

ZoneMaster PLUS



150kA to 600kA mains power surge protection for total facility protection

- Fully configurable and upgradeable on site
- Large block MOV protection technology
- Thermal and short circuit protection plus fused disconnect as standard
- Optional surge counter and mains power filter
- Patented technology, UL 1449 Listed and tested as per ANSI/IEEE C62.41 and C62.45
- 10 year product warranty



The ZoneMaster PLUS Series of AC mains power surge protectors is a versatile protection system that can be specified and configured to meet the exact needs of any facility. This unique range is engineered to provide up to a 600kA surge handling capability with units available for 150, 250, 300, 450 or 600kA requirements. However, since ZoneMaster PLUS devices are modular in construction they can easily be upgraded on site - a ZoneMaster PLUS 150 can be upgraded to a 450, for example, or even a 600, giving an unprecedented level of flexibility.

Patented, large block Metal Oxide Varistor (MOV) technology is utilised within the ZoneMaster PLUS protection modules. Each colour coded module, with a UL-94 5V rated enclosure, contains 2 independent dual-redundant protection circuits ensuring the site is never unprotected. Thermal and short circuit fusing is also incorporated for additional safety along with status indication diagnostics for added peace of mind.

Ultra low impedance connections are a feature of ZoneMaster PLUS devices - individual modules are securely bolted on to a corrosion resistant, tin plated copper bus bar, ensuring they are in the path of any surge

current. This is all housed within a NEMA rated, IP66 enclosure, also containing a fused disconnect facility which is supplied as standard. Since this enclosure is 20-50% smaller in size than other protectors claiming a similar performance, installation is easier and better as the protector can often be located closer to the panel thereby minimising the effect of connecting lead length.

An optional mains power filter is available which eliminates a broad range of load or line generated high frequency noise. This UL1283 Listed filter module has a noise attenuation of 75dB at 100KHz-100MHz and will attenuate 6kV transients down to a mere 200V without the support of other surge components. Noise attenuation can be specified on applications only when needed, a customisable feature unique to Atlantic Scientific products.

The Optional multi-mode surge counter actually counts the number of times a surge current is discharged when a transient is suppressed, many competitive products count only voltage impulses. These counters show the

number of transient voltages that have exceeded the manufacturers set limits and can even be used to identify which phase has received the most surges - an industry first.

Remote monitoring is facilitated by the optional audio/visual alarm annunciator panel which offers clear indication of the status of the ZoneMaster PLUS unit and a flexibility not offered by built-in products. This panel can be mounted either adjacent to the ZoneMaster PLUS or in a remote installation and includes a test switch function and a switch to silence the audible alarm.

ZoneMaster PLUS units are UL 1449 Listed and tested as per ANSI/IEEE C62.41 and C62.45. They also have a 10 year product warranty.

AC Power Protection

Specification

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

Maximum continuous operating voltage

25% above nominal

Lines protected

ZoneMaster PLUS 150
L-N 150kA, L-L 150kA, N-E 75kA
ZoneMaster PLUS 250
L-N 125kA, L-E 125kA, L-L 250kA, N-E 75kA
ZoneMaster PLUS 300
L-N 150kA, L-E 150kA, L-L 300kA, N-E 75kA
ZoneMaster PLUS 450
L-N 300kA, L-E 150kA, L-L 450kA, N-E 75kA
ZoneMaster PLUS 600
L-N 300kA, L-E 300kA, L-L 600kA, N-E 75kA

Ambient temperature limits

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

Humidity

95% RH (non-condensing)

Enclosure

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

Terminals

32mm² (2 AWG)

Mounting

Surface mount by 8mm (0.31") diameter holes

Indication

Green LED on Protection present
Mechanical flag Fault warning
Red LED on High voltage neutral to earth

Remote contacts

NO/NC 125Vac, 2A rated

Weight

9Kg (20 lbs) approx.

Dimensions

Enclosure - See figure 1
Modules - 32mm x 135mm x 64mm
(1.25" x 5.3" x 2.5")

