



Benefits:

- UL 1449 Fourth Edition Listed
- 400kA – 1,000kA 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
- Rotary Disconnect Switch included as Standard Equipment
- Dual Redundant Replaceable Modules
- Voltage Specific Design – Highly configurable
- All MOV suppression elements monitored
- All Modes of Protection
- 10 Year Warranty (longer optional)

Performance Specifications

Surge Capacities	L-N	L-G	N-G
400kA Per Phase	200kA	200kA	200kA
600kA Per Phase	300kA	300kA	300kA
800kA Per Phase	400kA	400kA	400kA
1000kA Per Phase	500kA	500kA	500kA
UL 1449 Fourth Edition Listed Type 1, CSA 22.2 No. 269.1			
Optional UL 1449 Fourth Edition Type 2 SPD, CSA 22.2 No. 269.2			
UL 1449 Fourth Edition tested Inominal (I_n): 20kA			
UL 1449 Fourth Edition tested SCCR: 200kA & 100kA			
UL 1449 Fourth Edition Voltage Protection Ratings (VPRs):			
– 208Y/120V: as low as 700V			
– 480Y/277V: as low as 1200V (data table on back)			
AC Sinewave Tracking Filter with EMI/RFI Filtering up to -50dB from 10kHz to 100MHz (Type 2 option only, incl. UL 1283 Listing)			
Repetitive Impulse: 5,000 hits			
Less than 1 nanosecond response time			

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

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.E321351 at www.UL.com
RoHS-compliant
Burn-In tested prior to shipment
ISO 9001:2008 Quality Management System
ISO 17025:2005 Laboratory Qualification

Design Attributes

Designed, Manufactured & Tested consistent with:
– ANSI/IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-2010, C62.72-2016, IEEE SA 1100-2005 (Emerald Book)
– NEC® Article 285
– NEC® Articles 620.51(E), 645.18, 670.6, 695.15, 700.8 & 708 requiring SPDs
– UL 96A and NFPA 780 Lightning Protection
– IEC 61643, CE
High Energy Parallel Design for Category C-High applications
For external Mounting on Electrical Distribution Equipment, Switchgear, Switchboards, Motor Control Centers, Panelboards, Transfer Switches, etc.
Individually Fused & Thermally Protected MOVs
Large-Block, 34mm square, 50kA MOVs
Dual Replaceable Module Construction
Solid State Bidirectional Operation

Diagnostic Monitoring

100% monitoring – Every MOV is monitored, including 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

Model 480 Number Configurator & Options

480

Model 480 Product Line



Voltage Codes

P

Per Phase kA Rating System



kA Rating Per Phase

A

Modes of Protection (Default)



Connection Type



Monitoring Options



Enclosure



UL 1449 Type1/Type 2



Accessory/Option(s)

Common Systems

- 120S = 240/120V Split Phase - 1Ø, 3W+Grnd, (Fig 1)
- 120Y = 208Y/120V Wye - 3Ø 4W+Grnd, (Fig 2)
- 240H = 240/120V High Leg Delta (B High), (Fig 3)
- 277Y = 480Y/277V Wye - 3Ø 4W+Grnd, (Fig 2)
- 347Y = 600Y/347V Wye - 3Ø 4W+Grnd, (Fig2)
- 480D = 480V Delta - 3Ø 3W+Grnd, (Fig4) & HRG Wye

Other Available Systems - Confirmation Encouraged

- 127Y = 220Y/127V Wye - 3Ø 4W+Grnd (Fig 2)
- 220Y = 380Y/220V Wye - 3Ø 4W+Grnd (Fig 2)
- 230Y = 400Y/230V Wye - 3Ø 4W+Grnd (Fig 2)
- 240Y = 415Y/240V Wye - 3Ø 4W+Grnd (Fig 2)
- 240C = 240V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 240D = 240V Delta - 3Ø 3W+Grnd (Fig 4)
- 254Y = 440Y/250V Wye - 3Ø 4W+Grnd (Fig 2)
- 300N = 300V Single Phase (Fig 5)
- 480C = 480V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 600C = 600V B Corner Grnd Delta, 3Ø 3W+Grnd (Fig 6)
- 600D = 600V Delta - 3Ø 3W+Grnd (Fig 4) & HRG Wye

