

**Features:**

- **UL 1449 Third Edition Listed (Sept 2009)**
- **100kA per phase rating**
- **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 SCCRs (most models)**
- **UL 96A Lightning Protection Master Label compliant (@20kA  $I_n$ )**
- **Voltage Specific Design – Highly configurable**
- **All MOV suppression elements monitored**

**Performance Specifications**

- | Surge Capacities   | L-N  | L-G  | N-G  |
|--------------------|------|------|------|
| <b>100kA/phase</b> | 50kA | 50kA | 50kA |
- UL 1449 Third Edition Listed
  - UL 1449-3 Type 1 SPD (cUL Type 2 optional)
  - 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 (data table on back)
  - Less than 1 nanosecond response time
  - Repetitive Impulse: 5,000 hits

**Physical Specifications**

- Relative Humidity Range: 0 -95% non-condensing
- Operating Frequency: 47-63Hz (also 400Hz on <480V)
- Operating Temperature: -25°C (-15°F) to +60°C (140°F)
- Weight: 3 lbs (1.4 kg)
- NEMA 4X Polycarbonate enclosure – UL 746C(f1) & UL 94-5VA
- Dimensions: 8" x 3" x 3" (203mm x 76mm x 76mm)
- 3/4" threaded hub - weather resistant 4X
- Pre-wired with 3' (1m) of #10 AWG conductor
- Typical connection: #10 AWG and 30A breaker

**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, 50kA MOVs
- Solid State Bidirectional Operation

**Diagnostic Monitoring**

- 100% monitoring – Every MOV is monitored, incl. N-G
- Green LED Status indicator per phase
- Phase Loss monitoring (toggles LED & dry contacts)
- Electrically isolated circuitry ensures surges do not damage diagnostics
- Optional: Audible Alarm & Form C Dry Contact, (Contact rated 240V, 5A; leads are pre-wired through nipple with #18 AWG)

**Quality, Standards & Validation**

- UL 1449 Third Edition, (cUL Type 2 optional)
- 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



**Voltage Code for Electrical System**

**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)**

**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  
 91 = 600V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)  
 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)

**Surge Current Rating**  
**10 = 100kA/Phase**

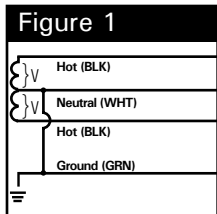
**Options**  
 A = Audible Alarm & Dry Contacts Form C, 240V, 5A (pre-wired)  
 E = Remote Indicator LED on 6' Cable (pre-wired through nipple)  
 2 = Type 2 SPD bearing cUL Mark

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)

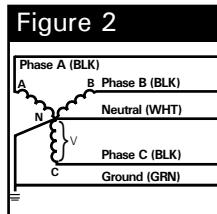
Available Accessory (order separately)  
 FMKITC = Flush Mount Kit  
 RM = Remote Monitor

**Enclosure Rating**

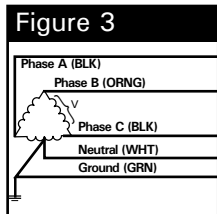
**4X = NEMA 4X Non-Metallic (size 8" x 3"x 3")**



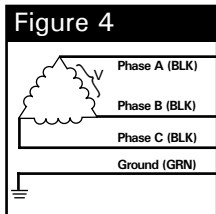
**Figure 1**  
 SPLIT  
 2 Hots, 1 Neu, 1 Grnd



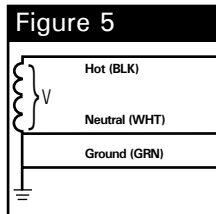
**Figure 2**  
 WYE  
 3 Hots, 1 Neu, 1 Grnd



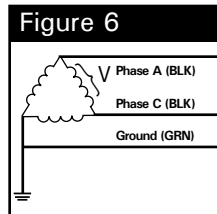
**Figure 3**  
 HI-LEG DELTA (B High)  
 3 Hots, (B HIGH),  
 1 Neu, 1 Grnd



**Figure 4**  
 DELTA & HRG WYE  
 3 Hots, 1 Grnd



**Figure 5**  
 SINGLE POLE  
 1 Hot, 1 Neu, 1 Grnd



**Figure 6**  
 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	600	700	500	1000	Type 1	20kA	100kA	150
02	= 208Y/120V 3Ø Wye	600	700	500	1000	Type 1	20kA	200kA	150
03	= 240Y/120V B High Leg Delta	600/1200	700/1200	500	1000	Type 1	20kA	200kA	150 / 320
04	= 480Y/277V 3Ø Wye	1200	1200	1000	1800	Type 1	20kA	200kA	320
05	= 480V 3Ø Delta	-	1800	-	1800	Type 1	10kA	200kA	552
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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