EMC compliance

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

Model	Maximum surge current I _{max} (kA)	Working voltage (V)	Limiting voltage		Phase types
			@ 3kA† (V)	@ 10kA (In)† (V)	
ZoneMaster 600					
18500*	600	120/240 split	357	500	Split phase 3 wire
18501	600	120/208	357	500	Three phase 4 wire WYE
18502	600	120/240	357	500	Three phase 4 wire Delta
18504	600	277/480	726	900	Three phase 4 wire WYE
18507	600	220/380	726	900	Three phase 4 wire WYE
18508	600	240/415	726	900	Three phase 4 wire WYE
ZoneMaster 450					
18400*	450	120/240 split	360	517	Split phase 3 wire
18401	450	120/208	360	517	Three phase 4 wire WYE
18402	450	120/240	360	517	Three phase 4 wire Delta
18404	450	277/480	733	916	Three phase 4 wire WYE
18407	450	220/380	733	916	Three phase 4 wire WYE
18408	450	240/415	733	916	Three phase 4 wire WYE
ZoneMaster 300					
18300*	300	120/240 split	373	533	Split phase 3 wire
18301	300	120/208	373	533	Three phase 4 wire WYE
18302	300	120/240	373	533	Three phase 4 wire Delta
18304	300	277/480	740	950	Three phase 4 wire WYE
18307	300	220/380	740	950	Three phase 4 wire WYE
18308	300	240/415	740	950	Three phase 4 wire WYE
ZoneMaster 250					
18200*	250	120/240 split	373	533	Split phase 3 wire
18201	250	120/208	373	533	Three phase 4 wire WYE
18202	250	120/240	373	533	Three phase 4 wire Delta
18204	250	277/480	740	950	Three phase 4 wire WYE
18207	250	220/380	740	950	Three phase 4 wire WYE
18208	250	240/415	740	950	Three phase 4 wire WYE
ZoneMaster 150					
18100*	150	120/240 split	400	583	Split phase 3 wire
18101	150	120/208	400	583	Three phase 4 wire WYE
18102	150	120/240	400	583	Three phase 4 wire Delta
18104	150	277/480	760	1020	Three phase 4 wire WYE
18107	150	220/380	760	1020	Three phase 4 wire WYE
18108	150	240/415	760	1020	Three phase 4 wire WYE

* Suitable for US use only † 8/20µs waveform - Tested as per ANSI/IEEE C62.41 and ANSI/IEEE C62.45

Mains power filter

(Not suitable for ZoneMaster PLUS 600)

Maximum continuous operating voltage

400Vac rated (L-N)

Limiting voltage

200V (@ 3kA 8/20µs)

Maximum attenuation (typical)

75dB maximum (100kHz to 100MHz)

Remote monitoring unit

Indication

Green LED on Protection present
RED LED on Fault indication
Audible alarm Fault indication

Connectors

Screw terminal

Terminals

2mm² (14 AWG)

Weight

450g (1 lb)

Dimensions

135mm x 100mm x 40mm (5.5" x 4" x 1.5")

Surge counter

LCD display

Counts 0 to 99,000

Data storage

40 years without power

Count threshold

100A surge current

Modes of measurement

Counts surges in normal mode (L-N all phases) and common mode (L-E, N-E).

To order specify -

Model number as per specification table above

Add suffix X for mains power filter*

Add suffix A for remote monitoring unit

Add suffix C1 for 120V surge counter

Add suffix C2 for 277V surge counter

* must be ordered at time of unit purchase only

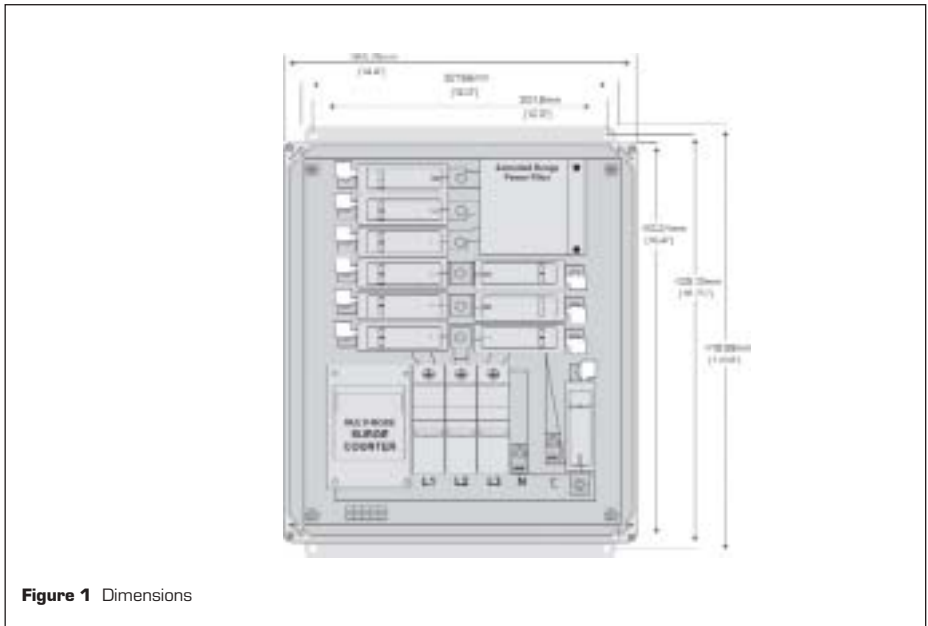


Figure 1 Dimensions

Approvals

Country	Standard/Authority	Approved for	Product
United States Canada	UL 1449 Listed	Mains power product	ZoneMaster PLUS 600 ZoneMaster PLUS 450 ZoneMaster PLUS 300 ZoneMaster PLUS 250 ZoneMaster PLUS 150

Note: In accordance with our policy of continuous improvement, we reserve the right to change the product's specification without notice.

Atlantic Scientific ZoneMaster PLUS devices are available from your local MTL office.

MTL Surge Technologies

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