- 40 = 400kA (600D & 600C only)
- 50 = 500kA (600D & 600C only)
- 60 = 600kA
- 80 = 800kA
- 90 = 900kA (480D, 480C, 240D & 240C only)
- 1K = 1000kA

- R = Internal Rotary Disconnect Switch (ABB)
- T = Through-Door Rotary Disconnect Switch (ABB)

- 1 = UL 1449 Type 1
 - 2 = UL 1449 Type 2, (Includes UL1283 Filter)
 - 0 = No Trailing Accessory/Option
 - X = Yes Trailing Accessory/Option
 - E = NEMA 1/12/3R/4 (Standard) (Metal) Size - 20" x 20" x 7.5"
 - J = NEMA 4X Non-Metallic (Fiberglass, display inside door) Size - 24" x 24" x 8"
 - H = NEMA 4X Stainless Steel (Display Inside Door) Size - 20" x 20" x 7"
 - M = NEMA 1 Flushmount (Metal) Wall Cavity Size - 20" x 20" x 6"
 - T = Pullbox NEMA 1 (Metal) Size - 20" x 20" x 6"
- (Dimensions include standard rotary disconnect switch. Optional Thru-Door handle does not increase enclosure sizes.)

A = LEDs/Audible Alarm/Relay
C = LEDs/Audible Alarm/Relay/Surge Counter

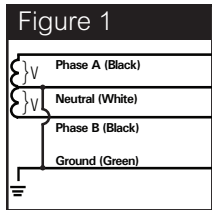


Figure 1
SPLIT
2 Phases, 1 Neutral,
1 Ground

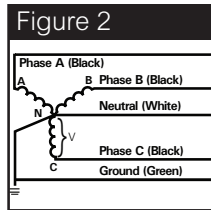


Figure 2
WYE
3 Phases, 1
Neutral,
1 Ground

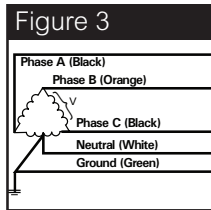


Figure 3
HIGH LEG DELTA
(B High) 3 Phases,
(B High), 1 Neutral,
1 Ground

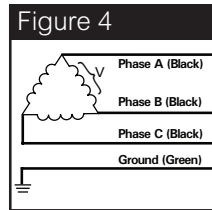


Figure 4
DELTA & HRG WYE
3 Phases, 1
Ground

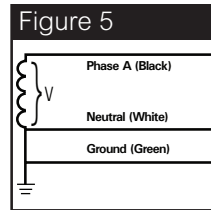


Figure 5
SINGLE POLE
1 Phase, 1 Neutral,
1 Ground

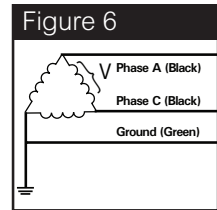


Figure 6
CORNER GROUND
DELTA (B grounded)
2 Phases, 1 Ground

Performance Data

Common Power Systems		UL 1449 Fourth Edition Test Data						
		Voltage Protection Ratings (VPR - 3kA)				I _n	SCCR	MCOV
		L-N	L-G	N-G	L-L			
120S	= 240/120V Split Phase	700	700	700	1000	20kA	100kA	150
120Y	= 208Y/120V 3Ø Wye	700	700	700	1000	20kA	200kA	150
240H	= 240/120V B High Leg Delta	700/1200	700/1200	700/1000	1000/1800	20kA	200kA	150 / 320
277Y	= 480Y/277V 3Ø Wye	1200	1200	1200	1800	20kA	200kA	320
480D	= 480V 3Ø Delta	-	1800	-	1800	20kA	200kA	552
347Y	= 600Y/347V 3Ø Wye	1500	1500	1500	2500	20kA	200kA	420