



## ZoneDefender Pro Series

The most compact, powerful, feature-rich AC surge protector available

- 80kA, 100kA & 120kA surge-current rating per phase
- Includes high-performance EMI/RFI filtering
- LED status indication via solid state diagnostics plus remote indication contacts
- Built-in audible alarm
- Thermal and short circuit fusing
- Short circuit current rating: 200kA AIC
- UL 1449 3rd Edition Listed
- 10 year product warranty



The **ZoneDefender PRO Series** is a versatile, high performance surge protector designed for use in a wide variety of industrial, institutional and commercial applications. The ZoneDefender PRO is the most compact, powerful, feature-rich surge protector on the market today. State-of-the-art circuitry protects equipment from high frequency noise as well as from damaging electrical transients and high-energy disturbances. In addition, the ZoneDefender PRO Series offers cost-effective high capacity protection along with application versatility; features which make the Series the ultimate surge protection solution.

**ZoneDefender PRO units provide** protection between Line to Neutral, Line to Ground, Line to Line and Neutral to Ground. Utilizing Metal Oxide Varistor (MOV) technology, the ZoneDefender PRO's protection circuits

are highly reliable, dual-redundant varistor networks ensuring your site is never unprotected. Fully automatic in operation, ZoneDefender PRO reacts immediately, clamping voltage surges without causing undue leakage losses under normal operation. No operator intervention is required, ZoneDefender PRO resets automatically and is maintenance free.

**Suitable for all AC power applications,** ZoneDefender PRO devices provide protection for AC power supplies with no restriction to the amount of load current.

**Thermal fusing is incorporated** into each ZoneDefender PRO as an additional safety feature. Short circuit protection with 200kA AIC rating. is also supplied, as standard, for added peace of mind.

**ZoneDefender PRO offers an LED status indication** allowing each varistor network to be continually monitored and indicated by LEDs on the front panel of the device. In addition, remote monitoring is enabled by the unit's remote indication contacts.

**Installation is simple** - the ZoneDefender PRO devices can be easily surface or nipple mounted.

**The ZoneDefender PRO Series is UL 1449 3rd Edition Listed** and boasts an unrivaled 10 year 'no questions asked' manufacturers product warranty. ZoneDefender PRO devices also exceed the requirements of ANSI/IEEE C62.45 and ANSI/IEEE C62.41.

## SPECIFICATION

### Maximum surge current (I<sub>max</sub>)

80kA, 100kA & 120kA (8/20μs)

### Maximum continuous operating voltage

120/240 versions - 140Vac/270Vac

### Lines protected AC

L-N, L-G, L-L, N-G

### Duty cycle performance (8/20μs)

Rated 1 impulse  
10,000A >6,500 Impulses  
100A infinite

### Long duration current pulse (10/1,000μs)

#### capability

3,600A (tested)

### Frequency range

47Hz to 63Hz

### Ambient temperature limits

-40°F to +185°F working  
-40°C to +85°C working

### Humidity

95% RH (non-condensing)

### Enclosure

NEMA 1, 2, 3, 3R, 4, 4X 12 and 13 (IP66)

### Terminals

#10 AWG (5mm<sup>2</sup>)

### Mounting

Surface mount by 0.21" (5mm) diameter holes

### Remote contacts

Form C (NC, NO, C) 60W DC, 120VA AC, 3A max.

### Indication

Green LED on } Power protection in all modes, all phases  
Red LED off }  
  
Green LED off } Protection fault (remote indication alarm via contacts & audible alarm)  
Red LED on }  
  
Green LED on } Neutral/ground fault (voltage potential)  
Red LED on }

### Audible Alarm

90dB

### EMI/RFI Attenuation

-75dB maximum 100kHz to 100MHz

### Weight

5.5 lbs (2.5 kg) - Split Phase  
3.5 lbs (1.6 kg) - Single phase

### Dimensions

See Figure 1 and Figure 2

### SCCR Rating

Suitable for use on a circuit capable of delivering not more than 200,000 rms symmetrical Amperes, 480V max

### EMC compliance

BS EN 60950: 1992  
BS EN 61000-6-2: 1999

### Ratings in compliance with IEC 61643-1

I<sub>max</sub> = 80kA, 100kA & 120kA  
I<sub>imp</sub> = 5kA (10/350)\*

\*All current results are per phase.

## DIMENSIONS

Figure 1.

