

SYSTEM FEATURES



- Protects facilities and equipment against the harmful effects of lightning strikes and internally generated electrical transients
- Includes pre-wired pigtail conductors to streamline installation
- Internal copper bus conduction path to minimize system impedances, reducing let-through voltage and increasing reliability
- Status indicating lights and Form "C" dry relay contacts for remote monitoring
- NEMA LS1 Compliance – single pulse tested at independent 3rd party lab (NEMA LS 1, 2,2-9 and 3-9)
- Hybrid design using MOV and Tracking Filter
- UL 1283 Tracking Filter
- CE Compliant
- Small, Compact Footprint – makes installation flexible
- 25-Year Unlimited Free Replacement Warranty

PRODUCT SPECIFICATIONS

GENERAL SPECIFICATIONS

Maximum Rated Surge Current: 160kA per phase; 80kA per mode
Application: ANSI/IEEE C62.41 Location C, B & A. Ideal for low exposure service entrances, motor control centers, distribution panels, branch panels and critical loads
Design: Compact design for easy installation
Warranty: 25-Year Unlimited Free Replacement
Safety Listing: UL 1449 2nd Edition 2005 Revision (effective 2/9/2007) and UL 1283

ELECTRICAL SPECIFICATIONS

Modes of Protection: All Modes. L-N, L-L, L-G, & N-G
Input Power Frequency: 40-440Hz (47-64 Hz with enhanced filter option)
Response Time: < 1 nanosecond
Standard Monitoring: Status indicator lights (one per phase); Form C dry relay contacts for suppressor status
Short Circuit Current Rating: 25 kAIC using 20A breaker or fuse (not provided) EXCEPT: 277/480 and 480 models, 18 kAIC using 20A breaker or fuse (not provided)

MECHANICAL SPECIFICATIONS

Dimensions (approx.): 7" H x 7" W x 5" D (186 mm H x 186 mm W x 125 mm D)
Enclosure: High-impact non-metallic, NEMA 4X (IP 56)
Connection: Pre-wired with 24" (610 mm) #10 AWG conductor (5.26 mm²) (for use with maximum 200 amp breaker or fuse)
Mounting: Multi-point mounting feet
Operating Environment: -40° C to 70° C (-40° F to 160° F)
 5% to 95% non-condensing humidity
Weight: 12.7 lbs. (5.8 kg)

AVAILABLE CONFIGURATIONS

Model Number	Description
TK-TT160-1P240*	240VAC, 1 ϕ , 2-wire + grd
TK-TT160-1S240	120/240VAC, 1 ϕ SPLIT-PHASE, 3-wire + grd
TK-TT160-3Y208	120/208VAC, 3 ϕ WYE, 4-wire + grd
TK-TT160-3Y380*	220/380VAC, 3 ϕ WYE, 4-wire + grd
TK-TT160-3Y415*	240/415VAC, 3 ϕ WYE, 4-wire + grd
TK-TT160-3Y480	277/480VAC, 3 ϕ WYE, 4-wire + grd
TK-TT160-3D240	120/240VAC, 3 ϕ high-leg DELTA, 4-wire + grd (B phase must be 208V)
TK-TT160-240NN	240VAC, 3 ϕ DELTA, 3-wire + grd
TK-TT160-380NN	380VAC, 3 ϕ DELTA, 3 wire + grd
TK-TT160-480NN	480VAC, 3 ϕ DELTA, 3-wire + grd

*CE approved models

AVAILABLE OPTIONS

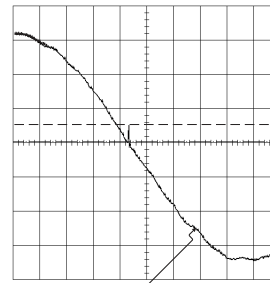
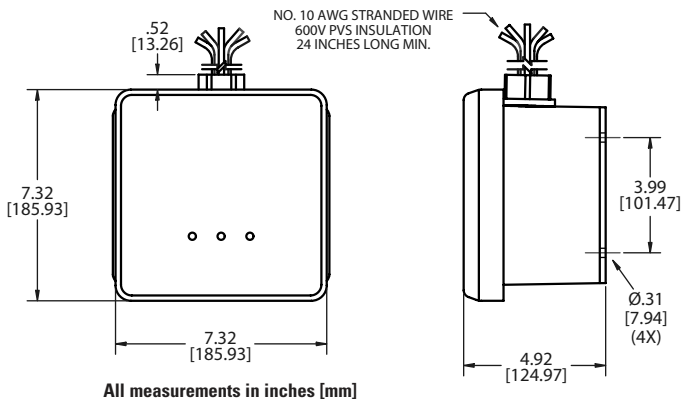
- Enhanced Transient Filter (ETF): add suffix "-F" to the standard part number: Example: TK-TT160-3Y208-F

