



technical datasheet

ZoneDefender² Series

80kA power surge protection for small distribution panels, tower lights, equipment cabinets and confined spaces

- AC or DC application
- Straightforward and simple installation — wall or flush mounting
- LED status indication via solid state diagnostics plus remote indication contacts
- Thermal and short circuit fusing
- UL 1449 Listed
- 10 year product warranty



The ZoneDefender² Series of power surge protection devices has been specifically designed for small distribution panels. 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.

ZoneDefender² units, with a 80kA surge handling capability per phase, provide protection between Line to Neutral, Line to Ground/Earth, Line to Line and Neutral to Ground/Earth. 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, ZoneDefender² reacts immediately, clamping voltage surges without causing undue leakage losses under normal operation. No operator intervention is required, ZoneDefender² resets automatically and is maintenance free.

Suitable for AC or DC applications, ZoneDefender² devices provide protection for AC or DC power supplies with no restriction to the amount of load current. ZoneDefender² DC versions are available utilizing SAD (Silicon Avalanche Diode) technology in addition to the standard MOVs. DC versions are also available with EMI filtering, should this be required.

Thermal fusing is incorporated into each ZoneDefender² as an additional safety feature. Short circuit protection is also supplied, as standard, for added peace of mind.

ZoneDefender² 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. In addition, remote monitoring is enabled by the units' remote indication contacts.

Installation is simple — the enclosure of ZoneDefender² devices can be easily 'wall mounted'.

The ZoneDefender² Series is UL 1449 Listed and boasts an unrivalled 10 year 'no questions asked' manufacturers product warranty. ZoneDefender² devices also exceed the requirements of ANSI/IEEE C62.45 and ANSI/IEEE C62.41.

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SPECIFICATION

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

Maximum surge current

80kA (8/20μs)*

*except ZoneDefender² DC versions.

See specifications table for details.

Lines protected AC

L-N, L-G/E, L-L, N-G/E

Lines protected DC

V+, V-

Duty cycle performance (8/20μs)

80,000A 1 impulse

10,000A >4,000 impulses

100A infinite

Long duration current pulse 10/1,000μs

capability

3,600A (tested)

Response time

<5ns

Ambient temperature limits

-40°F to +185°F

(-40°C to +85°C) — working

Humidity

95% RH (non-condensing)

Enclosure

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

Terminals

12 AWG (3mm²)

Mounting

Surface mount by four 0.17" (4mm)

diameter holes

Optional flush mount (add suffix "F" to

Model number)

Remote contacts

C, NO, NC rated 60W DC or 120VA AC,

3A max.

Indication

Green LED on Protection present

Green LED off Internal failure or no power

Red LED on Internal failure

Weight

2.1 lbs (0.94Kg)

Dimensions

4.0" x 4.0" x 2.4"

(102mm x 102mm x 61mm)

AIC Rating

Suitable for use on a circuit capable of delivering not more than 100,000 rms symmetrical Amperes, 240V maximum

EMC compliance

BS EN 60950: 1992

BS EN 61000-6-2: 1999

ORDERING INFORMATION

Model number as per specification table

Model	Working voltage (V)	UL 1449 Listing (V)	Limiting voltage		Max. continuous operation voltage (Vac)	Phase Types
			@3kA†	@10kA (In)†		
AC versions						
ZD16800*	120	400	430	690	140	Single phase 2-wire US
ZD16801*	120/240	400	430	690	140	Split phase 3-wire US
ZD16809‡	240	800	925	1200	320	Single phase 2-wire EU
ZD16820	120	400/800	430/925	690/1200	140/320	Single phase 2-wire TT
ZD16821	120/240	400/800	430/925	690/1200	140/320	Single phase 3-wire TT
DC versions						
ZD14612	12V DC	N/A	120	292	15kA	————
ZD14624	24VDC	N/A	190	240	36kA	————
ZD14648	48VDC	N/A	280	504	53kA	————
ZD14712	12VDC	N/A	120	292	15kA	EMI filter
ZD14724	24VDC	N/A	140	340	36kA	EMI filter
ZD14748	48VDC	N/A	280	504	53kA	EMI filter

For flush mount add suffix "F" to model number

*Suitable for U.S. use only †8/20μs waveform — Tested as per ANSI/IEEE C 62.45 and ANSI/IEEE C62.41 ‡ Not UL Listed

NOTE: ZD14712, ZD14724 & ZD14748 have > -30dB attenuation @ 100kHz

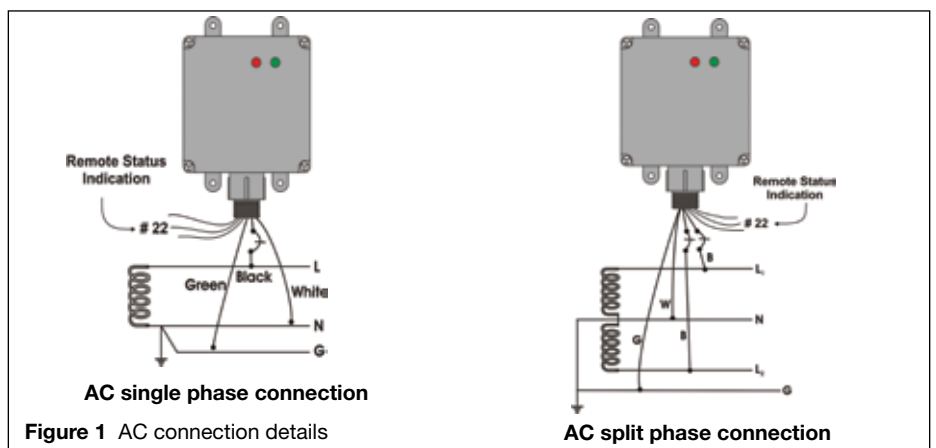


Figure 1 AC connection details

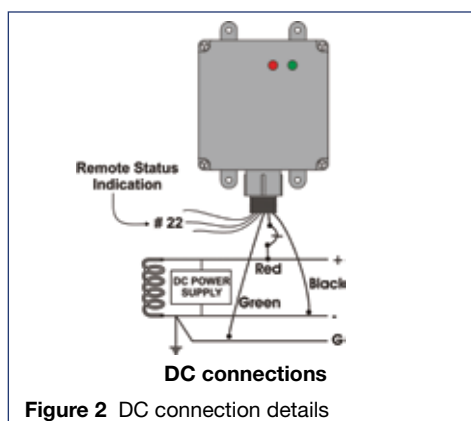


Figure 2 DC connection details

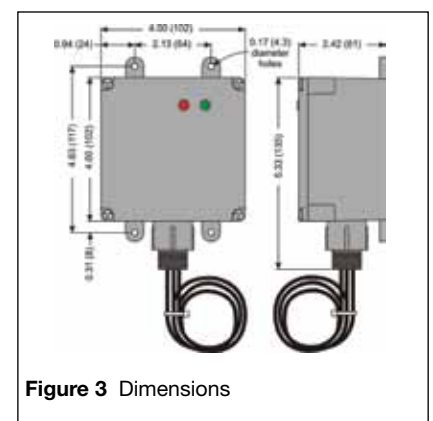


Figure 3 Dimensions

APPROVALS

Standard/Authority	Approved for	Product
UL 1449 Listed (C-UL US Listed)	AC power product	ZD16800, ZD16801, ZD16820, ZD16821

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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