PROTEK DEVICES
Only One Name Means ProTek'Tion™

587B062LP thru 587B302LP

LOW PROFILE 240V AC POWER LINE SURGE SUPPRESSOR

APPLICATIONS

✔ Hard Wired Equipment AC Power Protection
✔ Load Side Distribution Systems
✔ Secondary Protection for Light Industrial AC Power

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-5 (Surge): 1kA, 8/20µs - Level 4(Line-Line) & 333A Level 4 (Line-Ground)

FEATURES

✔ Meets ANSI/IEEE C62.41 Outdoor Requirements
✔ Listed to CSA, File LR65240 (Except 587B302LP)
✔ Differential and Common Mode Protection
✔ Low Clamping Voltage
✔ Nanosecond Response Time
✔ Long Life and Maintenance Free
✔ Finger Safe Connectors

MECHANICAL CHARACTERISTICS

✔ Plastic Package
✔ Weight: 360 Grams (Approximate)
✔ Flammability Rating UL 94V-0
✔ Device Marking: Part Number, Date Code, Logo, Voltage and Current Rating

DESCRIPTION

The 587B Low Profile (LP) Series of 240 Volt AC Surge Suppressors is designed for use by the OEM, equipment installer and or maintenance contractor. These modules employ a three stage technology proven to be the most cost effective and reliable method in protecting sensitive electronic equipment from over voltage transients.

This series is designed to protect AC powered equipment from the 6,000 Volt peak open circuit voltage and 3,000 Amp short circuit current as defined in ANSI/IEEE C62.41, Category CI.

The 587BxxxLP Series offers a high degree of protection against 240 VAC line EMI noise. It is ideal for protecting 800 Volt components because the solid state TVS technology assures that the line-to-neutral voltage will not exceed 800 Volts. While the modules are designed for transient voltage protection, the advanced circuitry will also attenuate the amplitude and slow the rate of rise of high frequency noise acting as an EMI filter. The 587BxxxLP Series includes common mode and differential mode protection, which are effective in reducing interference from line to equipment and are effective in reducing equipment generated noise to meet FCC, VDE and CSA interference requirements

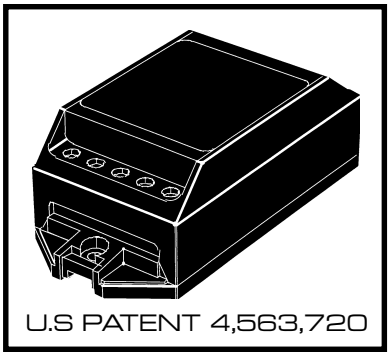


FIGURE 1
TRANSIENT VOLTAGE THREAT CONDITION

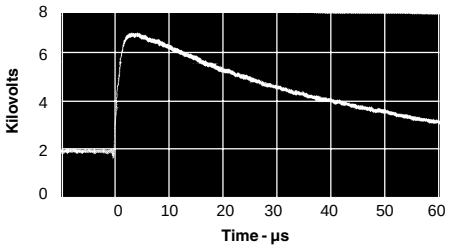
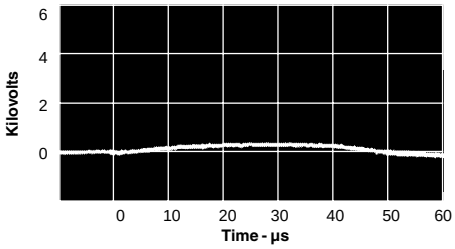


FIGURE 2
TYPICAL CLAMPING ACTION OF A 15 AMP MODULE



Figures 1 and 2 are photographs of digitized waveforms showing the typical clamping action of a 16 ampere module. A 12 Ohm resistor is used to represent a 10 Amp equipment load. The load is then subjected to the ANSI/IEEE C62.41 Category CI test conditions (6,000V/3,000A). These photographs contrast the effect on equipment with and without the protector.

