



Benefits:

- 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 (I_n)
- 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
- 10 Year Warranty (longer optional)

Performance Specifications

Surge Capacities	L-N	L-G	N-G
100kA Per Phase	50kA	50kA	50kA
150kA Per Phase	100kA	50kA	50kA
200kA Per Phase	100kA	100kA	100kA
250kA Per Phase	150kA	100kA	100kA
300kA Per Phase	150kA	150kA	150kA
400kA Per Phase	200kA	200kA	200kA
500kA Per Phase	250kA	250kA	250kA
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 600V			
– 480Y/277V: as low as 1000V (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			

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
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
Available Active Surge Monitor (ASM), see pub. DS-70137 & SL-70109

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

Model 460 Ordering Options

Connection	Monitoring	Surge Current Per Phase	Base Catalog Number	Enclosure Dimensions
Lugs (#14 - #2)	Lights, Alarm, Contacts	Below 400kA Use 425, 430 or 440 Models		12" x 12" x 7" NEMA 1/12/3R/4 (Steel)
		400kA	460□□□□P40ACAE□□0	
		500kA	460□□□□P50ACAE□□0	
	Counter, Lights, Alarm, Contacts	Below 400kA Use 440 Model		
		400kA	460□□□□P40ACCE□□0	
		500kA	460□□□□P50ACCE□□0	
Active Surge Monitor (ASM)	Below 400kA Use 440 Model		16" x 16" x 8" NEMA 1 Enclosure (Steel)	
	400kA	460□□□□P40ACTG□□0		
	600kA	460□□□□P60ACTG□□0		
Internal Disconnect (#6 - 1/0)	Lights, Alarm, Contacts	100kA	460□□□□P10ARAE□□0	12" x 12" x 7" NEMA 1/12/3R/4 (Steel)
		150kA	460□□□□P15ARAE□□0	
		200kA	460□□□□P20ARAE□□0	
		250kA	460□□□□P25ARAE□□0	
		300kA	460□□□□P30ARAE□□0	
		400kA	460□□□□P40ARAE□□0	
	Counter, Lights, Alarm, Contacts	100kA	460□□□□P10ARCE□□0	
		150kA	460□□□□P15ARCE□□0	
		200kA	460□□□□P20ARCE□□0	
		250kA	460□□□□P25ARCE□□0	
		300kA	460□□□□P30ARCE□□0	
		400kA	460□□□□P40ARCE□□0	
Through Door Disconnect	Active Surge Monitor (ASM)	100kA	460□□□□P10ATTG□□0	16" x 16" x 8" NEMA 1 Enclosure (Steel)
		200kA	460□□□□P20ATTG□□0	
		300kA	460□□□□P30ATTG□□0	
		400kA	460□□□□P40ATTG□□0	
		600kA	460□□□□P60ATTG□□0	

Choose Voltage Code

Indicate UL Type 1 or 2

Optional Enclosures

NEMA 1 Flush Mount (12"x12"x6")	M
NEMA 1 Pull Box (12"x12"x6")	T
NEMA 4X Stainless Steel Enclosure (12"x12"x7")	H
NEMA 4X Polycarbonate Enclosure (14"x12"x6")	J

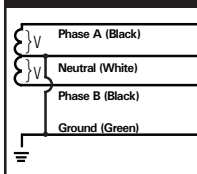
Note - For help selecting an optional enclosure, please contact factory.

Voltage Code

120/240V Split Phase	120S
208Y/120V Wye	120Y
240V Delta	240D
380Y/220V Wye	220Y
120/240V Delta High Leg	240H
480Y/277V Wye	277Y
480V Delta	480D
600Y/347V Wye	347Y
600V Delta	600D

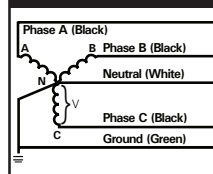
Note - Additional system voltages are available, please contact factory.

SPLIT



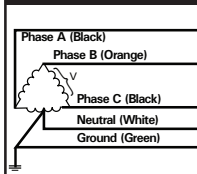
2 Phases, 1 Neutral, 1 Ground

WYE



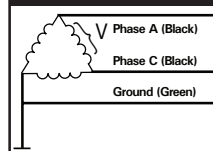
3 Phases, 1 Neutral, 1 Ground

HIGH LEG DELTA



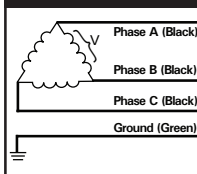
(B High) 3 Phases, (B High) 1 Neutral, 1 Ground

CORNER GROUND DELTA



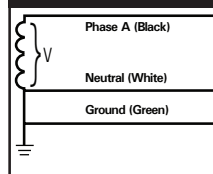
(B grounded) 2 Phases, 1 Ground

DELTA & HRG WYE



3 Phases, 1 Ground

SINGLE POLE



1 Phase, 1 Neutral, 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 (<300kA)	700	700	700	1200	20kA	100kA	150
120S	= 240/120V Split Phase (=>300kA)	700	600	600	1000	20kA	100kA	150
120Y	= 208Y/120V 3Ø Wye (<300kA)	700	700	700	1200	20kA	200kA	150
120Y	= 208Y/120V 3Ø Wye (=>300kA)	700	600	600	1000	20kA	200kA	150
240H	= 240/120 (B Ph High Leg Delta)	1200 ¹ /700	1200 ¹ /700	700	1800	20kA	200kA	320/150
240D	= 240V Delta	-	1000	-	1800	20kA	200kA	320
277Y	= 480Y/277V 3Ø Wye (<300kA)	1200	1200	1200	2000	20kA	200kA	320
277Y	= 480Y/277V 3Ø Wye (=>300kA)	1200	1000	1000	1800	20kA	200kA	320
480D	= 480V 3Ø Delta	-	1800	-	1800	20kA	200kA	552
220Y	= 380Y/220V 3Ø Wye (<300kA)	1200	1200	1200	2000	20kA	200kA	320
347Y	= 600Y/347V 3Ø Wye	1500	1500	1500	2500	20kA	200kA	420
600D	= 600V Delta	-	2500	-	2500	20kA	200kA	690

VPR or MCOV with disconnect switch or ASM Monitoring option could vary. Contact the factory for details.

¹ 1200 VPR for L-N and L-G is with reference to the B Phase High Leg