



Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

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Novel varistor research at MPE culminates in world-beating patents



Standard MPE 6A High-Altitude Electromagnetic Pulse (HEMP) filter for protecting incoming power lines

MPE granted varistor patents for UK & Europe

As previously reported in Issue 17 of the Company Bulletin, in early 2015 MPE initiated an intensive research programme into transient suppression techniques for arresting incoming energy pulses.

One outcome of this pathfinding research was a patent application by MPE in 2018 for two families of patents to cover the UK, Europe and the USA.

Following an intensive period of independent review conducted by the relevant intellectual property offices for those regions, and with the expiry of regulatory time periods, in July 2019 MPE was granted approval for these two patent families in the UK and Europe.

The first family of patents granted (GB1600953.2, WO2017125725, EP3405963 and US16/071,193) relates to MPE's latest feedthrough varistor system, which has a thermally activated override.

Speed is of the essence in protecting against incoming pulses. This new product not only dramatically increases switch-on speed by reducing circuit inductance, but also provides a safe and complete disconnection of the system from the circuit in the event of the varistor degrading.

The second family of patents granted (GB1600953.2, WO2017125724, EP(DE)3384509 and US16/071,179) relates to a varistor system that can be integrated into many types of power cord or plug. It enables retrofit or additional electromagnetic pulse (EMP) protection to be added to virtually any device simply by changing the power plug or cord to that device.

Both products can be used in EMP and directed energy protection devices, and MPE is now completing all necessary research and development work, so as to fully introduce these breakthrough technologies into the EMP filter solutions it manufactures on a regular basis.

As the next step, following successful prosecution through the international phase of the Patent Cooperation Treaty (PCT) which resulted in wholly favourable examination reports being issued, MPE expects to obtain granted patents for both patent families in the USA, too, within the next 12 months.

All of this will ensure that the company remains a world leader for years to come in the critical area of varistor transient suppression technology for electromagnetic pulse.



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