

Layered Surge Protection: A smart way to safeguard valuable infrastructure

A sudden overvoltage generated from a lightning strike, an electric vehicle or equipment fault can cause irreparable damage to a building's electrical systems and its sensitive components.

Without surge protection devices (SPDs), these voltage spikes can harm electronic equipment, appliances, lighting control systems, car chargers, fire panels, HVAC systems and light fittings. Surge diverters prevent such damage by safely redirecting excess voltage into the earthing system instead of through the equipment.

SPDs act as a voltage safety valve, detecting surges and instantly diverting excess energy to earth. Once normal conditions return, they reset and continue to provide protection.

For optimal performance, surge diverters should be installed in a layered configuration. Primary protection is placed at the Main Switchboard to guard against external surges from lightning or grid disturbances, while secondary protection is installed at the distribution boards and near critical loads, such as lighting control or data systems.

As SPDs gradually degrade each time they absorb energy, regular inspection and testing are essential to maintain their effectiveness.

Effective surge protection minimises equipment failure, enhances building safety and reliability, whilst ensuring compliance is adhered to maintaining AS/NZS 3000 and AS/NZS 1768 standards.

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