

**POWERTRIP®****TRANSIENT VOLTAGE SURGE SUPPRESSOR****Model EX-PT180****180 kA Per Phase  
with Sinewave Tracking**

The **PowerTrip EX series** device is a versatile full-featured surge suppression product. This is a durable, high performance device intended for general purpose and sensitive/critical load applications. The EX-PT180 is typically installed at service entrances up to 1500 - 1800 amps, distribution and sub-distribution panels. Compact size and non-metallic enclosure design also allow it to be installed directly inside electrical panels and individual equipment disconnects. The internal installation provides the absolute shortest possible lead length and optimum performance. The EX-PT180 is extremely effective in limiting internally generated transients and is an absolute must on panels feeding office locations and/or microprocessor based equipment.

**Description:** Parallel connected, transient voltage surge suppressor device utilizing both high-energy handling and sine-wave tracking circuitry for virtual elimination of impulse and ring wave type transients. Unit has 180 kA per phase - 60 kA per mode peak surge current.

**Application:** Designed for use at ANSI/IEEE Categories C, B and A with susceptibility up to medium exposure levels. Designed to protect sensitive/critical loads fed from distribution panels, branch panels and/or individual equipment panels.

**Enclosure:** NEMA 4 ABS Composite - UL94-5VA

**Mounting:** 1" conduit fitting (internally threaded) and external mounting feet.

**Connection Method:** #10 stranded wire.

**Shipping Weight:** 6 lbs.

**Circuit Design:** Parallel connected, internally fused, hybrid design incorporating discrete all mode protection (10 modes for 3 phase wye units\*) and utilizing our encapsulated design to provide improved durability. All suppression circuits are encapsulated in our exclusive compound to assure long component life and complete protection from the environment and/or vibration.

**Protection Modes:** Dedicated protection components and circuitry for each mode. Discrete L-N, L-L (Normal Mode), and Discrete L-G, N-G (Common Mode). 10 modes / 3 phase wye system.

**Input Power Frequency:** 50-60Hz

**Response Time:** <1 nanosecond

**Circuit Diagnostics:** Super Bright LED, 1 per phase, normally on. Dry relay contacts for remote monitoring.

**Circuit Interrupt:** External and internal (see installation instructions for details).

**Fusing:** Line level and component level thermal cutouts (see installation sheet for full details)

**Warranty:** 15 Years Unlimited Free Replacement

**KEY FEATURES**

- Discrete "All Mode" Circuitry: Directly Connected Protection Elements in "All Modes" (10 modes for 3 phase, 4 wire Wye circuits) as recommend by NEMA LS-1 and IEEE Std. 1100-1999
- Industry Leading Measured Limiting Voltage (let-through) Performance
- Multi-stage Hybrid Optimal Sinewave Tracking™ Circuit
- Local & Remote Diagnostics
- Independent Verification of Performance and Safety
- Component-Level, Thermal Fusing
- Patent Pending, Internal, Circuit Board Mounted, Over-Current Fusing



C<sup>®</sup> US  
LISTED 1449  
Second Edition

ISO 9001  
MANUFACTURER

ISO 9001:2000

MADE IN THE U.S.A.

Model EX-PT180 VOLTAGE PERFORMANCE AND ELECTRICAL SPECIFICATIONS							
Model	Circuit Type	MCOV	Peak Surge Current (Amps) Per Mode	Mode	*ANSI/IEEE C62.41 & C62.45 Let-Through Voltage Test Results		
					*A1	* B3/C1	* C3
EX-PT180-1P1C	120V, Single Ø (2 wire + ground)	150 L-N 150 L-G 150 N-G	60,000 L-N 60,000 L-G 60,000 N-G 180,000 Total	L-N L-G N-G	40 68 40	420 430 575	670 670 960
EX-PT180-1S1C	120/240V, Split Ø (3 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 300,000 Total	L-L L-N L-G N-G	72 40 68 40	645 420 430 575	1020 670 670 960
EX-PT180-3Y1C	120/208V, 3ØY (4 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 300,000 Total	L-L L-N L-G N-G	72 40 68 40	645 420 430 575	1060 670 670 960
EX-PT180-1P2C	240, Single Ø (2 wire + ground)	320 L-N 320 L-G 320 N-G	60,000 L-N 60,000 L-G 60,000 N-G 180,000 Total	L-N L-G N-G	88 94 94	645 575 960	1090 1080 1480
EX-PT180-3Y2C	277/480V, 3ØY 220/380V, 3ØY (4 wire + ground)	550 L-L 320 L-L 320 L-G 320 N-G	60,000 L-L 60,000 L-N 60,000 L-G 60,000 N-G 600,000 Total	L-L L-N L-G N-G	96 88 94 94	785 575 575 985	890 1095 1090 1480
EX-PT180-3N2C	240V, 3Ø Delta (3 wire + ground)	320 L-L 320 L-G	60,000 L-L 60,000 L-G 360,000 Total	L-L L-G	88 94	643 643	1190 1185
EX-PT180-3N4C	380V, 3Ø Delta 480V, 3Ø Delta (3 wire + round)	550 L-L 550 L-G	60,000 L-L 60,000 L-G 360,000 Total	L-L L-G	96 39	785 785	1490 1395

\*Let-Through Voltage Test Environment: Positive Polarity. Time base=20 microseconds. Sampling rate = 250 megasamples/sec. All voltages are peak (±10%). Surge voltages are measured from the insertion point of surge on the sine wave to the peak of the surge. All tests are Dynamic (voltage applied) except N-G which is static (no voltage applied). All tests were performed with 6 inches of lead length outside the device enclosure which simulates actual "as installed" performance. Single-pulse, surge current testing for all modes at rated currents, is in compliance with NEMA LS 1-1992. Single-pulse, surge current capacities of 200,000 amps or less are determined by single-unit testing of all components within each mode. Present industry test equipment limitations require testing of individual components or sub-assemblies within a mode for single-pulse, surge current capacities over 200,000 amps.

- \* **A1** - 2kV, 67A, 100kHz Ring Wave 270° Phase Angle
- \* **B3/C1** - 6kV, 3kA Impulse Wave 90° Phase Angle
- \* **C3** - 20kV, 10kA Impulse Wave 90° Phase Angle

Enclosure Dimensions	
Dimensions (in.)	Standard Model
A	8.25
B	5.00
C	3.00
D	9.35
E	8.88
F	3.75
Type	NEMA 4 (ABS)
Weight	6.0 lbs.

