

## SYSTEM FEATURES



- Protects facilities and equipment against the harmful effects of lightning strikes and internally generated electrical transients
- Individually fused MOV's provide superior protection and continuous operation
- 200 kAIC short circuit current rating allows direct bus connection without the need of an upstream over-current protection device
- Includes pre-wired pigtail conductors to stream line installation
- Low profile design has an optional flush-mount plate for in-wall recessed panel applications
- UL 1283 EMI/RFI filter
- Ultra Compact Footprint – makes installation flexible
- Enhanced Transient Filter for better protection of electronic loads
- 25-Year Unlimited Free Replacement Warranty
- Status indicator lights (LED)

## PRODUCT SPECIFICATIONS

### GENERAL SPECIFICATIONS

**Maximum Rated Surge Current:** 100kA per phase (50kA/mode)

**Repetitive Surge Current Rating:** 3,000 impulses per mode based on actual test data (using ANSI/IEEE C62.41.1-2002 C3 combo wave)

**Application:** ANSI/IEEE C62.41 Location C, B & A. Ideal for distribution panels, branch panels and critical loads

**Design:** Hybrid parallel design with individual fused MOV's and UL 1283 EMI/RFI filter

**Warranty:** 25-Year Unlimited Free Replacement

**Safety Listing:** UL 1449 4th Ed., Type 1 for Type 1 & Type 2 locations and UL 1283

✓ RoHS Compliant

### ELECTRICAL SPECIFICATIONS

**Modes of Protection:** All modes: L-N, L-G, N-G & L-L

**Input Power Frequency:** 40-68Hz

**Connection Method:** Parallel to electrical distribution system

**Response Time:** Less than 1 nanosecond

**Standard Monitoring:** Status indicator lights (one per phase) **Short**

**circuit Current Rating:** 200 kAIC – no upstream over-current protection device (breaker or fuse) required.

### MECHANICAL SPECIFICATIONS

**Dimensions (approx.):** 6" H x 6" W x 4" D

(160 mm H x 160 mm W x 102 mm D)

**Enclosure:** Powder coated, impact-resistance steel, weather-proof NEMA 4 (IP56)

**Connection:** Pre-wired with 30" (915 mm) of #10 AWG (5.26 mm<sup>2</sup>) conductor

**Mounting:** Dual mounting flanges

**Operating Environment:** -40° C to 70° C (-40° F to 160° F)

5% to 95% non-condensing humidity

**Weight:** 10 lbs. (4.5 kg)

### AVAILABLE CONFIGURATIONS

Model Number	Description
TK-TT2-100-1P120-FL	120VAC, Single-Phase 2-wire + grd
TK-TT2-100-1P240-FL	240VAC, Single-Phase 2-wire + grd
TK-TT2-100-1S240-FL	120/240VAC, Split-Phase, 3-wire + grd
TK-TT2-100-3Y208-FL	120/208VAC, Three-Phase, 4-wire + grd
TK-TT2-100-3Y380-FL	220/380VAC, Three-Phase, 4-wire + grd
TK-TT2-100-3Y480-FL	277/480VAC, Three-Phase, 4-wire + grd
TK-TT2-100-3D240-FL	120/240VAC, 3 $\phi$ high-leg DELTA, 4-wire + grd (B phase must be 208V)
TK-TT2-100-240NN-FL	240VAC, Three-Phase, 3-wire + grd

### AVAILABLE OPTIONS

- Monitoring package (Form C dry relay contacts + audible alarm with mute button) : add suffix "-M"

*Stand-Alone Option (To Be Ordered as a separate Item)*

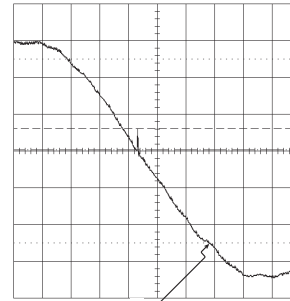
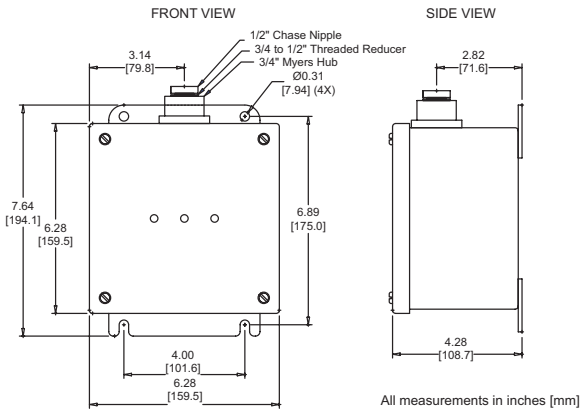
- TT2-FMP Flush-Mount Plate Kit
- NEMA-4X Stainless Steel enclosure: add suffix "XX"

