



### Performance Specifications

Surge capacities(L-N, L-G, N-G)

**100kA per phase**

**200kA per phase**

**300kA per phase**

UL 1449 Fourth Edition Listed Type 1, CSA 22.2 No. 269.1

Optional UL 1449 Fourth Edition type 2 SPD, cUL, UL 1283

UL 1449 Fourth Edition tested Inominal (I<sub>n</sub>): 20kA

UL 1449 Fourth Edition tested SCCR: 200kA

UL 1283 Type 2 (optional) includes AC sinewave tracking filter with EMI/RFI filtering up to -50dB from 10kHz to 100MHz

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 button

Test function: toggles red service LED, audible alarm and dry contact

N-G overvoltage detection

Phase monitoring (toggles LED and dry contacts)

Form C dry contacts, 24V, 2A

### Features:

- UL 1449 Fourth Edition listed
- 100kA – 300kA per phase ratings
- All UL Required OCP & Safety Coordination included inside
  - Type 1 SPDs intended for Line or Load Side of Main Disconnect
  - Type 1 SPDs intended for Line or Load Side of Main Disconnect
- 20kA Inominal (I<sub>n</sub>)
- 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

### Design Attributes

Designed, manufactured and 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<sup>®</sup> Article 285
- NEC<sup>®</sup> Articles 620.51(E), 645.18, 670.6, 695.15, 700.8 and 708 requiring SPDs
- UL 96A and NFPA 780 lightning protection

High energy parallel design rated for service entrance applications

For external mounting on electrical distribution equipment, switchgear, switchboards, motor control centers, panelboards, transfer switches

Individually fused and 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 (-31° F) to +60° C (185° F)

Weight: 24 lbs (11 kg)

NEMA 1/12/3R/4 enclosure

Standard size: 12" x 12" x 7" (305mm x 305mm x 177mm)

Lug size: #2 - #10 AWG (with optional disconnect switch: #8 - #1/0)

Typical connection: #6 AWG and 60A breaker

### Quality, Standards and Validation

Type 1: UL 1449 Fourth Edition, CSA 22.2 No. 269.1

Type 2 (Opt): UL 1449 Fourth Edition, CSA C22.2 No 269.2, UL 1283

UL file: VZCA.E324279 at www.UL.com

RoHS-compliant

IEC 61643, CE

Burn-In tested prior to shipment

ISO 9001:2008 quality management system

ISO 17025:2005 laboratory qualification



## Monitoring System Technical Specifications

<b>Voltage</b>	<b>Phase to Phase Neutral to Ground/PE Phase to Neutral</b>
Accuracy	±1%
Range	80V-600V
Average, Unbalance, Crest Factor	Included
<b>Frequency</b>	<b>Included</b>
Accuracy	±1%
Range	45-67 Hz
<b>Voltage Total Harmonic Distortion (VTHD)</b>	<b>Line-to-Neutral Line-to-Line</b>
Range	60-850 Hz
<b>Harmonics</b>	<b>Line-to-Neutral Line-to-Line</b>
Range	Fundamental – 13th
RMS	±1%
<b>SPD Health Status</b>	<b>Percent Remaining</b>
I/O	Included
Relay Outputs	Class 2 - 24VDC / 24VAC at 2 Amps
RJ-45 Port	Ethernet
<b>Events</b>	<b>Power Quality &amp; System</b>
Event Logging	8GB / 2000+ Events
Date/Time Stamp with Duration/Magnitude	Included - All events
Surge Counter (Category C, B, A), Sag Counter, Swell Counter, with reset	Included
<b>Sample Rates</b>	
Surge Sample Rate	250 kHz (4,166 Samples per cycle @ 60 Hz)
Other Measurable Events	10 kHz (167 Samples per cycle @ 60 Hz)
Display	LCD 128x64
Communications	MODBUS TCP Serial MODBUS Ethernet Form C

## Features and Benefits

### Power Quality

Ability to monitor voltage at connected panel and track system anomalies such as transients, surges, swells and VTHDs, to mitigate the destructive effects of these anomalies.

### Real Time Measurements

Storage of over 2000 events/reports allows for historical analysis.

### Event Logging

User configurable alarm thresholds, time/date stamp, duration and magnitude of events offers multiple data points for trend analysis.

### Communications

Three access channels - Ethernet, MODBUS TCP or Serial MODBUS - allow for easy access to data.

### Embedded Web Page

Convenient access to present and past event data from any device with internet connection.

### System Analysis

Manage power system with statistical summaries & reporting software, for proactive system analysis.

### Email Notifications

Set automatic email notifications to alert up to three separate users with anomalies recorded, offering real-time updates.

### LCD Display with Push Buttons

Offers local interface with push button navigation for user friendly operation.

