



Features:

- **Directly Connected, Discrete Protection Elements Between All Possible Modes**
- **UL 1449 Fourth Edition Listed**
- **150kA – 450kA per phase ratings**
- **All UL required OCP & Safety Coordination included inside**
 - Type 1 SPDs intended for Line or Load Side of Main Disconnect
 - Type 2 SPDs intended for 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**
- **All Modes of Protection**

Performance Specifications

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

Surge Capacities	L-N	L-G	N-G	L-L
150kA Per Phase	50kA	50kA	50kA	50kA
300kA Per Phase	100kA	100kA	100kA	100kA
450kA Per Phase	150kA	150kA	150kA	150kA

- UL 1449 Fourth Edition Listed Type 1, CSA 22.2 No. 269.1
- Optional UL 1449-4 Type 2 SPD, UL 1283 Listed, CSA 22.2 No. 269.2
- UL 1449-4 tested Inominal (I_n): 20kA
- UL 1449-4 tested SCCR: 200kA & 100kA
- UL 1449-4 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 (Type 2 option only, incl. UL 1283 Listing)**

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, C62.45-2002, C62.62-2010 and C62.72-2007
 - 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
- 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" (305mm x 305mm x 177mm)
- Lug size: #2 - #14 AWG (w/opt. disconnect: #6 - #1/0)
- Typical connection: #6 AWG and 60A breaker

Quality, Standards & Validation

- Type 1: UL 1449 Fourth Edition, CSA 22.2 No. 269.1
- Type 2 (Opt.): UL 1449 Fourth Ed., CSA No. 269.2, UL 1283
- 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



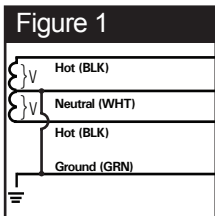


Voltage Code for Electrical System

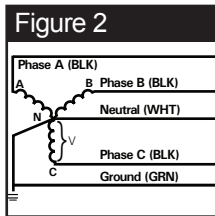
- Common North American Systems:**
01 = 240/120V Split Phase - 1Ø 3W+Grnd (Fig 1)
02 = 208Y/120V Wye - 3Ø 4W+Grnd (Fig 2)
03 = 240/120V High Leg Delta (B High) (Fig 3)
04 = 480Y/277V Wye - 3Ø 4W+Grnd (Fig 2)

Other Available Systems - Confirmation encouraged:

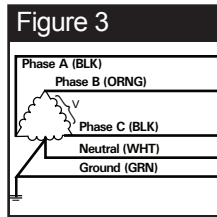
- 15 = 254/127V Split Phase - 1Ø 3W+Grnd (Fig 1)
 18 = 480/277V 2-Pole, (480/240V Split Phase) (Fig 1)
 21 = 220Y/127V Wye - 3Ø 4W+Grnd (Fig 2)
 42 = 415Y/240V Wye - 3Ø 4W+Grnd (Fig 2)
 43 = 400Y/230V Wye - 3Ø 4W+Grnd (Fig 2)
 44 = 440Y/250V Wye - 3Ø 4W+Grnd (Fig 2)
 07 = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)



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

Surge Current Rating

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

Options

- 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 450kA & 500kA models)
- D = Rotary Disconnect, ABB, UL98
- T = Thru-door Rotary Disconnect Switch, Katko, UL 508, E1 enclosure only (Consult factory for other disconnect switch options)
- 2 = Type 2 SPD, incl. UL 1283 EMI/RFI Filters

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

Enclosure Rating

- E1 = NEMA 1/12/3R/4 (size: 12" x 12" x 7")**
- 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 Fourth Edition Test Data						
	Voltage Protection Ratings (VPR - 3kA)						
	L-N	L-G	N-G	L-L	I _n	SCCR	MCOV
01 = 240/120V Split Phase	700	700	700	1000	20kA	100kA	150
02 = 208Y/120V 3Ø Wye	700	700	700	1000	20kA	200kA	150
03 = 240Y/120V B High Leg Delta	800/1500	700/1200	700	1800	20kA	200kA	150 / 320
04 = 480Y/277V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320
Other Available Systems - Confirmation encouraged:							
15 = 254/127V Split Phase	700	700	700	1000	20kA	200kA	150
21 = 220Y/127V 3Ø Wye	700	700	700	1000	20kA	200kA	180
42 = 415Y/240V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320
43 = 400Y/230V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320
44 = 440Y/250V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320
07 = 380Y/220V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320

Other Available Systems:

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

Advanced Protection Technologies
 14550 58th Street North · Clearwater, Florida 33760
 (800) 237-4567 · (727) 535-6339 · Fax (727) 539-8955
 www.aptsurge.com · info@aptsurge.com