### EMI / RFI FILTER ATTENUATION – MIL STANDARD 220B

Max. Attenuation Frequency

40 dB @ 100 kHz





Peak Let-Through Voltage Level - 36V  
Reference Level Zero Crossing of AC Sine Wave

For 120/208V Configuration

ANSI/IEEE C62.41.1  
Category A1 Ring Wave  
2000V, 67A Test Plot

L-N Mode, Dynamic,  
180 Phase Angle,  
6" Leads, Positive Polarity  
1 msec/div Horizontal  
45V/div Vertical

**ANSI/IEEE C62.41.1-2002, C62.41.2-2002, & C62.45-2002  
Measured Limited Voltage**

**UL Voltage Ratings**

Model Number	System Voltage	System Configuration	Protection Mode	MCOV	A1 Ring Wave	B3/C1 Impulse Wave	C3 Impulse Wave	UL 1449 2nd Edition/ UL1449 3rd & 4th Ed. Voltage Protection Ratings
					2kV, 67A 180° Phase Angle	6kV, 3kA 90° Phase Angle	20kV, 10kA 90° Phase Angle	
TK-TT2-100-P120-FL	120V	1-Phase 2-wire+grnd	L-N	150V	42V	590V	970V	400/600
			L-G	150V	541V	1160V	400/600	
			N-G	150V	765V	590V	1100V	
TK-TT2-100-1P240-FL	240V	1-Phase 2-wire+grnd	L-N	320V	42V	1038V	1660V	800/1200
			L-G	320V	541V	1037V	1690V	800/1200
			N-G	320V	765V	1037V	1510V	800/1200
TK-TT2-100-1S240-FL	120/240V	Split-Phase 3-wire+grnd	L-N	150V	36V	590V	970V	400/600
			L-G	150V	283V	597V	1160V	400/600
			L-L	300V	56V	980V	1490V	800/1000
TK-TT2-100-3Y208-FL	120/208V	3-Phase WYE 4-wire+grnd	N-G	150V	322V	590V	1100V	400/600
			L-N	150V	36V	590V	970V	400/600
			L-G	150V	283V	597V	1160V	400/600
TK-TT2-100-3Y380-FL	220/380V	3-Phase WYE 4-wire+grnd	L-L	300V	56V	980V	1490V	800/1000
			N-G	150V	322V	590V	1100V	400/600
			L-N	320V	42V	1040V	1660V	800/1200
TK-TT2-100-3Y480-FL	277/480V	3-Phase WYE 4-wire+grnd	L-G	320V	541V	1037V	1690V	800/1200
			L-L	640V	63V	1860V	2570V	1500/2000
			N-G	320V	765V	1035V	1510V	800/1200
TK-TT2-100-3D240-FL	120/240V	3-Phase high-leg DELTA 4-wire+grnd	L-N	150V	36V	598V	960V	400/600
			H-N	320V	39V	1041V	1326V	800/1200
			L-G	150V	283V	595V	1160V	400/600
			H-G	320V	735V	1042V	1495V	800/1200
			L-L	320V	31V	988V	1490V	800/1000
			H-L	470V	71V	1394V	1629V	1500/1500
			N-G	150V	303V	595V	860V	400/600
TK-TT2-100-240NN-FL	240V	3-Phase DELTA 3-wire+grnd	L-G	320V	525V	1039V	1500V	800/1200
			L-L	300V	70V	978V	1300V	800/1000

All tests performed with 6" (152 mm) lead length, positive polarity.

All voltages are peak values (±10%) measured from the zero reference point at the phase angles referenced above using a 10 µs/div display rate and 500 Mega samples/sec sampling rate.

Specifications subject to change without notice. See web site [www.TPSSurge.com](http://www.TPSSurge.com) for latest revisions.