

# AVOIDING DISASTER WITH ZONED PROTECTION



***The design of an overall surge protection scheme needs good grounding and bonding along with surge protection. One cannot function without the other. A good overall system design will survive a direct lightning strike. This is disaster avoidance.***

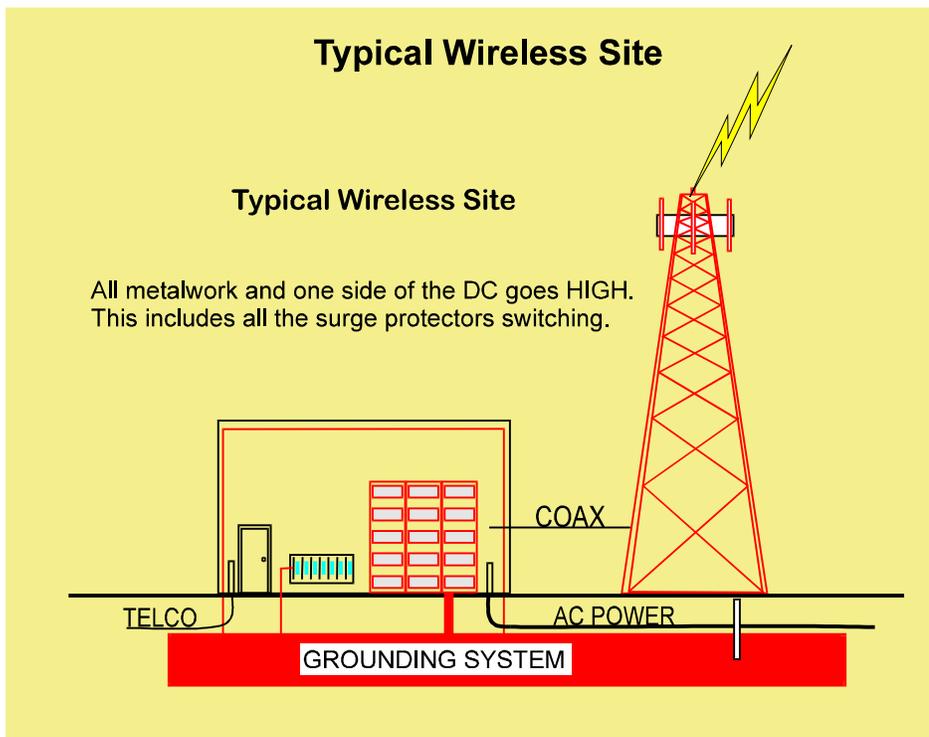
Lightning protection for modern electronics has made major technological strides over the last few years. Because of the proliferation of electronic equipment, Atlantic Scientific Corporation (ASC) maintains first rate engineering, research and development departments to ensure that we keep up with the increasing demands for surge protection solutions. This is done by constantly interacting and responding to our customer's surge protection needs. This dedication has resulted in the development of industry "firsts" in many areas. ASC was the first to develop the five-stage hybrid technology, the first with modular, snap-in and plug-in

data protection, the first patented, UL certified Cat 5 compliant surge protectors, the first ISDN, and 100Base T surge protectors, and the first to patent a large block MOV fusing technology in its surge protectors.

These technological "firsts" and a product line of over 800 surge protection devices have enabled ASC to become known for "disaster avoidance" instead of "disaster recovery". When striving for disaster avoidance, the philosophy for buildings is to create a barrier between the outside world and the inside of the building by installing surge protectors, all clamped to the same ground reference, at the entrance to the building. In this way surges can be kept out of the building. This "Zone of Protection" concept ensures that sensitive electronics are fully protected.

The first line of defense for disaster avoidance is the ZoneMaster. The ZoneMaster and ZoneSentinel patented designs use a unique three terminal, large block MOV or our coaxially connected Silicon Avalanche Diodes (SAD) matrix. These are well proved products with many years of service in high lightning activity areas. This proven reliability in service underlines our unconditional warranty with field tested products.

