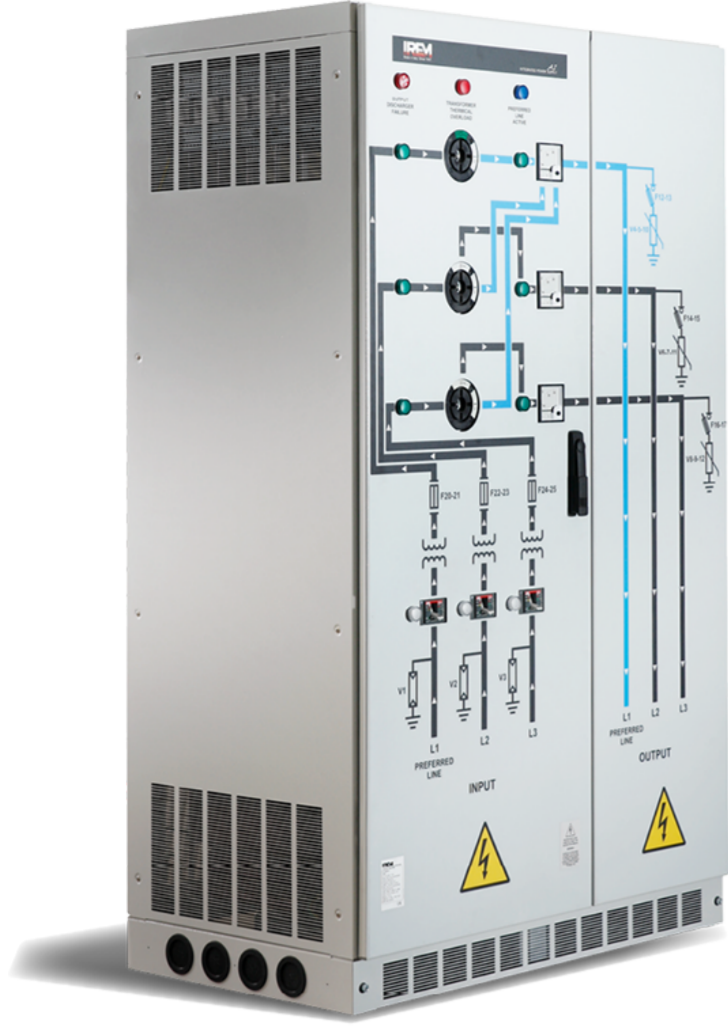




HIGH PROTECTION INTEGRATED POWER SUPPLIES

AO



It is known that the phenomenon of overvoltages can be caused by the switching of large inductive or capacitive loads or in most cases by direct or indirect lightning that occurs during thunderstorms.

In particular, lightning strikes are phenomena of violent discharge that produce very high intensity currents which can reach and exceed 200 kA. Due to the enormous energy developed in short time, these events can be felt with all their destructive potential on components or systems.

In order to express the highest level of performance against the effects of overvoltages with high energy content and ensure the best protection to the most sensitive and strategic users, IREM has developed a High Protection Integrated Power Supply meeting the technical requirements that describe the technical specifications of the "Absorbeur d'Ondes" (AO).



The High Protection Integrated Power Supply combines in a single equipment various overvoltage protection strategies to provide a protected power supply with a very low residual voltage to the load. The coordinated action of a set of devices that operate selectively for switching, limiting and dissipating the energy transmitted by the overvoltage allows to offer a solution of maximum efficiency and reliability.

The functions of the protection and filter devices are integrated and energetically coordinated and ensure the highest levels of protection.

The performance of IREM High Protection Integrated Power Supplies is validated in an accredited laboratory capable of simulating the direct discharge of a lightning and measuring the residual overvoltage.

The High Protection Integrated Power Supplies are installed in series to the power supply line and upstream of the loads which, in relation to the intrinsic value or the mandatory nature of the function performed, must receive the maximum level of protection.

Among the loads with these characteristics we can consider the radio transmission systems, the control centers of rail, sea and air transport, process equipment, data processing centers, research centers, sensitive infrastructures in general and for defense.

The High Protection Integrated Power Supplies (AO) are typically composed of:

- Input protection and sectioning device;
- Lightning arresters for lightning current with discharge capacity of 200kA per pole in 10/350 μ s waveform.
- Isolation transformer with high dielectric strength and electrostatic shield;
- Protection fuses of the internal power circuit derived from the transformer;
- Combined surge arresters with discharge capacity of 50kA per pole in 8/20 μ s waveform;
- Air wound series reactor shunted by snubber resistors;
- Varistor surge arresters in derivation for the fine protection of common and transverse mode in waveform 1.2 / 50 μ s.;
- LCR series filter for protection against high frequency noise;
- Capacitors for absorption of residual overvoltage;
- Output protection and sectioning device.

INTEGRATED POWER SUPPLIES