DEVICE CHARACTERISTICS

SPECIFICATIONS @ 25°C				
MAXIMUM RATINGS	RESPONSE TO TRANSIENT VOLTAGES			
	CLAMPING		TEST CONDITION	
	PROTECTION MODE	MAXIMUM CLAMPING VOLTAGE	OPEN CIRCUIT VOLTAGE @ 1.2/50 µs	SHORT CIRCUIT CURRENT @ 8/20 µs
Operating Line Voltage: 240 VAC + 10% Maximum Line Current: 587B062LP: 6A 587B102LP: 10A 587B162LP: 16A 587B302LP: 30A Transient Voltage: 6000V_{peak} Transient Current: 3000A_{peak} Current Leakage: @ 240 VAC Line-to-Neutral: 1.0mA Neutral-to-Ground: 1.0mA Line-to-Ground: 1.0mA Storage & Operating Temperature: -40°C to 85°C (Measured at center of mounting surface)	DIFFERENTIAL (Line-to-Neutral)	800V	6000V	3000A
	COMMON (Neutral-to-Ground) (Line-to-Ground)	 1000V 1000V	 6000V 6000V	 3000A 3000A

ARRESTER DEFINITIONS

Clamping Voltage: The clamping voltage of an arrester is the voltage that appears across its terminals during conduction of a transient current.

Standard Wave Form: The waveform of a surge current or voltage is designated by a combination of two numbers. The first number is for the time of the wave front expressed in microseconds from zero to the peak of the wave. The second number is for the time of the wavetail also expressed in microseconds from zero to the instant that the wavetail reaches one half of the crest or peak value, i.e., 8/20 µs waveform.

Transient Current: The transient current of an arrestor is the peak surge current which flows through the arrester when voltage clamping occurs.

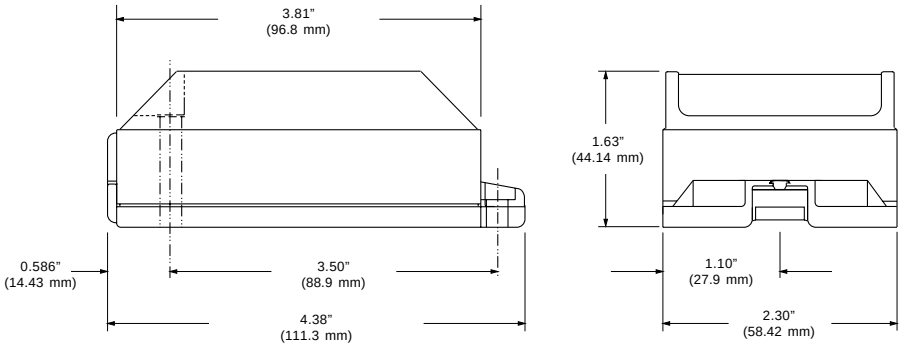
OPERATION

For maximum effectiveness, the protector should be installed directly after the AC line on/off switch and fuse. This will protect the electronics from the AC line switch arcing and the severe transients caused by a fuse clearing.

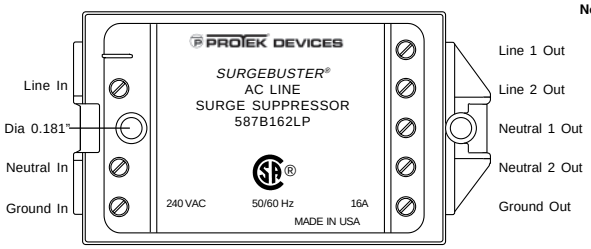
Some heat is produced when operating at full current load, and heat sinking may be required to maintain case temperature below 85°C. The case temperature is measured at the center of the mounting surface. The unit should not be mounted to a low combusting temperature material such as wood.

High energy transients will cause a large circulating current in the AC input line (2,500A is possible). To prevent electromagnetic coupling, the AC line on the input side of the protector must be dressed away from other wiring, magnetic shielding may be required. In addition, the electrical service must be connected to a low impedance earth ground.

PACKAGE OUTLINE & DIMENSIONS



Note: Connector accepts 10-24 gauge wire.



COPYRIGHT © ProTek Devices 2003
SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC).

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

ProTek Devices
2929 South Fair Lane, Tempe, AZ 85282
Tel: 602-431-8101 Fax: 602-431-2288
E-Mail: sales@protekdevices.com
Web Site: www.protekdevices.com