

SPM9650 Surge Protection Module



Product Introduction

The SPM9 Series Surge Protection Module is a core protective component specifically designed for industrial electrical systems. It integrates multi-stage surge absorption and discharge circuits, enabling rapid response to and suppression of transient overvoltages and surge currents in power supply lines or signal loops. This effectively protects critical equipment such as PLCs, sensors, servo drives, and signal transmitters from surge damage caused by lightning strikes, grid fluctuations, and inductive load switching.

The SPM9650 module employs a coordinated design incorporating high-performance protection devices, including MOVs, PPTCs, GDTs, and TVS. Each channel features an independent energy absorption and discharge path. Combined with a protection architecture characterized by low residual voltage and high energy handling capacity, it ensures precise clamping of multi-channel concurrent surge voltages to a safe range within milliseconds. With nanosecond-level response time and long-term stable high-impact resistance, it provides comprehensive system-level surge protection in industrial environments characterized by frequent multi-device start-ups/shutdowns, long wiring distances, or strong electromagnetic interference. This significantly reduces the probability of multi-device correlated failures and enhances the overall availability and lifecycle of the control system.

This product requires an independent power supply and utilizes a DIN 35mm standard rail mounting method. On-site installation is simple, usage is flexible, and it is suitable for various field applications.



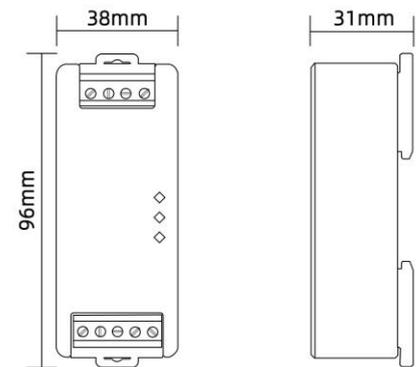
Technical Parameters

Basic Parameters	
Protection Methods	Connected in parallel across signal ports for protection.
Rated Power Supply Voltage	≤ 90V (Power Supply)
Communication Operating Voltage	≤ 8V (RS485 Communication)
Nominal Discharge Current	5KA
Maximum Discharge Current	10KA
Insertion Loss	≤0.3DB
Response Time	<25ns
Number of Protection Poles	5 Channel
Environmental Conditions	
Operating Temperature	-40°C~+80°C
Storage Temperature	-40°C~+85°C
Relative Humidity	10%~90%RH (non-condensing)
Atmospheric Pressure	80kPa~106kPa

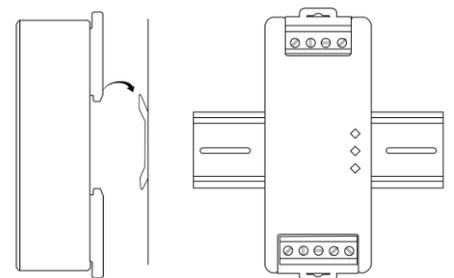
Terminal Description

Terminal Mark	Function Description
PE	Grounding (Earthing)
V+	First channel input power positive terminal
V-	First channel input power negative terminal
G1	1 Channel Signal Ground Connection to Protection Terminal
G2	2 Channel Signal Ground Connection to Protection Terminal
A+	1 Channel Connected Protection Signal Positive Terminal
B-	1 Channel Connected Protection Signal Negative Terminal
A+	2 Channel Connected Protection Signal Positive Terminal
B-	2 Channel Connected Protection Signal Negative Terminal

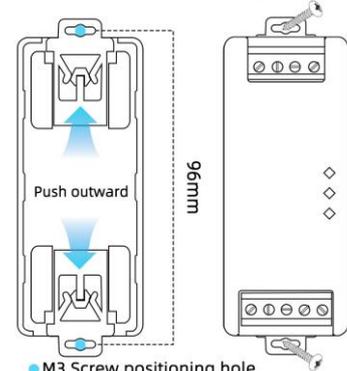
Product Dimensions



Installation Diagram

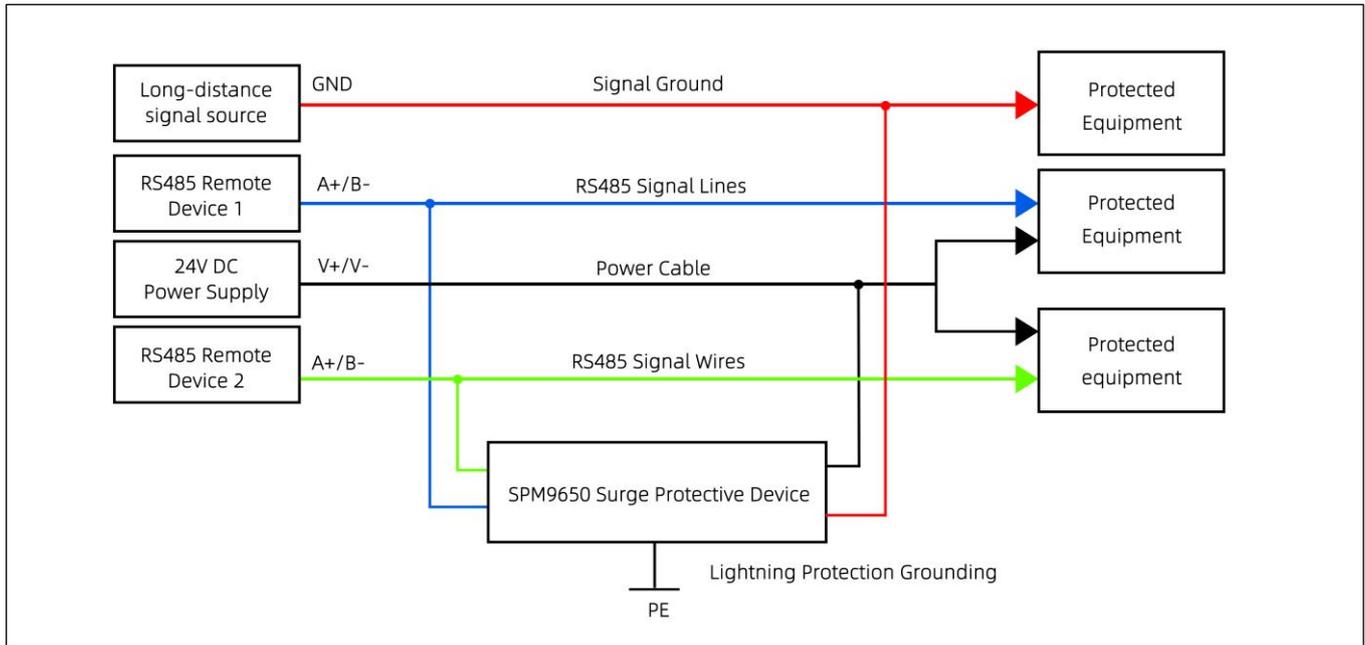


- Installation method of guide rail -



- Screw installation method -

• Module Operating Principle



• Wiring and indication