Split phase dimensions

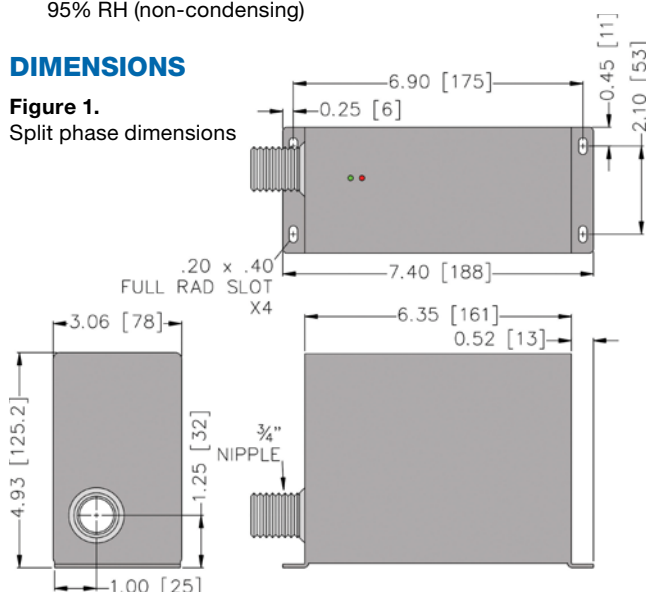
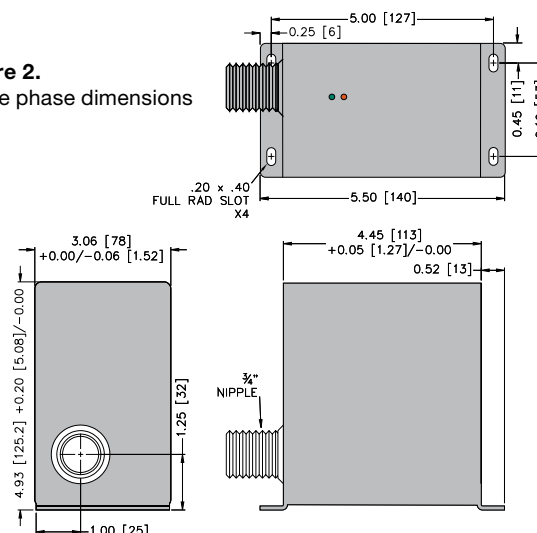


Figure 2.

Single phase dimensions



## TO ORDER SPECIFY:

Model	Working voltage	UL1449 VPR 3rd Edition	Limiting voltage		U <sub>p</sub>	Ringwave @200A	Phase types
			@ 3kA	@10kA (In)			
<b>80kA versions</b>	<b>(V)</b>	<b>(V)</b>	<b>(V)</b>	<b>(V)</b>	<b>(kV)</b>	<b>(V)</b>	
ZD16700	120	600	580	800	0.8	60	Single phase 2-wire
ZD16701	120/240	600	580	800	0.8	60	Split phase 3-wire
ZD16709	240	1200	890	1200	1.2	75	Single phase 2-wire TT
ZD16900	120TT	600/1200	580/890	800/1300	.08/1.3	60/75	Single phase 2-wire TT
ZD16901	120/240TT	600/1200	580/890	800/1300	0.8/1.3	60/75	Split phase 3-wire TT
<b>100kA versions</b>							
ZD16730	120	600	580	800	0.8	60	Single phase 2-wire
ZD16731	120/240	600	580	800	0.8	60	Split phase 3-wire
ZD16739	240	1200	890	1200	1.2	75	Single phase 2-wire TT
ZD16930	120TT	600/1200	580/890	800/1300	.08/1.3	60/75	Single phase 2-wire TT
ZD16931	120/240TT	600/1200	580/890	800/1300	0.8/1.3	60/75	Split phase 3-wire TT
<b>120kA versions</b>							
ZD16740	120	600	580	800	0.8	60	Single phase 2-wire
ZD16741	120/240	600	580	800	0.8	60	Split phase 3-wire
ZD16749	240	1200	890	1200	1.2	75	Single phase 2-wire TT
ZD16940	120TT	600/1200	580/890	800/1300	.08/1.3	60/75	Single phase 2-wire TT
ZD16941	120/240TT	600/1200	580/890	800/1300	0.8/1.3	60/75	Split phase 3-wire TT

## APPROVALS

Country	Standard/Authority	Approved for	Product
United States Canada	UL 1449 3rd Edition Listed	AC power product	ZD16700, ZD16701, ZD16709, ZD16900, ZD16901, ZD16730, ZD16731, ZD16739, ZD16930, ZD16931, ZD16740, ZD16741, ZD16749, ZD16940, ZD16941

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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901-104 RevB 160811



## ZoneDefender Curve

Surge protection for Type 1 or Type 2 applications and systems

- Wide range of voltage applications
- UL 1449 Type 1 and Type 2 applications
- 200kA short circuit current rating
- LED status indication
- UL 1449 3rd Edition Listed
- 10 year product warranty



**The ZoneDefender Curve Series** surge suppressor is specifically designed for applications that require a Type 1 or Type 2 SPD. Type 1 models are available that meet UL96A Master Label Program requirements. This device eliminates the need for additional overcurrent protection providing substantial cost savings. These compact and durable devices offer cost effective, high capacity protection along with application versatility, features which make the Series the ultimate surge protection solution.

**ZoneDefender Curve units**, with a 50kA surge handling capability per phase, provide protection between Line to Neutral, Line to Ground/Earth and Line to Line. Utilizing Metal Oxide Varistor (MOV) technology, the ZoneDefender's protection circuits are highly reliable, dual-redundant varistor networks ensuring your site is never unprotected. Fully automatic in operation, the ZoneDefender Curve reacts immediately, clamping voltage surges without causing undue leakage losses under normal operation. No operator intervention is required, ZoneDefender Curve resets automatically and is maintenance free.

