

# Surge Protective Devices

## SPDN-B Series

UL Type 1

  REACH



## Description

Surge protective devices (SPDs) provide equipment protection from transient overvoltage events lasting micro-seconds. By limiting the overvoltage to the equipment during these events, costly damage and downtime can be mitigated.

The NEMA-style SPDN series for external panel mount is available for 120 V to 480 V nominal voltage sub-distribution board applications.

## Features & Benefits

| FEATURES                                                                    | BENEFITS                                                                                                                                                                  |
|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>More direct modes of protection (L-N, L-G, N-G) in a smaller package</b> | Increases protection and design flexibility                                                                                                                               |
| <b>Capability to clamp and withstand high-energy transients</b>             | Ensures low-residual voltage during high-energy surge events and higher nominal discharge current to prevent disruption, downtime, and degradation or damage to equipment |
| <b>Stacked Metal Oxide Varistor (MOV) design</b>                            | Provides more high-transient voltage protection in a compact, multi-layered structure                                                                                     |
| <b>Installs on the line or load side of the circuit breaker</b>             | Simplifies maintenance—without impacting the other parts of the electrical system—by turning breaker off during upkeep                                                    |
| <b>Thermally protected MOV</b>                                              | Eliminates catastrophic failure                                                                                                                                           |
| <b>External LED indicator</b>                                               | Quickly identifies service requirements to avoid loss of protection                                                                                                       |
| <b>Compact footprint</b>                                                    | Offers easy retrofit in existing applications where space is limited                                                                                                      |

## Applications

- Construction
- Food and Beverage
- HVAC/R
- Light Industrial
- Oil and Gas
- Water/Wastewater

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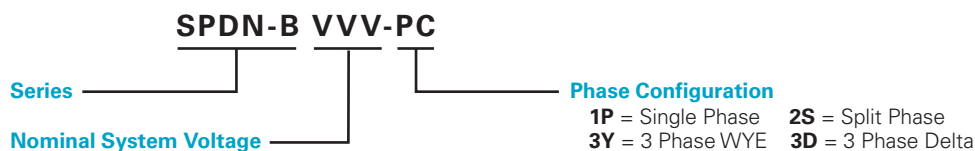
### Specifications

|                                            |                                                   |
|--------------------------------------------|---------------------------------------------------|
| <b>Maximum Surge Current Rating</b>        | Up to 130 kA per phase                            |
| <b>I-nominal Rating</b>                    | 20 kA                                             |
| <b>UL1449 Short Circuit Current Rating</b> | 200 kA                                            |
| <b>Direct Modes of Protection</b>          | L-N, L-G, N-G                                     |
| <b>UL Type</b>                             | Type 1                                            |
| <b>Audible Alarm</b>                       | Standard                                          |
| <b>Protective Elements</b>                 | Stacked High Energy MOV                           |
| <b>Response Time (L-N / N-PE tA)</b>       | < 25 ns                                           |
| <b>Mechanical &amp; Environmental</b>      |                                                   |
| <b>Operating Temperature Range (Ta)</b>    | -35 °C to +85 °C (-31 °F to +185 °F)              |
| <b>Operating Frequency</b>                 | 50–60 Hz                                          |
| <b>Typical Connection</b>                  | 18" #12 AWG (pre-wired pig tails)                 |
| <b>Permissible Operating Humidity (RH)</b> | 0 % to 95 % non-condensing                        |
| <b>Altitude (max)</b>                      | 4,000 m (13,123 ft)                               |
| <b>Degree of Protection</b>                | IP20 (built-in)                                   |
| <b>Housing Material</b>                    | Polycarbonate NEMA 4X – Lid ultrasonically sealed |
| <b>Thermal Protection</b>                  | Yes                                               |
| <b>Operating State/Fault Indication</b>    | 1 Green LED (for each phase)                      |
| <b>Remote Contact Switching Capacity</b>   | Ac: 240 V/2 A, 125 V/1 A                          |
| <b>Product Dimensions</b>                  | <b>H</b> 3.25"; <b>W</b> 5.02"; <b>D</b> 2.93"    |
| <b>Product Weight</b>                      | 1.0 lb                                            |
| <b>Package Dimensions</b>                  | 4-3/8 x 3-1/2 x 9-1/2"                            |
| <b>Package Weight</b>                      | 1.3 lb                                            |

