



AS Series

Type 1/Type 2 Surge Protective Device/SPD



Features:

- **UL 1449 Fourth Edition Listed**
- **100kA – 500kA 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**
- **200kA SCCRs (most models)**
- **UL 96A Lightning Protection Master Label compliant**
- **Voltage Specific Design – Highly configurable**
- **All MOV suppression elements monitored**
- **All Modes of Protection**
- **Optional Rotary Disconnect Switch**

Performance Specifications

Surge Capacities	L-N	L-G	N-G	L-L
100kA Per Phase	50kA	50kA	50kA	100kA
150kA Per Phase	100kA	50kA	50kA	150kA
200kA Per Phase	100kA	100kA	100kA	200kA
250kA Per Phase	150kA	100kA	100kA	250kA
300kA Per Phase	150kA	150kA	150kA	300kA
400kA Per Phase	200kA	200kA	200kA	400kA
450kA Per Phase	225kA	225kA	225kA	225kA
500kA Per Phase	250kA	250kA	250kA	500kA

- 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: 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 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 (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

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
- 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 Edition, CSA No. 269.2, UL 1283
- UL file: VZCA.E491875 at www.UL.com
- RoHS-compliant
- IEC 61643
- 10 year warranty (longer optional)
- Burn-In tested prior to shipment
- ISO 9001:2008 Quality Management System
- ISO 17025:2005 Laboratory Qualification



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ASP AS ...

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)
 43 = 400Y/230V 3Ø 4W+Grnd (Fig 2)
 51 = 480V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
 (450kA replaces 400kA or 500kA)
 06 = 240V Delta - 3Ø 3W+Grnd (Fig 4)
 (450kA replaces 400kA or 500kA)
 61 = 240V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
 (450kA replaces 400kA or 500kA)
 09 = 600V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye
 (Available: 100kA, 150kA, 200kA, 250kA)
 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

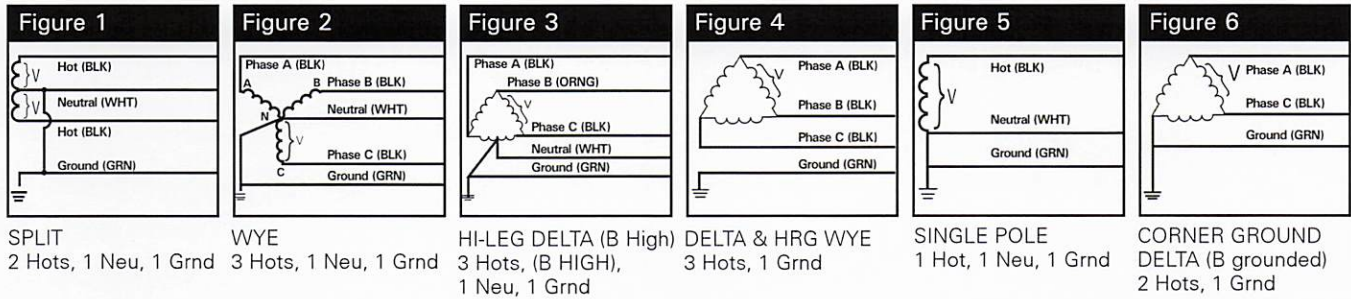
- 10 = 100kA/Phase**
15 = 150kA/Phase
20 = 200kA/Phase
25 = 250kA/Phase
30 = 300kA/Phase
40 = 400kA/Phase
45 = 450kA/Phase
 (Voltage Codes 05, 51, 06 & 61)
50 = 500kA/Phase

Options

- C = Surge Counter, six-digit LCD counter includes maintenance-free Eprom memory backup
 D = Rotary Disconnect Switch, ABB, UL98
 T = Thru-Door Rotary Disconnect Switch, ABB, UL98, E1 enclosure only
 2 = Type 2 SPD, incl. UL 1283 EMI/RFI Filters
 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)
 (Optional rotary disconnect increases enclosure sizes to 16" x 14" x 6" on models > 300kA)



Performance Data

Common North American Systems		UL 1449 Fourth Edition Test Data						
		Voltage Protection Ratings (VPR - 3kA)				I _n	SCCR	MCOV
		L-N	L-G	N-G	L-L			
01	= 240/120V Split Phase (<300kA)	700	700	700	1200	20kA	100kA	150
01	= 240/120V Split Phase (=>300kA)	700	600	600	1000	20kA	100kA	150
02	= 208Y/120V 3Ø Wye (<300kA)	700	700	700	1200	20kA	200kA	150
02	= 208Y/120V 3Ø Wye (=>300kA)	700	600	600	1000	20kA	200kA	150
03	= 240Y/120V B High Leg Delta	700/1200	700/1200	700	1800	20kA	200kA	150 / 320
04	= 480Y/277V 3Ø Wye (<300kA)	1200	1200	1200	2000	20kA	200kA	320
04	= 480Y/277V 3Ø Wye (=>300kA)	1200	1000	1000	1800	20kA	200kA	320
05	= 480V 3Ø Delta	-	1800	-	1800	20kA	200kA	550
07	= 380Y/220V 3Ø Wye (<300kA)	1200	1200	1200	2000	20kA	200kA	320
08	= 600Y/347V 3Ø Wye	1500	1500	1500	2500	20kA	200kA	420

Other Available Systems:
 Please see supplementary data sheet, contact us at (844) 697.6937 or confirm at www.UL.com using CCN of VZCA.
 Optional disconnect switch may increase VPRs.