EUT MAINS COUPLER/DECOUPLER	
AC Voltage:	1 phase, 50 - 250VAC. 50/60Hz
AC Current:	16A max.**
DC Voltage:	100VDC max.
DC Current:	10A max.
Frequency:	50/60Hz
EUT Connectors:	Nema, British, Schuko

CONTROL INTERFACE

Interface: RS232 Fiber-optic

SAFETY FEATURES

- External Interlock for users
- Interlock for CCL connector
- External stop input

ENVIRONMENTAL OPERATING CONDITIONS

Temperature:	15- 40°C
Humidity:	10-75%, non-condensing
Altitude:	8000 ft. max.

PHYSICAL

Height:	22.9cm (8.7 in)
Width:	43.4cm (17.1 in)
Depth:	64.8cm (25.5 in)
Weight:	39kg (85 lbs)

OPTIONAL COUPLER/DECOUPLERS

MODEL CM-3CD-16 & CM-3CD-32

Semi-automatic, stand alone, three-phase EFT & Surge AC/DC mains coupler/decouplers

AC Voltage:	0 to 250/433VAC, 50/60Hz **
AC Current CM-3CD-16:	16A/phase continuous
AC Current CM-3CD-32:	32A/phase continuous
DC Voltage:	100VDC max.
DC Current:	10A max.
EUT Connectors:	Safety Sockets

MODEL CM-3PQF

Semi-automatic, 3-phase Dip/Interrupt Selector

AC Voltage:	50 to 250/433VAC, 50/60Hz **
AC Current:	16A/phase continuous **
EUT Connectors:	Safety Sockets

MODEL CM-I/OCD

External, 8-line coupler/decoupler for signal lines

Waveforms:	Couples combination waves of 1.2/50 μ s open-circuit voltage, 8/20 μ s short-circuit current
Data Line Freq:	> 100kHz with HS option
Number of Lines:	Eight lines
Surge Voltage:	4.4kV max.
Signal Line Voltage:	200V peak max.
Signal Line Current:	1A max.
Clamping:	Selectable built-in clamps of 20V and 220V: external bias input for other clamp levels

MODEL CM-TELCD

External coupler/decoupler for Telecom lines

Waveforms:	Couples 1.2/50 μ s Combination and 10/700 μ s Telecom waves
Data Line Freq:	To 100kHz without degradation
Number of Lines:	Up to four lines - one or two pairs of balanced Telecom lines.
Surge Voltage:	4.4kV max.
Signal Line Voltage:	200V peak max.
Signal Line Current:	1A max.
Clamping:	Selectable built-in clamps of 20V and 220V: external bias input for other clamp levels

* *Pro-Telecom and Pro-Ring can not be installed together in the same unit.*

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

Thermo KeyTek

A Thermo Electron business

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@thermokeytek.com
http://www.thermokeytek.com

EMCPRO® is a registered trademark of Thermo KeyTek L.L.C.

©Thermo KeyTek. Specification subject to change without notice.

Printed in USA.

KPS-749C-6/01