### Certification & Compliance

|              |                                                      |
|--------------|------------------------------------------------------|
| <b>cULus</b> | UL 1449, 5th Edition; E320116                        |
| <b>RoHS</b>  | RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863 |
| <b>REACH</b> | Regulation (EC) No 1907/2006                         |

### Part Numbering System



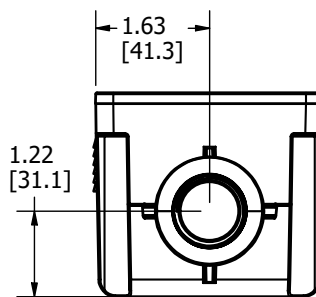
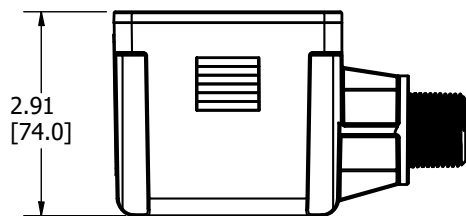
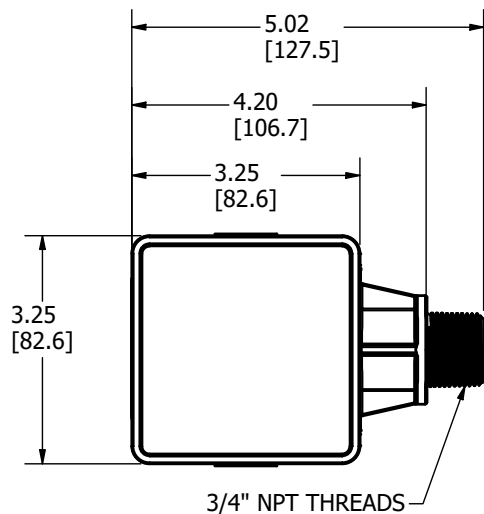
### Ordering Information

| ORDERING NUMBER | NOMINAL SYSTEM VOLTAGE | PHASE CONFIGURATION | MAXIMUM CONTINUOUS AC OPERATING VOLTAGE (MCOV) | VOLTAGE PROTECTION RATING (VPR) |      |      |      |
|-----------------|------------------------|---------------------|------------------------------------------------|---------------------------------|------|------|------|
|                 |                        |                     |                                                | L-N                             | L-G  | N-G  | L-L  |
| SPDN-B120-1P    | 120                    | Single Phase        | 180                                            | 700                             | 700  | 600  |      |
| SPDN-B120-2S    | 120/240                | Split Phase         | 180                                            | 700                             | 700  | 600  | 1200 |
| SPDN-B120-3Y    | 208/120                | 3 Phase WYE         | 150                                            | 600                             | 700  | 500  | 1000 |
| SPDN-B240-1P    | 240                    | Single Phase        | 350                                            | 1200                            | 1000 | 1000 |      |
| SPDN-B240-3D    | 240                    | 3 Phase Delta       | 275                                            |                                 | 1000 |      | 1200 |
| SPDN-B277-3Y    | 480/277                | 3 Phase WYE         | 350                                            | 1200                            | 1000 | 1000 | 2000 |
| SPDN-B480-3D    | 480                    | 3 Phase Delta       | 550                                            |                                 | 1800 |      | 1800 |

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### Dimensions Inches [mm]



**Warranty** – Visit [www.littelfuse.com/warranty](http://www.littelfuse.com/warranty) for details.

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