

The technology behind these forward products....

The acronym stands for Monitored Metal Oxide Varistor as opposed to the standard type that has been available for many years and is known as MOV, or VDR (Voltage Dependant Resistor). The product "surge" engine has been patented, and independently tested to EN61000-4-5 as well as the European Standards for EMC Compliance.

Why the change?

These primary protection devices have been field proven, are very fast and ideal for AC mains power supplies since they clip any voltages exceeding their rated voltages. However, there has been a trend for manufacturers to reduce the clamping voltage of these devices, bringing them dangerously low to look good on a specification sheet. The devices themselves can also prematurely age depending upon the external surge and lightning environment.

The AC mains supply is prone to lightning surges, harmonic distortion, industrial noise and interference, inductive overshoot on power-on etc, etc. As the voltage clamping is reduced, the capture window for these spikes rapidly increases. It is a known phenomenon of these devices, that the more surges they have to withstand, the faster the ageing of them.

When this happens, the leakage current increases. This in turn causes self heating as the device sits across the mains supply.

Unfortunately self-heating increases the ageing process which in turn yields more leakage and infinitum, until the device self destructs. The results of a failure can be quite spectacular with a risk of explosion and fire as the mains power follows through to complete the destructive process - see picture above.

There is nothing inherently wrong with the technology - the devices have been field proven over many years to be the best available for the job. The problems lie with the manufacturer of Lightning and Surge Barriers. Clearly every AC mains product should incorporate a thermal fuse as a minimum safety factor.

Many solutions are available from various manufacturers and a popular one is to connect the protective MOV's in parallel. One of the weaker devices is fused when a heavy surge occurs and this turns on a warning light to inform the customer of "Reduced Protection- please replace sometime". But why pay for a weak product that has been designed to be replaced?!

What is the solution?

The solution from Zymax is to fit proper MOV devices in the first place, not designed to fail in normal use, and to continually monitor the actual ageing of the MOV's themselves. This is revolutionary 21st Century technology.

An added bonus of this technology is that the annunciation is fail safe and because the barrier is "intelligent", the barrier can even check the integrity of the important Protective Earth and Live/Neutral phase reversals.

The electronic monitoring circuitry also continually checks the actual ageing of the primary protectors and thermal fuses. This is both unique and novel. Any potential problems are annunciated on a front-panel LED. If this is ignored an audible is sounded at the next level. If this too is ignored, the thermal fuse safely blows.

As an added bonus there is available a non-contacting tester that can remotely measure the actual ageing prior to the normal alarms being given. It also reads the devices type, date of manufacture and status. Contact our sales team to find out more on the ZMR MMOV remote reader or visit our website.

Choose Zymax MMOV[™] products with confidence for your clean AC supply and protection applications.

