



# TE/XGA Series Type 2 Surge Protective Device/SPD/TVSS



### Features:

- **UL 1449 Third Edition Listed (Sept 2009)**
- **160kA & 240kA per phase ratings**
- **Type 2 SPD –**
  - All UL required OCP & Safety Coordination included inside
  - Can be installed load-side of main disconnect
- **Replaceable module construction**
- **200kA SCCR**s
- **Voltage Specific – Highly configurable**
- **All MOV suppression elements monitored**
- **Optional Silicon Avalanche Diode (SAD) Hybrid System**

### Performance Specifications

Surge Capacities	L-N	L-G	N-G	
<b>160kA/phase</b>	80kA	80kA	120kA	Standard
<b>240kA/phase</b>	120kA	120kA	120kA	Optional
Silicon Avalanche Diode (SAD) Hybrid (120/240 & 208Y/120)				
<b>90kA/phase</b>	50kA	40kA	120kA	Optional
<b>130kA/phase</b>	50kA	80kA	120kA	Optional
<b>170kA/phase</b>	90kA	80kA	120kA	Optional

- UL 1449 Third Edition Listed, cUL, UL 1283 R/C
- UL 1449-3 Type 2 SPD
- UL 1449-3 tested SCCR: 200kA
- UL 1449-3 Voltage Protection Ratings (VPRs):
  - 208Y/120V: as low as 500V
  - 480Y/277V: as low as 900V
- 200kAIR rated fusing
- Less than 1 nanosecond response time
- Repetitive Impulse: 5,000 hits
- AC Sinewave Tracking Filter with EMI/RFI Filtering up to -50dB from 10kHz to 100MHz

### Diagnostic Monitoring

- Tri-color Green, Amber, Red LED Status indicator per phase
- Red LED service indicator
- Audible Alarm with Silence Switch
- Test Function: toggles red service LED, audible alarm
- Redundant monitoring LEDs on modules
- Phase Loss monitoring (toggles LED & dry contacts)
- Electrically isolated circuitry ensures surges do not damage diagnostics
- Optional Form C Dry Contacts, 24V, 1A (two sets)
- Optional Surge Counter, six-digit LCD, with test function, reset & no-maintenance SuperCap energy storage device

### Design Features

- Designed, Manufactured & Tested consistent with:
  - ANSI/IEEE C62.41.1-2002, C62.41.2-2002, and C62.45-2002
  - NEMA LS-1
  - NEC Article 285
  - IEC 61643
- High Energy Parallel Design for Category C3 & C-High applications
- For External Mounting next to Switchgear, Motor Controls Centers or Panelboards
- Individually Fused Suppression Modes
- Large-Block utility grade 34mm square MOVs
- Replaceable Phase Module Construction
- Thermal Sensitivity in Each Mode
- Busbar Construction
- Solid State Bidirectional Operation
- Busbar connection
- Enclosure-less version for OEM available (XTE Series)

### Physical Specifications

- Relative Humidity Range: 0 -95% non-condensing
- Operating Frequency: 47-63Hz
- Operating Temperature: -25°C (-15°F) to +60°C (140°F)
- Weight: 25 lbs (11.5 kg)
- Standard NEMA 1 (Other Enclosures Optional)
- Standard size: 12" x 12" x 6" (30.5cm x 30.5cm x 15cm)
- Lug size: #2 - #14 AWG
- Typical connection: #6 AWG and 60A breaker

### Quality, Standards & Validation

- UL 1449 Third Edition, cUL, UL 1283 R/C
- UL file: VZCA.E321351 at [www.UL.com](http://www.UL.com)
- RoHS-compliant
- IEC 61643, CE
- 10 year warranty (longer optional)
- Burn-In tested Prior to Shipment
- ISO 9001:2008 Quality Management System
- ISO 17025:2005 Laboratory Qualification
- Made in USA



TE/XGA MODEL NUMBER CONFIGURATOR & OPTIONS



**TE = Transient Eliminator, Listed Type 2 SPD in NEMA 1 enclosure**

**XTE = Transient Eliminator, Recognized Type 4 SPD on backplane for installation within gear in Type 2 installation (display on 6' cable)**

**Voltage Code for Electrical System**

**Common North American Systems:**

- 1 = 240/120V Split Phase - 1Ø 3W+Grnd (Fig 1)
- 2 = 208Y/120V Wye - 3Ø 4W+Grnd (Fig 2)
- 3 = 240/120V High Leg Delta (B High) (Fig 3)
- 4 = 480Y/277V Wye - 3Ø 4W+Grnd (Fig 2)
- 5 = 480V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye
- 8 = 600Y/347V Wye - 3Ø 4W+Grnd (Fig 2)

