



Features:

- **Directly Connected, Discrete Protection Elements Between All Possible Modes**
- **UL 1449 Third Edition Listed (Sept 2009)**
- **600 & 900kA 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 SCCRs (most models)**
- **UL 96A Lightning Protection Master Label compliant**
- **Rotary Disconnect Switch included as Standard Equipment**
- **Dual Redundant Replaceable Module Construction**
- **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
600kA/phase	200kA	200kA	200kA	200kA
900kA/phase	300kA	300kA	300kA	300kA

- UL 1449 Third Edition Listed, UL 1283 and cUL
- UL 1449-3 Type 1 SPD
- 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 700V
 - 480Y/277V: as low as 1200V
- 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, 50kA MOVs
- Dual Redundant 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: 52 lbs (23.6 kg)
- Standard NEMA 1/12/3R/4 enclosure
- Standard size: 20" x 20" x 7.5" (50.8cm x 50.8cm x 19cm)
- Lug size: #6 - #1/0 AWG
- 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
- 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



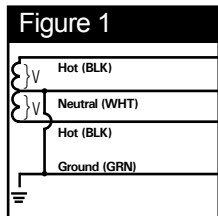


Voltage Code for Electrical System

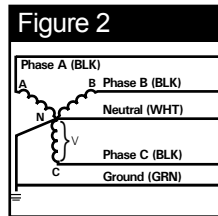
- Common North American Systems:**
- 01 = 240/120V Split Phase - 1Ø 3W+Grnd (Fig 1)**
 - 02 = 208Y/120V Wye - 3Ø 4W+Grnd (Fig 2)**
 - 03 = 240/120V High Leg Delta (B High) (Fig 3)**
 - 04 = 480Y/277V Wye - 3Ø 4W+Grnd (Fig 2)**

Other Available Systems - Confirmation encouraged:

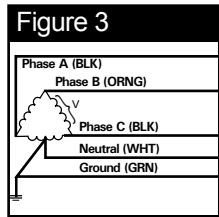
- 41 = 520Y/300V Wye - 3Ø 4W+Grnd (Fig 2)
- 42 = 415Y/240V Wye - 3Ø 4W+Grnd (Fig 2)
- 43 = 400Y/230V Wye - 3Ø 4W+Grnd (Fig 2)
- 44 = 440Y/250V Wye - 3Ø 4W+Grnd (Fig 2)
- 07 = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)



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

- 60 = 600kA/Phase**
- 90 = 900kA/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 400kA & 500kA models)
- T = Thru-Door Rotary Disconnect Switch**, Bussmann, UL98, E1 enclosure only
- K = Rotary Disconnect Switch**, Katko, UL 508
- S = Thru-Door Rotary Disconnect Switch**, Katko, UL 508, E1 enclosure only

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: 20" x 20" x 7.5")**
- 4X = NEMA 4X Non-Metallic (size: 24" x 24" x 8")**
(fiberglass, display inside door)
- 4S = NEMA 4X Stainless Steel (size: 20" x 20" x 7.5")**
(display inside door)
- P1 = NEMA 1 pullbox 'indoor' (size: 20" x 20" x 6") - includes 'E' option**
- FM = NEMA 1 Flush Mount (wall cavity size: 20" x 20" x 6" deep)**
(Dimensions include standard rotary disconnect switch. Optional Thru-Door handle does not increase enclosure sizes.)

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 Wye	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	1200/1800	Type 1	20kA	200kA	150 / 320
04	= 480Y/277V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
Less Common & Specialty									
42	= 415V/240V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
43	= 400V/230V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
44	= 440V/250V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320
07	= 380V/220V 3Ø Wye	1200	1200	1200	1800	Type 1	20kA	200kA	320

Other Available Systems:
Please see supplementary data sheet, contact us at info@apttvss.com, or confirm at www.UL.com using CCN of VZCA

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