# ZoneDefender Pro range

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

- 80kA to 240kA 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: 200k AIC
- UL 1449 3rd Edition Listed
- 10 year product warranty
- UL1449 Type 2 SPD, In=20kA



The ZoneDefender PRO range 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 range offers cost-effective high capacity protection along with application versatility; features which make the range 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 range 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.

**Meets UL96A installation requirements** for lightning protection systems for master label certification.



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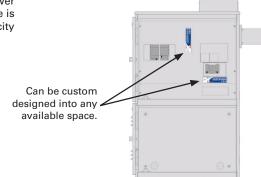
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#### SMALL SIZE MAKES INTEGRATION INTO CUSTOM EQUIPMENT A BREEZE

ZoneDefender PRO saves money by facilitating smaller AC power cabinets. Once the ZoneDefender Pro has been engineered in, there is no re-engineering needed to meet customers changing surge capacity requirements.

Great for:

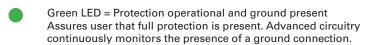
- Telecom power distribution cabinets
- Industrial control panels
- Motor drive panels
- Automatic transfer switch
- Facility distribution panels

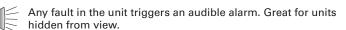


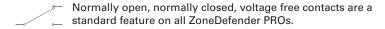
#### ADVANCED INDICATION AND MONITORING



Red LED = Fault warning
Advanced circuitry monitors every suppression component in the ZoneDefender PRO.

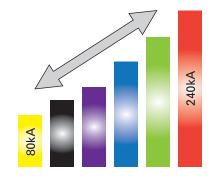








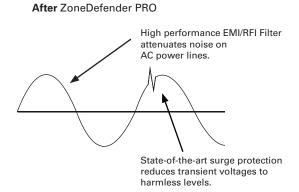
- Surge capacity options to cover every requirement and budget.
- An unmatched range of surge current capacities available in the same compact package.
- The same small footprint (236mm x 76mm) for all six (6) surge capacity types.



#### PRECISE POWER PROTECTION

Before ZoneDefender PRO





| Model          | Working voltage | UL1449<br>VPR      | Limiting voltage |                                 | U <sub>p</sub> | Ringwave<br>@200A | Phase types              |
|----------------|-----------------|--------------------|------------------|---------------------------------|----------------|-------------------|--------------------------|
|                | (V)             | 3rd Edition<br>(V) | @ 3kA<br>(V)     | @ 10Ka (I <sub>n</sub> )<br>(V) | (kV)           | (V)               |                          |
| 80kA versions  |                 | '                  |                  |                                 |                |                   |                          |
| ZD16100        | 120/240         | 500                | 470              | 780                             | 0.8            | 60                | Split phase 3 wire       |
| ZD16101        | 120/208         | 500                | 470              | 780                             | 0.8            | 60                | Three phase 4 wire WYE   |
| ZD16104        | 277/480         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16107        | 220/380         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16108        | 240/415         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| 100kA versions |                 |                    |                  |                                 |                |                   |                          |
| ZD16200        | 120/240         | 500                | 470              | 780                             | 0.8            | 60                | Split phase 3 wire       |
| ZD16201        | 120/208         | 500                | 470              | 780                             | 0.8            | 60                | Three phase 4 wire WYE   |
| ZD16202        | 120/240         | 500/1200           | 470/890          | 780/1200                        | 0.8/1.2        | 60/75             | Three phase 4 wire Delta |
| ZD16204        | 277/480         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16207        | 220/380         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16208        | 240/415         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| 120kA versions |                 |                    |                  |                                 |                | •                 |                          |
| ZD16300        | 120/240         | 500                | 470              | 780                             | 0.8            | 60                | Split phase 3 wire       |
| ZD16301        | 120/208         | 500                | 470              | 780                             | 0.8            | 60                | Three phase 4 wire WYE   |
| ZD16302        | 120/240         | 500/1200           | 470/890          | 780/1200                        | 0.8/1.2        | 60/75             | Three phase 4 wire Delta |
| ZD16304        | 277/480         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16307        | 220/380         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| ZD16308        | 240/415         | 1200               | 890              | 1200                            | 1.2            | 75                | Three phase 4 wire WYE   |
| 160kA versions |                 |                    |                  |                                 |                | •                 |                          |
| ZD16400        | 120/240         | 500                | 430              | 650                             | 0.7            | 50                | Split phase 3-wire       |
| ZD16401        | 120/208         | 500                | 430              | 650                             | 0.7            | 50                | Three phase 4-wire WYE   |
| ZD16402        | 120/240         | 500/1200           | 430/770          | 650/1180                        | 0.7/1.2        | 50/68             | Three phase 4 wire Delta |
| ZD16404        | 277/480         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16407        | 220/380         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16408        | 240/415         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| 200kA versions |                 |                    |                  |                                 |                |                   |                          |
| ZD16500        | 120/240         | 500                | 430              | 650                             | 0.7            | 50                | Split phase 3-wire       |
| ZD16501        | 120/208         | 500                | 430              | 650                             | 0.7            | 50                | Three phase 4-wire WYE   |
| ZD16502        | 120/240         | 500/1200           | 430/770          | 650/1180                        | 0.7/1.2        | 50/68             | Three phase 4 wire Delta |
| ZD16504        | 277/480         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16507        | 220/380         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16508        | 240/415         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| 240kA versions |                 |                    |                  |                                 |                |                   | ·                        |
| ZD16600        | 120/240         | 500                | 430              | 650                             | 0.7            | 50                | Split phase 3-wire       |
| ZD16601        | 120/208         | 500                | 430              | 650                             | 0.7            | 50                | Three phase 4-wire WYE   |
| ZD16602        | 120/240         | 500/1200           | 430/770          | 650/1180                        | 0.7/1.2        | 50/68             | Three phase 4 wire Delta |
| ZD16604        | 277/480         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16607        | 220/380         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |
| ZD16608        | 240/415         | 1200               | 770              | 1180                            | 1.2            | 68                | Three phase 4-wire WYE   |

