

STABILINE®

TB1 Series-Transient Voltage Surge Suppressors

Series-connected Design



Terminal Board/Series-connected Suppression Filter System

The TB1 Series STABILINE® Transient Voltage Surge Suppressor is engineered for hard-wired installation within or adjacent to electrical loads such as programmable logic controllers, motion controllers, robotics, motors, adjustable speed drives, process automation systems, pumps, heaters, HVAC systems and other point-of-use applications.

Compact and powerful, the TB1 Series unit protects these and other individual components from damaging electrical transients, high frequency noise and high-energy disturbances. Available in two Load Current and Surge Amp Capacity per Mode ratings:

20A / 45kA or 40A / 65kA

TB1 Series Features

- ◆ Industry's Best Surge Current Rating
- ◆ Series-connected Design
- ◆ Rugged, Nonmetallic Enclosure
- ◆ Sand-encapsulated
- ◆ Integral Components
- ◆ High-frequency Noise Filtering
- ◆ Compact Footprint/Easy Installation
- ◆ Status Indicator Light
- ◆ X and Y Capacitors

TB1 Series Benefits

- ◆ Extends Equipment Life
- ◆ Increased Uptime
- ◆ Provides Higher System Reliability
- ◆ Increases Product Value
- ◆ Offers Low-cost Protection
- ◆ Reduces Maintenance Costs
- ◆ Provides Point-of-use Protection
- ◆ Eliminates System Upset

Surge Current Protection

Parallel MOV Arrays: TB1 models employ metal oxide varistors (MOVs) in parallel arrays placed at the input and output terminals to protect critical loads from high-energy transient damage. Single phase 120, 220 and 277 VAC types provide 3 modes of protection (L-N, L-G and N-G), while 120/240 VAC (split phase) and 2 of 3 phase types provide 6 modes of protection (L1-N, L2-N, L1-G, L2-G, L1-L2 and N-G).

EMI / RFI Noise Attenuation

Capacitors and Inductors: TB1 models utilize UL-recognized inductors and X and Y capacitors to filter error-producing high-frequency noise. Frequency-specific noise attenuation values are published (see other side of data sheet) per NEMA LS-1 across the bandwidth of 1KHz to 100MHz.

Component Integrity

Sand-filled Enclosure: TB1 Model MOV arrays, capacitors and inductors are encapsulated in sand, the arc-quenching compound typically used in fuses. This ensures protection at the surge protection device level and overall system safety for the user.

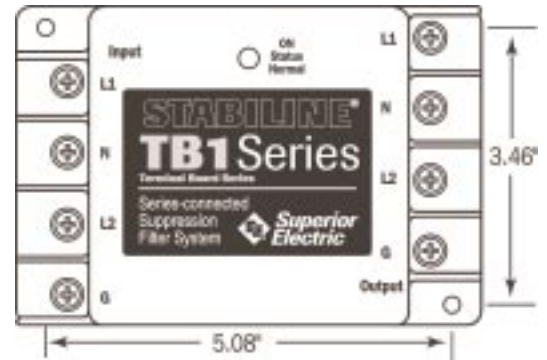
Applications

Choose from two Load Current and Surge Amp Capacity Series for unequalled surge current protection and high-frequency noise attenuation.

