PROTEK DEVICES
Only One Name Means ProTek'Tion™

587B062 thru 587B302

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)

FEATURES

✔ Meets ANSI/IEEE C62.41 Requirements
✔ Listed to CSA, File LR65240
✔ Differential Mode Protection
✔ Low Clamping Voltage
✔ Nanosecond Response Time
✔ Long Life and Maintenance Free

MECHANICAL CHARACTERISTICS

✔ Plastic Package
✔ Weight: 485 Grams (Approximate)
✔ Flammability Rating UL 94V-0
✔ Device Marking: Part Number, Date Code, Logo, Voltage and Current Rating

DESCRIPTION

The 587B 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 C1.

The 587B Series offers a high degree of protection against 240 VAC EMI line 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 587B Series includes differential mode protection, which is effective in reducing interference from line to equipment and are effective in reducing equipment generated noise to meet FCC, VDE and CSA interference requirements.

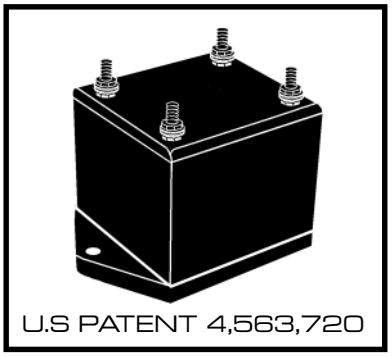


FIGURE 1
TRANSIENT VOLTAGE THREAT CONDITION

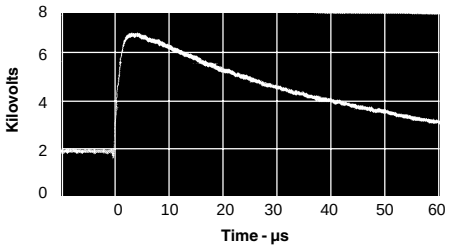
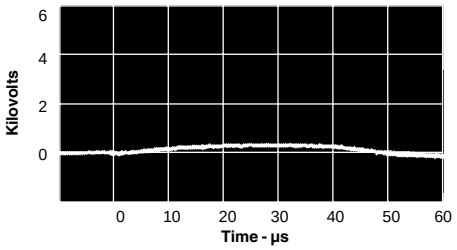


FIGURE 2
TYPICAL CLAMPING ACTION OF A 16 AMP MODULE



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%	DIFFERENTIAL (Line-to-Neutral)	800V	6000V	3000A
Maximum Line Current:	587B062: 6A 587B162: 16A 587B302: 30A				
Transient Voltage:	$6000V_{peak}$				
Transient Current:	$3000A_{peak}$				
Current Leakage:	@ 240 VAC				
Line-to-Neutral:	1.0mA				
Storage & Operating Temperature: (Measured at center of mounting surface)	-40°C to 85°C				

FILTER CHARACTERISTICS (Noise Attenuation dB)

Frequency (MHz)	0.15	0.5	1.0	5.0	10	30
Differential Mode Attenuation	30	55	55	55	50	45

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.

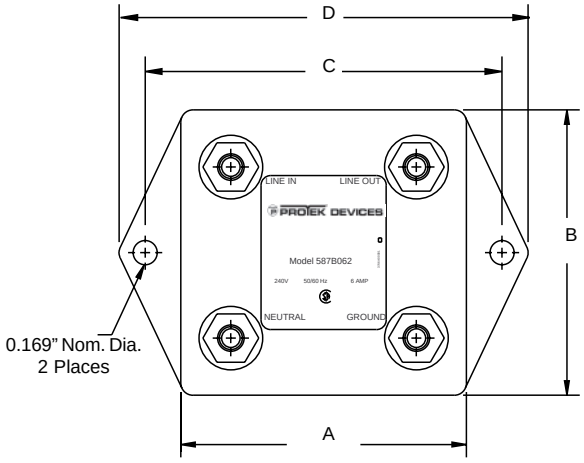
OPERATION

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.

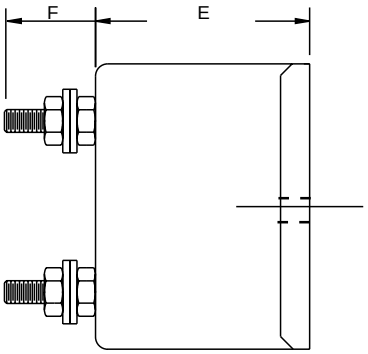
Some heat is produced when operating at full current load, and heat sinking may be required to maintain case temperature below 85°C. The case temperature is measured at the center of the mounting surface. The unit should not be mounted to a low combusting temperature material such as wood.

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



INCLUDES HARDWARE
2 NUTS, 2 WASHERS
PER TERMINAL



PROTEK PART NUMBER	CASE (INCHES)						CASE (CENTIMETERS)						APPROX. WEIGHT IN GRAMS	TERMINAL THREADS
	A	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**		
587B62	3	3	3.5	3.85	1.5	0.6	7.62	7.62	8.89	10.16	3.81	1.52	750	M5
587B162	3	3	3.5	3.85	1.5	0.6	7.62	7.62	8.89	10.16	3.81	1.52	750	M5
587B302	3	3	3.5	3.85	1.5	0.6	7.62	7.62	8.89	10.16	3.81	1.52	750	M5

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