

**EXTEND THE  
LIFETIME**  
OF YOUR LED LIGHTING WITH  
RELIABLE SURGE PROTECTION



## Maximum Surge Protection for Outdoor LED Lighting

The Littelfuse Surge Protection Modules are self-protected devices that can be used in outdoor and commercial LED lighting fixtures for transient overvoltage protection.

They are constructed with Littelfuse thermally protected varistor technology and provide high line-to-earth/ground resistance.

The built-in thermal disconnect provides additional protection against catastrophic failure/fire hazard under varistor end-of-life or sustained overvoltage conditions. The LSP05G product series facilitates surge immunity compliance to IEEE C62.41.2 Location Category C Low Exposure, ANSI C136.2, and US Dept of Energy MSSLC Model Spec.

### Applications

- Digital Signage
- Flood Lighting
- Parking Garage Lighting
- Roadway Lighting
- Street Lighting
- Traffic Lighting
- Tunnel Lighting
- Wall Wash Lighting



Datasheet



Resources



Samples

## Surge Protection Module - Self-protected device designed for transient overvoltage protection of outdoor/commercial LED lighting fixtures



Parallel Connection



Series Connection

### Features

- Meets IEEE C62.41.2 Location Category C Low Exposure, ANSI C136.2 Enhanced Level Specs and US Dept. of Energy MSSLC Model Spec.
- Thermally protected varistor technology
- Parallel-connected and series-connected options
- Recognized to UL 1449<sup>1</sup> and complies with EN/IEC 61643-11 Class II<sup>2</sup>
- High line-to-earth/ground resistance

### Benefits

- Optimized surge immunity solution to protect the outdoor LED fixture investment
- Internal varistors thermally protected to prevent failure due to end-of-life or continuous overvoltage faults
- **Series Connection** – clear indication for SPD module replacement by turning luminaire off when the thermal fail-safe protection is activated
- **Parallel Connection** – for high-reliability lighting applications, SPD disconnects itself at end-of-life and keeps luminaire powered
- Enables worldwide marketing of lighting fixtures
- Facilitates faster production line Insulation Resistance testing

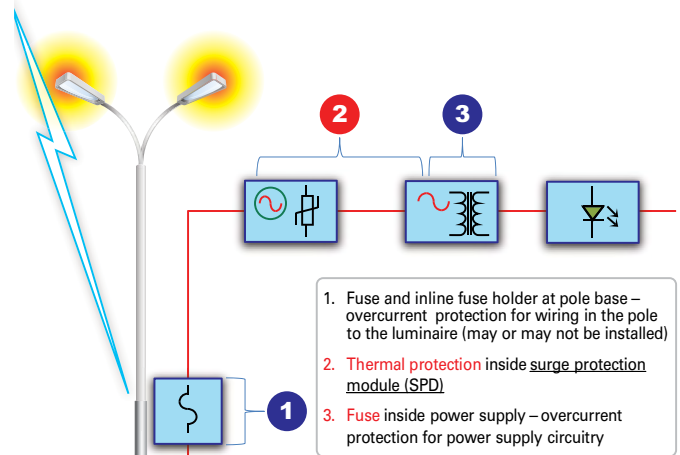
### Surge Protection Module Key Characteristics

LSP05G		
Connection Type	Parallel	Series
Indication for SPD Replacement	None	Luminaire turned off
Thermal Protection	MOV thermal disconnection when overheated	
Recognition/Compliance	MSSLC Roadway Enhanced ANSI C136.2 Enhanced UL1449 Type 4 CA (120V/240V) EN/IEC 61643-11 Class II <sup>2</sup>	
Operating voltage	120/240/277/347/480 VAC	
I <sub>max</sub> (max. surge current, 1-hit)	10kA	
I <sub>n</sub> (nominal surge current, 15-hit)	5kA (10kV open-circuit voltage)	
Luminaire Insulation Class	Class I earthed/Class II unearthed	
Ingress Protection Rating	IP66	
Dimensions	46.6 x 28.6 x 26 mm	
Regional Markets	Asia, Australia, and Africa	

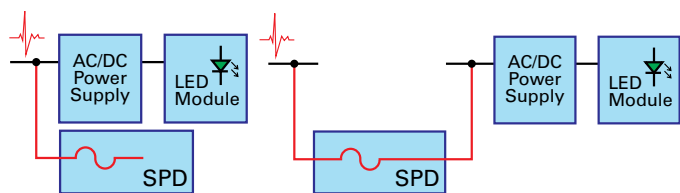
Notes:

1. 120Vac and 240Vac voltage ratings.
2. Self-declared compliance.

### LED Street Light Protection Scheme



### Parallel Connection and Series Connection



#### Parallel Connection

- Thermal protection prevents MOV fire hazard caused by unstable line voltage and end-of-life failure.

#### Series Connection

- Thermal protection prevents MOV fire hazard caused by unstable line voltage and end-of-life failure.
- Series-connected SPD cuts luminaire power off to provide a clearly visible indication that SPD replacement is required.