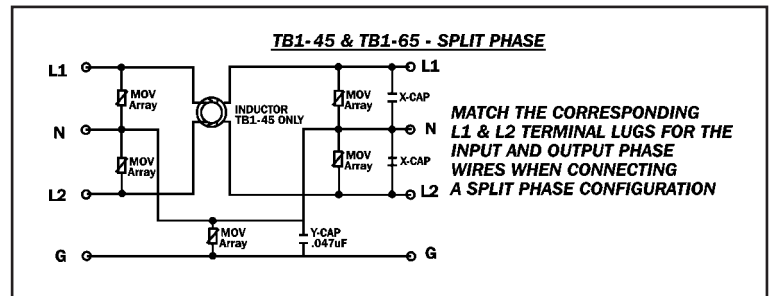
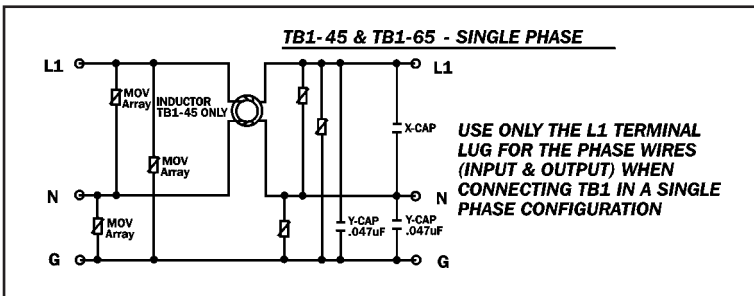
TB1-45- The most popular type, it has the highest noise attenuation capabilities and a surge rating of 45kA per mode.

TB1-65- for use in high-exposure applications such as outdoor lighting, these types protect at 65kA in L-N and 55kA in L-G, L-L and N-G modes.

	Single Phase Models			Three Wire Models		
	120 VAC	220 VAC	277 VAC	120/240 VAC Split Phase	220/380 VAC 2 of 3 Phases	277/480 VAC 2 of 3 Phases
PERFORMANCE SPECIFICATIONS	Load Current Rating 20A / 45kA			TB1-45-120-1G-20	TB1-45-220-1G-20	TB1-45-277-1G-20
	Tested Single-pulse Surge Current Capacity per Mode			45,000A		
	Clamping Voltage (6kV/500A Combination Waveform)			L-N 360V L-G 360V N-G 360V	L-N 660V L-G 700V N-G 640V	L-N 820V L-G 820V N-G 860V
	High Frequency Noise Filtration			L-N	L-G	
	1 KHz			6 dB	6 dB	
	10 KHz			16 dB	6 dB	
	100 KHz			42 dB	16 dB	
	1 MHz			25 dB	55 dB	
	10 MHz			21 dB	81 dB	
	100 MHz			36 dB	80 dB	
PERFORMANCE SPECIFICATIONS	Load Current Rating 40A / 65kA			TB1-65-120-1G-40	TB1-65-220-1G-40	TB1-65-277-1G-40
	Tested Single-pulse Surge Current Capacity per Mode			65,000A		
	Clamping Voltage (6kV/500A Combination Waveform)			L-N 360V L-G 360V N-G 360V	L-N 660V L-G 700V N-G 640V	L-N 820V L-G 820V N-G 860V
	High Frequency Noise Filtration			L-N	L-G	
	1 KHz			6 dB	6 dB	
	10 KHz			16 dB	6 dB	
	100 KHz			42 dB	16 dB	
	1 MHz			25 dB	55 dB	
	10 MHz			21 dB	81 dB	
	100 MHz			36 dB	80 dB	
GENERAL SPECIFICATIONS	Line Frequency Range			50/60 Hz		
	Maximum Continuous Operation Voltage (MCOV)			> 125%	> 125%	> 115%
	Modes of Protection			3 modes (L-N, L-G, N-G)		
	Connection			Series/In-line; Terminal Block Termination		
	Minimum Wire Size			#12 AWG THHN		
	Maximum Wire Size			#8 AWG THHN		
	Warranty			Five Years		
	Protection Present Status			Illuminated LED Indicates Proper Operation of the Device		
	Temperature Operating & Storage			-40°C to 60°C (-40°F to 140°F)		
	Humidity			5-95 % Non-condensing		
Weight			2.25 lbs (1kg)			
Dimensions H x W x D Inches H x W x D (mm)			4.0 x 5.8 x 2.0 (102 x 147 x 51)			
Standards Compliance			UL 1449-Recognized (2nd Edition), UL 1283, NEMA LS-1 1992 ANSI/IEEE C62.41 and ANSI/IEEE C62.45			



The information and specifications stated in this document are subject to change without notice.



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