# EPS 901-104\_ZD Pro

September 2016

# **SPECIFICATION**

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

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80kA/100kA/120kA(8/20µs)

160kA/200kA/240kA (8/20µs)

#### Maximum continuous operating voltage

 120/240 versions
 140Vac

 120/208 versions
 140Vac

 277/480 versions
 320Vac

 220/380 versions
 300Vac

 240/415 versions
 300Vac

#### 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 (10/1,000 $\mu$ s) capability

3,600A (tested)

#### Ambient temperature limits (working)

-40°C to +85°C (-40°F to +185°F)

#### Humidity

95% RH (non-condensing)

#### **Enclosure**

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

#### **Terminals**

#10 AWG (5mm²) & #8 AWG (8mm²)

#### 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 Red LED off
Green LED off Red LED off
Red LED on Protection fault (remote indication alarm via contacts & audible alarm)

Green LED on Red LED on Neutral/ground fault (voltage potential)

# **Audible Alarm**

90dB

# EMI/RFI Attenuation

-75dB maximum 100kHz to 100MHz

# Weight

From 2.34Kg (5.2 lbs)

# Dimensions

236mm x 76mm x 125mm (9.30" x 3.00" x 4.93")

#### **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 61326-1:2006 IEC 61643-11:2011

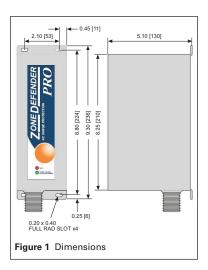
#### Ratings in compliance with IEC 61643-11

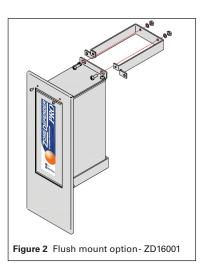
I<sub>max</sub> = 80kA, 100kA, 120kA I<sub>imp</sub> = 6kA (10/350)\*

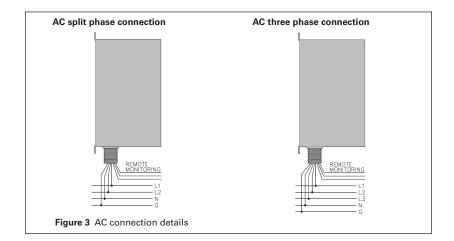
 $I_{\text{max}} = 160 \text{kA}, 200 \text{kA}, 240 \text{kA}$ 

 $I_{imp} = 10kA (10/350)*$ 

\*All current results are per phase.







#### **APPROVALS**

| Country       | Standard/Authority                             | Approved for     | Product          |
|---------------|--|------------------|------------------|
| Global        | IEC 61643-11                                   | Class II         | ZoneDefender PRO |
| USA<br>Canada | UL 1449 3rd Edition Listed<br>(C-UL US Listed) | AC power product | ZoneDefender PRO |



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