

A milestone in surge protection

Weidmüller VPU AC I with an integrated fuse and innovative HAD technology

The demands on system availability in buildings, industrial plants, and power generation plants have grown considerably. Powerful lightning and surge protection systems protect increasingly sensitive infrastructures from costly failures – and are even mandatory in many areas. Weidmüller has once again extended its proven VPU series to meet the growing demands today and in the future. The Type I devices are now also available in particularly compact variants with an integrated back-up fuse. The Type I and II combined surge protection devices work with the innovative homogeneous arc distribution technology (HAD-technology) and can be used in various types of power distribution systems.

The evolution in surge protection

Growing protection requirements and more complex systems in an increasingly tight installation space: Planners, operators and installers face the same challenges everywhere. Therefore many manufacturers have tried in recent years to develop high-performance surge protection devices with particularly compact dimensions. Weidmüller has accomplished this feat. The VARITECTOR PU AC I F Line fits in a 2 module DIN enclosure and meets all the requirements of test class 1 according to IEC 61643-11. The plug-in surge protection devices with an integrated back-up fuse offer the required voltage protection level with a strong follow current limit so that not even a 16 A fuse is triggered. They are suitable for environments with high lightning protection requirements. To achieve this pioneering result, Weidmüller is relying on the innovative homogeneous arc distribution technology.

Clear differences from traditional technologies

Conventional surge protection devices are usually voltage switching or voltage limiting SPDs. Both have specific advantages and disadvantages. Voltage switching devices offer high overvoltage protection with compact dimensions but have poor voltage protection values and are inadequate when it comes to cutting the follow current. Voltage limiters temporarily reduce their impedance to dissipate surges. They do not therefore have to cut the follow currents but offer a lower level of protection. With the HAD technology, Weidmüller is taking a new path that optimally combines the best of both worlds.

Key advantages in installation, maintenance and operation

VARITECTOR PU AC I F Line devices use the multi-cell concept of HAD technology to limit the follow current. This allows them to achieve the low residual voltage values of a voltage limiter, but they only require half as much space. The integrated fuse also does not require an additional back-up fuse to be installed. VARITECTOR PU AC I F offers the highest discharge values for Type I arresters with integrated fuses. The devices are ideally suited for use in lightning-intensive environments and can also protect against lightning strikes in the event of network faults and high prospective currents. Thanks to the new technology, they are also wear resistant and have a long service life. The encapsulated design prevents the escape of hot, conductive, ionised gases. In addition, the devices have been optimised for high reliability, efficiency and ease of use. The plug-in modules are easy to install, have a status indicator and remote monitoring contact, and have mechanical thermal isolation in case of module failure. Cross-connection possibilities facilitate the configuration process when the device is used in different network structures. In short: every detail was taken into account during the development of the VARITECTOR PU AC I F in order to meet the surge protection demands.

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Caption: The VARITECTOR PU AC I F and the cross-connection possibilities facilitate the configuration process when the device is used in different network structures

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The Weidmüller Group has production facilities, marketing companies and representative offices in more than 80 countries. With our customers, we shape the digital transformation – with products, solutions and services for Smart Industrial Connectivity and the Industrial Internet of Things. In the fiscal year of 2021, Weidmüller reached sales of 960 million euros with around 5,300 employees.

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