The ZoneMaster modules contain all the peripheral circuits including dual over-current and thermal fusing. Each module has two duplicated circuits using the unique large block MOVs along with local status indication, remote alarm contacts and fusing. Replacement of a single module renews the complete surge protector system. There are no cable

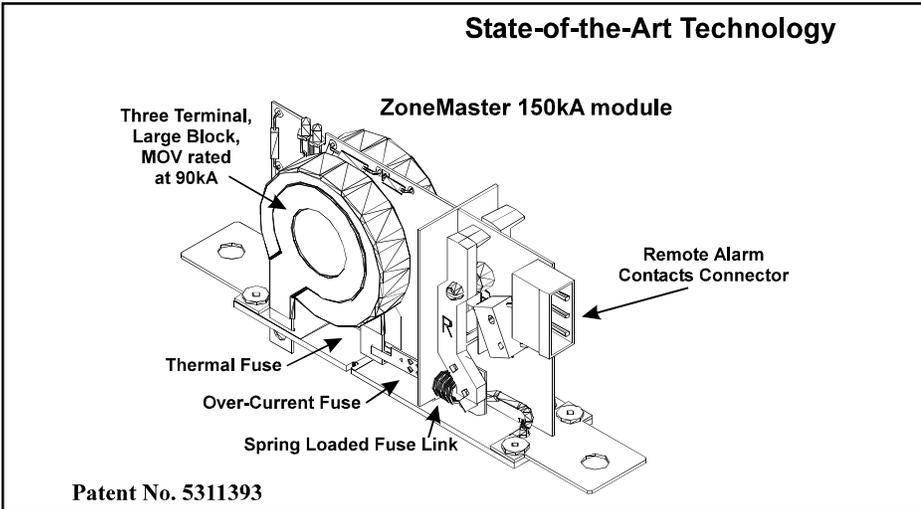


harnesses, flashing lights in the door panel or relays to provide remote alarms, all of these are additional points of failure effecting MTBF and warranty. This design philosophy is what allows us to provide our customers with an unconditional 10 year warranty.

The ZoneBarrier series is designed for a host of communications, telemetry, data and network applications utilizing three and five stage hybrid circuits that

connected to the grounding system. This means that the potentials on all the ground wires and whatever is connected to it will raise to hundreds of thousands of volts in the event of a lightning strike to a tower. This can cause “flash-overs” between items that have different potentials due in part to delays in elevating ground potentials. This then requires surge protection at the individual ports so that when the equipment chassis is elevated the port is instantly elevated preventing damage.

This brief explanation typifies the depth of our investigations, support for our customers, the extent of our product range and the emerging problems that were never anticipated. As more and more electronics get installed, surge protectors have to be smarter, more reliable and yet keep costs down. Atlantic Scientific keeps the costs down by designing unique products which are modular in construction allowing for economic manufacture and the simplicity of replacement in the field. This convenience, coupled with a 10 year unconditional warranty, provides our surge protection products with the distinction of giving the most “value for money” in the industry. Can you afford not to avoid a disaster?



provide precise control. Covering all the incoming data lines is another essential to providing a “Zone of Protection”.

New applications require a close interaction with the customer to identify potential problems not directly involved with the surge protection device. This is part of our philosophy of “Disaster Avoidance” as opposed to “Disaster Recovery”. Our engineers research the complete application to ensure that we can prevent damage from peripheral issues such as induced or resistive coupled surges. Typical of this is the thousands of cellular and PCS remote wireless sites that are being installed each year.

Remote wireless sites have a unique set of problems that the normal building site does not suffer from. First, the site has a tall steel tower that is constantly being struck by lightning. The site is remote and the tower is often the highest point in the area. The site will have a full grounding system installed and everything at the site, including equipment cabinets, tower, surge protectors and DC power, is

