



# TEXAL Series

## Type 1 Surge Protective Device/SPD/TVSS



### Features:

- **Directly Connected, Discrete Protection Elements Between All Possible Modes**
- UL 1449 Third Edition Listed (Sept 2009)
- 150kA – 450kA per phase ratings
- Type 1 SPD –
  - All UL required OCP & Safety Coordination included inside
  - Can be installed line-side or load-side of main disconnect
- 20kA Inominal ( $I_n$ )
- 200kA SCCR (most models)
- UL 96A Lightning Protection Master Label compliant (@20kA  $I_n$ )
- All MOV suppression elements monitored

### Performance Specifications

- **Directly Connected, Discrete Protection Elements Between All Possible Modes with True 10-Mode Protection**
- **Surge Capacities**

	L-N	L-G	L-L	N-G
150kA/phase	50kA	50kA	50kA	50kA
300kA/phase	100kA	100kA	100kA	100kA
450kA/phase	150kA	150kA	150kA	150kA
- UL 1449 Third Edition Listed, cUL, UL 1283 R/C
- UL 1449-3 Type 1 SPD (cUL Type 2 optional)
- UL 1449-3 tested Inominal ( $I_n$ ): 20kA
- 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 True 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
- Electrically isolated diagnostic circuitry
- Form C Dry Contacts, 240V, 5A (two sets)
- Optional Surge Counter, six-digit LCD, with test function, reset & no-maintenance Eprom memory

### 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, CE
- High Energy Parallel Design for Category C3 & C-High applications
- For External Mounting next to Switchgear, Motor Controls Centers or Panelboards
- 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: 24 lbs (11 kg)
- Standard NEMA 1/12/3R/4 enclosure
- Standard size: 12" x 12" x 7.5" (30.5cm x 30.5cm x 19cm)
- 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: 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 9001:2000 Quality Management System
- ISO 17025:2005 Laboratory Qualification
- Made in USA



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# TE XAL 15 E1 XD

## 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 = 240Y/120V High Leg Delta (B High) (Fig 3)**  
**04 = 480Y/277V Wye - 3Ø 4W+Grnd (Fig 2)**

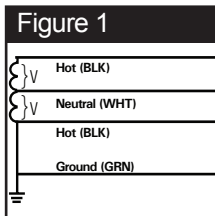
**Other Available Systems - Confirmation encouraged:**  
 15 = 254/127V Split Phase - 1Ø 3W+Grnd (Fig 1)  
 18 = 480/240V Split Phase, or Two legs of Wye (Call)  
 21 = 220Y/127V Wye - 3Ø 4W+Grnd (Fig 2)  
 42 = 415Y/240V Wye - 3Ø 4W+Grnd (Fig 2)  
 43 = 400Y/230V Wye - 3Ø 4W+Grnd (Fig 2)  
 44 = 440Y/250V Wye - 3Ø 4W+Grnd (Fig 2)  
 07 = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)

**15 = 150kA/Phase**  
**30 = 300kA/Phase**  
**45 = 450kA/Phase**

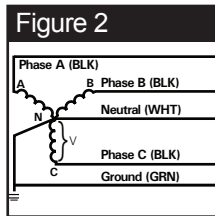
**X =** Surge Counter, six-digit LCD counter includes maintenance-free Eprom memory backup  
**E =** Remote Locatable Display on 4 ft Cable custom cable lengths available  
**F =** Noise Filtering - Extended Range & Attenuation (available on 400kA & 500kA models)  
**D =** Rotary Disconnect, Bussmann, UL98  
**T =** Thru-door Rotary Disconnect Switch, Katko, UL 508, E1 enclosure only (Consult factory for other disconnect switch options)  
**2 =** Type 2 SPD bearing cUL mark

**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

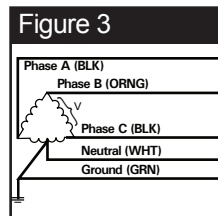
Available Accessory (order separately)  
 RM = Remote Monitor



**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

### Enclosure Rating

**E1 = NEMA 1/12/3R/4 (size: 12" x 12" x 7.5")**  
**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)  
**FM = NEMA 1 Flush Mount (wall cavity size: 12" x 12" x 6" deep)**  
**P1 = NEMA 1 pullbox 'indoor' (size: 12" x 12" x 6") - includes 'E' option**  
 (Optional rotary disconnect increases enclosure sizes to 16" x 14" x 6" on 450kA only)

### 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	1000	Type 1	20kA	100kA	150
02 = 208Y/120V 3Ø Wye	700	700	700	1000	Type 1	20kA	200kA	150
03 = 240Y/120V B High Leg Delta	800/1500	700/1200	700	1800	Type 1	20kA	200kA	150 / 320
04 = 480Y/277V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
<b>Other Available Systems - Confirmation encouraged:</b>								
15 = 254/127V Split Phase	700	700	700	1000	Type 1	20kA	200kA	150
21 = 220Y/127V 3Ø Wye	700	700	700	1000	Type 1	20kA	200kA	180
42 = 415Y/240V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
43 = 400Y/230V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
44 = 440Y/250V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
07 = 380Y/220V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320

### 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  
 Optional disconnect switch may increase VPRs

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