**Other Available Systems - Confirmation encouraged:**

- 11 = 120V Single Phase - 1Ø 2W + Grnd (Fig 5)
- 12 = 240V Single Phase - 1Ø 2W + Grnd (Fig 5)
- 51 = 480V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 6 = 240V Delta - 3Ø 3W+Grnd (Fig 4)
- 61 = 240V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 7 = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)
- 9 = 600V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye
- 91 = 600V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)

**Model Family**

**XGA = XGA Family 160kA rating standard**

**Option Suffixes (Separated by slashes -/)**

- /240 = 240kA Option
- /090 = 090kA SAD option (120/240V & 208Y/120)
- /130 = 130kA SAD option (120/240V & 208Y/120)
- /170 = 170kA SAD option (120/240V & 208Y/120)
- /DC = Dry Contacts
  - Two sets Form C (24V, 1A)
- /SC = Surge Counter, six digit LCD
- /2S = Dual Surge Counter
  - (12"x12"x6" - display inside door)

Available Accessory (order separately):

RM = Remote Monitor

**Enclosure Rating**

**04 = Standard: NEMA 1/3R/04/12 (size: 12" x 12" x 7.5")**

**FM = Flush Mount Enclosure, NEMA 1 only**

(wall cavity size: 12" x 12" x 6")

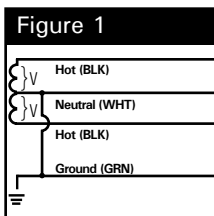
**4X = NEMA 4X Non-Metallic (size: 14" x 12"x 6")**

(polycarbonate, display inside clear front door)

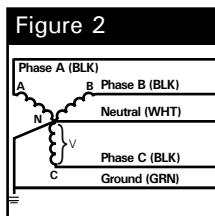
**4S = NEMA 4X Stainless Steel (size: 12" x 12"x 6")**

(display inside door)

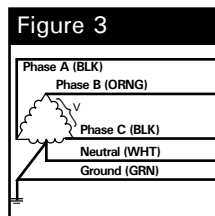
(Note: Enclosure-less version for OEM uses XTE prefix)



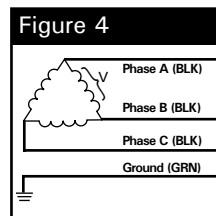
**SPLIT**  
2 Hots, 1 Neu, 1 Grnd



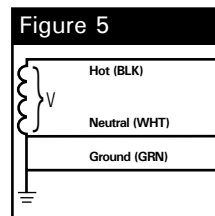
**WYE**  
3 Hots, 1 Neu, 1 Grnd



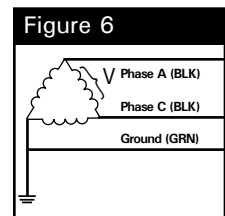
**HI-LEG DELTA (B High)**  
3 Hots, (B HIGH),  
1 Neu, 1 Grnd



**DELTA & HRG WYE**  
3 Hots, 1 Grnd



**SINGLE POLE**  
1 Hot, 1 Neu, 1 Grnd



**CORNER GROUND DELTA (B grounded)**  
2 Hots, 1 Grnd

**Performance Data**

Common North American Systems		UL 1449 THIRD Edition (Sept 2009) Test Data							
		Voltage Protection Ratings (VPR - 3kA)							
		L-N	L-G	N-G	LL	Type	In	SCCR	MCOV
01	= 240/120V Split Phase	600	600	600	900	Type 2	5kA	200kA	150
02	= 208Y/120V 3Ø Wye	600	600	600	900	Type 2	5kA	200kA	150
03	= 240Y/120V B High Leg Delta	600/900	600/900	600	900/1500	Type 2	5kA	200kA	150 / 320
04	= 480Y/277V 3Ø Wye	900	900	800	1500	Type 2	5kA	200kA	320
05	= 480V 3Ø Delta	—	1500	—	1800	Type 2	5kA	200kA	550
08	= 600Y/347V 3Ø Wye	1200	1500	1200	2500	Type 2	5kA	200kA	420
<b>SAD Models</b>									
01	= 240/120V Split Phase	500	600	600	800	Type 2	5kA	200kA	138
02	= 208Y/120V 3Ø Wye	500	600	600	800	Type 2	5kA	200kA	138

**Other Available Systems:**

Please see supplementary data sheet, contact us at [info@aptvss.com](mailto:info@aptvss.com), or confirm at [www.UL.com](http://www.UL.com) using CCN of VZCA

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