



**ADVANCED PROTECTION  
TECHNOLOGIES INC.**

# TEXRS Series

## Type 4 Surge Protective Device/SPD/TVSS

### For Use in Type 1 Applications



#### Features:

- **UL 1449 Third Edition Listed (Sept 2009)**
- **100kA – 300kA per phase ratings**
- **UL tested and evaluated to Type 1 SPD –**
  - All UL required OCP & Safety Coordination included inside
  - Can be installed line-side or load-side of main disconnect
- **20kA Inominal ( $I_n$ ) (most models)**
- **200kA SCCR (most models)**
- **UL 96A Lightning Protection Master Label compliant @ 20kA  $I_n$**
- **Voltage Specific Design – Highly configurable**
- **All MOV suppression elements monitored**
- **Display on 4' cable**

#### Performance Specifications

- | Surge Capacities | L-N   | L-G   | N-G   |
|------------------|-------|-------|-------|
| 100kA/phase      | 50kA  | 50kA  | 50kA  |
| 150kA/phase      | 100kA | 50kA  | 50kA  |
| 200kA/phase      | 100kA | 100kA | 100kA |
| 250kA/phase      | 150kA | 100kA | 150kA |
| 300kA/phase      | 150kA | 150kA | 150kA |
- UL 1449 Third Edition Recognized, UL 1283 R/C and cUL
  - UL 1449-3 Type 4 for use in Type 1 Applications
  - UL 1449-3 tested Inominal ( $I_n$ ): 20kA & 10kA
  - UL 1449-3 tested SCCR: 200kA & 100kA
  - UL 1449-3 Voltage Protection Ratings (VPRs):
    - 208Y/120V: as low as 600V
    - 480Y/277V: as low as 1000V
  - 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

- 100% monitoring – Every MOV is monitored, incl. N-G
- Green LED Status indicator per phase
- Red LED service indicator
- Audible Alarm with Silence Switch
- Test Function: toggles red service LED, audible alarm & dry contact (if equipped)
- N-G overvoltage detection
- Phase Loss monitoring (toggles LED & dry contacts)
- Electrically isolated circuitry ensures surges do not damage diagnostics
- Form C Dry Contacts, 240V, 5A (two sets)
- Optional Surge Counter, six-digit LCD, with test function, reset & no-maintenance Eprom memory
- Installer-locatable display on 4' cable

#### 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 Mounting Internal to Switchgear, Motor Controls Centers, Panelboards or Control Panels
- Individually Fused & Thermally Protected MOVs
- Large-Block 34mm square MOVs
- Replaceable Module Construction
- Solid State Bidirectional Operation

#### 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: 5 lbs (2.3 kg)
- Standard size: 6.5" x 11" x 4.5" (16.5cm x 29.9cm x 11.4cm)
- Lug size: #2 - #14 AWG (w/opt. disconnect: #6 - #1/0)
- Typical connection: #6 AWG and 60A breaker

#### Quality, Standards & Validation

- UL 1449 Third Edition, cUL, UL 1283
- UL file: VZCA2.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



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TE



XRS



Voltage Code for Electrical System

Surge Current Rating

Options

Common North American Systems:

- 01 = 240/120V Split Phase - 1Ø 3W+Grnd (Fig 1)
- 02 = 208Y/120V Wye - 3Ø 4W+Grnd (Fig 2)
- 03 = 240/120V High Leg Delta (B High) (Fig 3)
- 04 = 480Y/277V Wye - 3Ø 4W+Grnd (Fig 2)
- 05 = 480V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye
- 08 = 600Y/347V Wye - 3Ø 4W+Grnd (Fig 2)

- 10 = 100kA/Phase
- 15 = 150kA/Phase
- 20 = 200kA/Phase
- 25 = 250kA/Phase
- 30 = 300kA/Phase

- X = Surge Counter, six-digit LCD counter includes maintenance-free Eprom memory backup
- M = Mount Display on SPD instead of Cable
- D = Rotary Disconnect Switch, Busman UL98, SPD & Disconnect mounted on alum. backplane (10.75" x 10.88" x 4.5")
- K = Rotary Disconnect Switch, Katko UL 508, SPD & Disconnect mounted on alum backplane (10.75" x 10.88" x 4.5")

