



**ADVANCED PROTECTION
TECHNOLOGIES INC.**

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 | |
|-----------------------------------------------------------|-------|-------|-------|----------|
| 160kA/phase | 80kA | 80kA | 120kA | Standard |
| 240kA/phase | 120kA | 120kA | 120kA | Optional |
| Silicon Avalanche Diode (SAD) Hybrid (120/240 & 208Y/120) | | | | |
| 90kA/phase | 50kA | 40kA | 120kA | Optional |
| 130kA/phase | 50kA | 80kA | 120kA | Optional |
| 170kA/phase | 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
- 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



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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 -/)

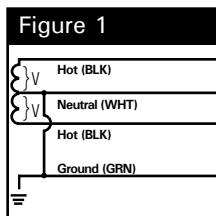
- /240 = 240kA Option
- /090 = 090kA SAD option (120/240V & 208Y/120)
- /130 = 130kA SAD option (120/240V & 208Y/120)
- /170 = 170kA SAD option (120/240V & 208Y/120)
- /DC = Dry Contacts
Two sets Form C (24V, 1A)
- /SC = Surge Counter, six digit LCD
- /2S = Dual Surge Counter
(12"x12"x6" - display inside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

Available Accessory (order separately):
RM = Remote Monitor

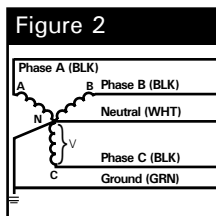
Enclosure Rating

- 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)

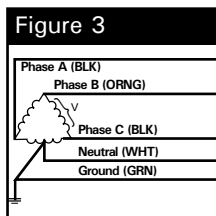
(Note: Enclosure-less version for OEM uses XTE prefix)



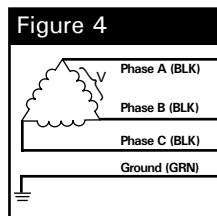
SPLIT
2 Hots, 1 Neu, 1 Grnd



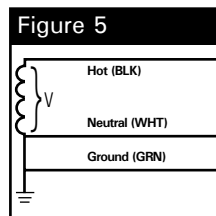
WYE
3 Hots, 1 Neu, 1 Grnd



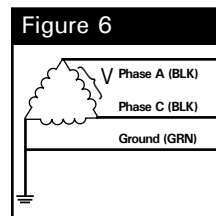
HI-LEG DELTA (B High)
3 Hots, (B HIGH),
1 Neu, 1 Grnd



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 |
| SAD Models | | | | | | | | | |
| 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, or confirm at www.UL.com using CCN of VZCA

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