**Thermal fusing** is incorporated into each ZoneDefender Curve as an additional safety feature. Short circuit protection is also supplied, as standard, for added peace of mind.

**ZoneDefender Curve offers an LED Status** indication facility allowing each varistor network to be continually monitored and indicated by LEDs on the front panel of the device.

**The ZoneDefender Curve Series is UL 1449 Listed** and boasts an unrivalled 10 year 'no questions asked' manufacturers product warranty. These devices also exceed the requirements of ANSI/IEEE C62.45 and ANSI/IEEE C62.41.

## SPECIFICATION

All figures typical at 77°F (25°C) unless otherwise stated

### Maximum surge current

50kA 8/20

### Leakage current

<5µA

### Working voltage

See table

### Maximum continuous operating voltage

125% x nominal

### Ambient temperature limits

-40°F to 185°F (-40°C to +85°C)

### Humidity

95% R-H non-condensing

### LED indication

Red LED = failure

### Installation

Nipple mount

### Ordering information

See table

Model	ZD13700*	ZD13701*	ZD13703*	ZD13704	ZD13705	ZD13706	ZD13712*
Nominal Voltage	120/240	120/208	240	277/480	347/600	480	120
System Type	Split phase	3 ph WYE	3 ph DELTA	3 ph WYE	3 ph WYE	3 ph DELTA	1 phase
Nominal Discharge Current ( $I_n$ , kA)	20	20	20	10	10	10	20
Max. Discharge Current ( $I_{max}$ , kA)	50	50	50	50	50	50	50
Max. Discharge Current ( $I_{imp}$ , kA)	15	15	15	15	15	15	15
Short circuit current rating (SCCR, kA)	200	200	200	200	200	200	200
Voltage Protection Level (VPR) L-N	700	700	—	1200	1500	—	700
Voltage Protection Level (VPR) L-G	—	—	1000	—	—	1800	1200
Voltage Protection Level (VPR) L-L	1200	1200	1800	2000	2500	3000	—
UL 1449 Listing Type	UL Type 1				US/CN Type 2	UL Type 1	
Enclosure Type	NEMA 2						

\* Meets UL96A Master Label Requirements

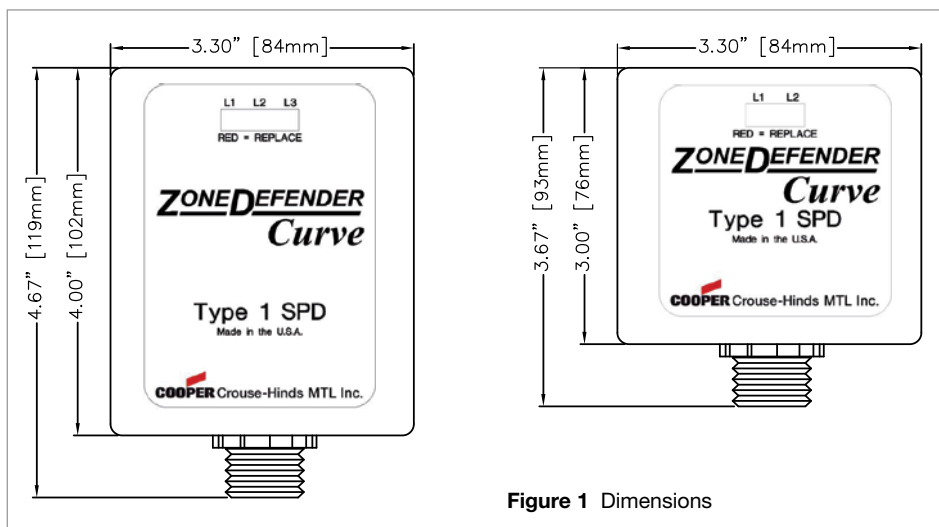


Figure 1 Dimensions

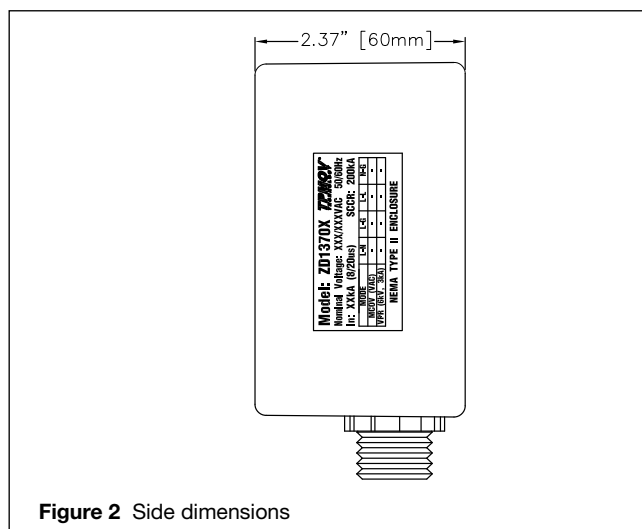


Figure 2 Side dimensions

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