

# VAL-SQ NP...

## 32 kA whole-house surge protection



Data sheet  
3185\_en\_A

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### 1 Description

The VAL-SQ NP... surge protective device (SPD) provides whole-house surge protection in a panel-mount, pluggable form factor. A high-energy suppression circuit provides 32 kA of surge current protection per phase. Each surge suppression mode has over-current and thermal fusing for safety.

The VAL-SQ NP... has the same footprint as two standard 1-inch pitch circuit breakers to allow installation inside a standard 1-inch pitch load center. Operating status lights are easily observed and provide verification of protection.

The replaceable plug of the VAL-SQ NP... allows a homeowner to safely replace the surge protection plug if it reaches end of life. All other products of this type require a skilled electrician to replace the surge components at end of life.

The VAL-SQ NP... is suitable for single-phase 120/240 applications with common or separate neutral and ground.

### 2 Features

- 32 kA surge current capacity per phase protects against high-energy lightning strikes and transient voltages
- Initial installation by a certified electrician; plug replacement by homeowner
- UL nominal surge discharge current ( $I_N$ ) rating of 10 kA
- LEDs provide continuous feedback on the status of each phase
- UL 1449 3<sup>rd</sup> edition classified



Confirm the SPD voltage rating on the module or nameplate label is the same as the operating voltage.  
Risk of electric shock. Disconnect power before installing or servicing. Service to be performed by qualified personnel only.



The products described in this data sheet are exclusively for export outside the European Economic area (EC).



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This data sheet is valid for all products listed on the following page:

### 3 Ordering data

#### Products

Description	Type	Order No.	Pcs. / Pkt.
<b>Plug and base assembly</b> , 120/240 V AC single phase, for use in load centers with 1-inch pitch	VAL-SQ NP 120-2-A 32	2800371	1
<b>Plug</b> , 1 inch, single phase	VAL-SQ NP 120-2-A 32 ST	2800369	1
<b>Base</b> , 1 inch, single phase	VAL-SQ NP 120-2-A 32 BE	2800749	1

### 4 Technical data

#### General data

Dimensions	Two 1-inch spaces in a load center
Weight	326 g
Phase connection	1
Material	Non-metallic
Ambient temperature, operating	-55...70°C (-67...160°F)
Altitude, operating	0...3658 m (0...12,000 ft.)

#### Electrical data

Maximum surge current per phase	32 kA
Short circuit current rating (SCCR)	10 kA
Nominal voltage	120 V AC
Frequency	50/60 Hz
Current rating ( $I_N$ )	10 kA
Circuit type	Over-current and thermally fused MOV technology
UL class	Type 1
Voltage protection rating (VPR)	
MCOV	175
L-N	800
L-L	1200

### 5 Installation notes



#### DANGER:

Remove all power to the load center before installing or servicing. Hazardous voltages can cause death or severe personal injury.

Always follow federal and local regulations during installation. Apply appropriate personal protective equipment (PPE) and follow electrical work practices.

All work must be performed by qualified and authorized personnel.

Never open SPD. No serviceable parts are inside.



#### WARNING:

This equipment depends upon an effective ground. Failure to obtain a quality ground connection may result in explosion or arc flash.

Do not install if the maximum service amperage (panel size) is greater than 200 A.



#### NOTE:

Megger® or high potential tests will damage this surge protective device. Turn off all power supplying the equipment and isolate the surge protective device before testing.

## 5.1 Load center compatibility

All load centers use a 1-inch spacing and are rated for single-phase, three-wire, 120/240 V AC systems.

All circuit breakers are plug-in style.

Brand	Load center	Circuit breaker type
Eaton	BR series (prefix 1BR or B in the catalog number)	BR215 ... BR250, BR, 2P, 120/240 V AC, 15 A ... 50 A
Siemens Industry, Inc.	PL series (prefix P, PW or G in the catalog number)	EQ215 ... EQ250, EQ, 2P, 120/240 V AC, 15 ... 50 A
Siemens Industry, Inc.	ES series (prefix S, SW or G in the catalog number)	EQ215 ... EQ250, EQ, 2P, 120/240 V AC, 15 ... 50 A
Siemens Industry, Inc.	EQ series (prefix E or W in the catalog number)	EQ215 ... EQ250, EQ, 2P, 120/240 V AC, 15 ... 50 A
General Electric Co.	PowerMark Gold series (prefix TL, TM or TP in the catalog number)	THQL215 ... THGL250, EQ, 2P, 120/2140 V AC, 15 ... 50 A
Schneider Electric USA Inc./Square D Co.	Homeline series (prefix HOM in the catalog number)	HOM215 ... HOM250, 2P, 120/240 V AC, 15 ... 50 A

## 7 Maintenance

If the surge protection plug reaches its end of life, one or both of the LEDs will be off, and the VAL-SQ NP... plug must be replaced.



End of life for a surge protective device may occur due to a single high-level surge or repeated low-level surges. Either way, when one or both of the LEDs do not light, the plug must be replaced.

A removal tool is included with each replacement plug.

1. Disconnect power to the load center with the main disconnect switch.
2. Firmly grasp the faulty plug and pull it straight from the base.
3. Align the replacement plug using the keyed slots (it will only go in one way) and insert it into the base.

## 6 Installation

1. Disconnect power to the load center.
2. Remove the screws securing the front cover to the load center and remove the cover.
3. The VAL-SQ NP... requires two adjacent mounting spaces. For the most efficient operation, select two spaces as close to the main circuit breaker as possible and remove the blanks in the front panel.
4. Install the VAL-SQ NP... in the selected location. Ensure that it is properly seated with good contact to the bus bar.
5. Route the white wire from the VAL-SQ NP... to the neutral bar. Keep the wire as short and straight as possible. Strip 1/2 in. insulation and secure to the neutral bar.
6. Re-install the front cover with the hardware previously removed. Ensure that the VAL-SQ NP... extends through the panel and the plug is fully accessible.
7. Re-apply power to the load center.
8. Verify that both LEDs are on, indicating protection is active.