Other Available Systems - Confirmation encouraged:

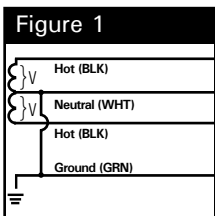
- 15 = 254/127V Split Phase - 1Ø 3W+Grnd, (Fig 1)
- 18 = 480/277V 2-Pole, (480/240V Split Phase) (Fig 1)
- 21 = 220Y/127V Wye - 3Ø 4W+Grnd (Fig 2)
- 41 = 520Y/300V Wye - 3Ø 4W+Grnd (Fig 2)
- 42 = 415Y/240V Wye - 3Ø 4W+Grnd (Fig 2)
- 43 = 400Y/230V Wye - 3Ø 4W+Grnd (Fig 2)
- 44 = 440Y/250V Wye - 3Ø 4W+Grnd (Fig 2)
- 51 = 480V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 06 = 240V Delta - 3Ø 3W+Grnd (Fig 4)
- 61 = 240V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 07 = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)
- 09 = 600V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye (Available: 100kA, 150kA)
- 91 = 600V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6) (Available: 100kA, 150kA)
- 11 = 120V Single Phase (Fig 5)
- 12 = 240V Single Phase (Fig 5) - Not split phase
- 13 = 127V Single Phase (Fig 5)
- 14 = 300V Single Phase (Fig 5)
- 16 = 277V Single Phase (Fig 5)
- 17 = 480V Single Phase (1 Hot, 1 Neu, 1 Grnd) (Fig 5)

Extended Disc. Sw. handle hardware available—consult factory

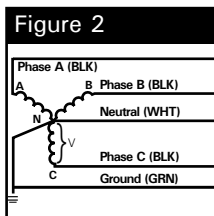
Display on 4' Cable - other lengths available—consult factory

Delete Options - Consult Factory for Order Code  
 Delete L-N Protection (reduces kA rating)  
 Delete L-G Protection (reduces kA rating)  
 Delete N-G Protection (reduces kA rating)  
 Delete Noise Filtering

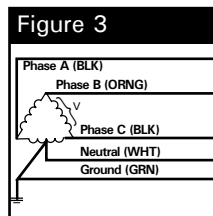
Available Accessory (order separately)  
 RM = Remote Monitor



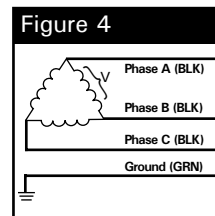
SPLIT  
2 Hots, 1 Neu, 1 Grnd



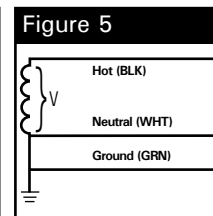
WYE  
3 Hots, 1 Neu, 1 Grnd



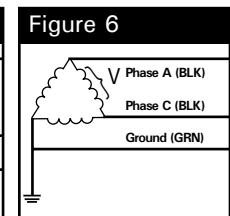
HI-LEG DELTA (B High)  
3 Hots, (B HIGH),  
1 Neu, 1 Grnd



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	L-L	Type	In	SCCR	MCOV
01 = 240/120V Split Phase	700	700	700	1200	Type 1	20kA	100kA	150
02 = 208Y/120V 3Ø Wye	700	700	700	1200	Type 1	20kA	200kA	150
03 = 240Y/120V B High Leg Delta	700/1200	700/1200	700	1800	Type 1	20kA	200kA	150 / 320
04 = 480Y/277V 3Ø Wye	1200	1200	1200	2000	Type 1	20kA	200kA	320
05 = 480V 3Ø Delta	-	1800	-	1800	Type 1	10kA	200kA	550
08 = 600Y/347V 3Ø Wye	1500	1500	1500	2500	Type 1	10kA	200kA	420

Other Available Systems:

Please see supplementary data sheet, contact us at info@aptvss.com, or confirm at www.UL.com using CCN of VZCA  
 Optional disconnect switch may increase VPRs

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