EMI / RFI FILTER ATTENUATION – MIL STANDARD 220B

Frequency	Attenuation
1kHz	1 dB
10kHz	14 dB
100kHz	23 dB
1MHz	18 dB
10MHz	3 dB
100MHz	2 dB
Max. Attenuation Frequency	57 dB @ 153 kHz

FREE REPLACEMENT





AC Sine Wave

- Peak Let-Through Voltage Level - 26V
- 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
500 Mega samples/sec
55V/div Vertical

ANSI/IEEE C62.41.1-2002, C62.41.2-2002, & C62.45-2002

Measured Limited Voltage

UL SVR

Model Number	System Voltage	System Configuration	Protection Mode	MCOV	ANSI/IEEE C62.41.1-2002, C62.41.2-2002, & C62.45-2002			UL 1449 2nd Edition Suppressed Voltage Ratings
					ETF Models A1 Ring Wave 2kV, 67A 180° Phase Angle	All Models B3/C1 Impulse Wave 6kV, 3kA 90° Phase Angle	All Models C3 Impulse Wave 20kV, 10kA 90° Phase Angle	
TK-TT160-1P240	240V	1-Phase 2-wire+grnd	L-N	320V	31V	1020V	1290V	900V
			L-G	320V	747V	1010V	1310V	900V
			N-G	320V	767V	1010V	1305V	900V
TK-TT160-1S240	120/240V	1-Phase 3-wire+grnd	L-N	150V	26V	507V	773V	400V
			L-G	150V	291V	533V	853V	400V
			L-L	300V	35V	880V	1193V	700V
TK-TT160-3Y208	120/208V	3-Phase WYE 4-wire+grnd	N-G	150V	275V	520V	910V	400V
			L-N	150V	26V	507V	773V	400V
			L-G	150V	291V	533V	853V	400V
TK-TT160-3Y380	220/380V	3-Phase WYE 4-wire+grnd	L-L	300V	35V	880V	1193V	700V
			N-G	150V	275V	520V	910V	400V
			L-N	320V	28V	987V	1333V	900V
TK-TT160-3Y415	240/415V	3-Phase WYE 4-wire+grnd	L-G	320V	738V	957V	1350V	900V
			L-L	640V	38V	1883V	2277V	1800V
			N-G	420V	709V	950V	1420V	800V
TK-TT160-3Y480	277/480V	3-Phase WYE 4-wire+grnd	L-N	320V	28V	987V	1333V	900V
			L-G	320V	738V	957V	1350V	900V
			L-L	640V	38V	1833V	2277V	1800V
TK-TT160-3D240	120/240V	3-Phase High-Leg DELTA 4-wire+grnd	N-G	320V	709V	950V	1420V	800V
			L-N	150V	26V	507V	773V	400V
			H-N	275V	28V	987V	1333V	800V
TK-TT160-240NN	240V	3-Phase DELTA 3-wire+grnd	L-G	150V	291V	533V	853V	400V
			H-G	275V	738V	957V	1350V	800V
			L-L	300V	35V	880V	1193V	700V
TK-TT160-380NN	380V	3-Phase DELTA 3-wire+grnd	H-L	425V	63V	1250V	1640V	1500V
			N-G	150V	275V	520V	910V	400V
			L-L	300V	36V	890V	1270V	800V
TK-TT160-480NN	480V	3-Phase DELTA 3-wire+grnd	L-G	420V	1135V	1480V	1987V	1200V
			L-L	550V	35V	1897V	2413V	1500V
			L-G	550V	1135V	1480V	1987V	1500V
TK-TT160-480NN	480V	3-Phase DELTA 3-wire+grnd	L-L	640V	35V	1897V	2413V	1800V

EFT = Enhanced Transient Filter (-F suffix). 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 for latest revisions.



For Technical Support

TEL: (800) 604-9980 www.TPSSurge.com