### Solar (PV) Application Products

#### 1500 V dc Solar Fuse Products

<table>
<thead>
<tr>
<th>SPX Series Fuses</th>
<th>SPXV Series Fuses</th>
<th>SPXI In-line Series Fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1500 V dc</strong> • 1–40 A</td>
<td><strong>1500 V dc</strong> • 1–60 A</td>
<td><strong>1500 V dc</strong> • 1–60 A</td>
</tr>
<tr>
<td>10 x 57 mm</td>
<td>UL 248-19 Listed</td>
<td>UL 248-19 Listed</td>
</tr>
<tr>
<td>UL 248-19 Listed</td>
<td>Meets IEC 60269-6*</td>
<td>Meets IEC 60269-6*</td>
</tr>
<tr>
<td>Up to 50,000 A interrupting</td>
<td>Applications: inverters and combiner boxes</td>
<td>Accommodates large wire range</td>
</tr>
<tr>
<td>Ferrule or PCB mount available</td>
<td>SPXVS silver-plated series available</td>
<td>No fuse holder required</td>
</tr>
<tr>
<td>Application: string inverters</td>
<td></td>
<td>Application: PV wire harness (eliminate combiner boxes)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPF Series Fuses</th>
<th>SPFJ Series Fuses</th>
<th>PSX Series High-Speed Square Body Fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1000 V dc</strong> • 1–30 A</td>
<td><strong>1000 V dc</strong> • 70–450 A</td>
<td><strong>1500 V dc</strong> • 80–1400 A</td>
</tr>
<tr>
<td>UL 248-19 Recognized</td>
<td>Listed to UL 248-19 (PV) and UL 248-8 (Class J)</td>
<td>DC breaking capacity up to 200 kA at 1500 V dc</td>
</tr>
<tr>
<td>Meets IEC 60269-6*</td>
<td>Meets IEC 60269-6*</td>
<td>Available in DIN-mount, flush-end and bolted-blade terminations</td>
</tr>
<tr>
<td>No fuse holder required</td>
<td>Compact footprint reduces panel size</td>
<td>UL248-13 Recognized</td>
</tr>
<tr>
<td>Application: PV wire harness (eliminate combiner boxes)</td>
<td>Applications: re-combiner boxes and inverters</td>
<td>Meets IEC 60269-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional remote indication micro-switch available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application: hybrid PV-BESS inverters</td>
</tr>
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#### 1000 V dc Solar Fuse Products

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<tr>
<th>SPF Series Fuses</th>
<th>SPFJ Series Fuses</th>
<th>PSR High-Speed Series Fuses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1000 V dc</strong> • 1–30 A</td>
<td><strong>1000 V dc</strong> • 70–450 A</td>
<td>550–1300 V ac and 500–1000 V dc</td>
</tr>
<tr>
<td>UL 248-19 Listed</td>
<td>Listed to UL 248-19 (PV) and UL 248-8 (Class J)</td>
<td>40 A–2000 A</td>
</tr>
<tr>
<td>Meets IEC 60269-6*</td>
<td>Meets IEC 60269-6*</td>
<td>UL 248-13 Recognized</td>
</tr>
<tr>
<td>No fuse holder required</td>
<td>Compact footprint reduces panel size</td>
<td>Meets IEC 60269-4</td>
</tr>
<tr>
<td>Application: combiner boxes, inverters, and battery charge controllers</td>
<td>Applications: re-combiner boxes and inverters</td>
<td>Available in DIN-mount, flush-end and bolted-blade terminations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional remote indication micro-switch available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application: dc couple PV-BESS central inverters</td>
</tr>
</tbody>
</table>

#### High-Speed Protection

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<th>PSR High-Speed Series Fuses</th>
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<td>550–1300 V ac and 500–1000 V dc</td>
</tr>
<tr>
<td>UL 248-19 Listed</td>
<td>Listed to UL 248-19 (PV) and UL 248-8 (Class J)</td>
<td>40 A–2000 A</td>
</tr>
<tr>
<td>Meets IEC 60269-6*</td>
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<td>UL 248-13 Recognized</td>
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<tr>
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<tr>
<td>Application: combiner boxes, inverters, and battery charge controllers</td>
<td>Applications: re-combiner boxes and inverters</td>
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<td></td>
<td></td>
<td>Application: hybrid PV-BESS inverters</td>
</tr>
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*Meets electrical performance requirements
Solar (PV) Application Products

Ground Fault Protection

SE-601 Series Ground-Fault Relays
- Provides sensitive ground-fault protection for ungrounded systems
- Application: central inverters

EL731 Series Earth Leakage Relays
- Provides sensitive earth-leakage protection for grounded systems
- Application: central inverters

600 V Dc Solar Fuse Products

IDSR Series Indicator® Fuses
KLKD Series 10 x 38 (Midget) Fuses
- 600 V ac/dc
- KLKD UL 248-19 Listed
- Applications: combiner boxes, inverters, battery chargers and high amp power distribution

Power Distribution Blocks
- 600 V ac/dc power distribution blocks with multiple configurations
- UL Recognized
- Application: combiner boxes

Switch Products

Dc Disconnect Switches
- 1000 and 1500 V • 250 and 400 A
- Design eliminates need for external bridging links (jumpers) to lower heat dissipation and save installation time
- Applications: combiner boxes, array combiners and string inverters

Overvoltage Protection

SPD2 PV Series Surge Protective Devices (SPDs)
- 1100 and 1500 V dc in 3+0 configuration
- Protects equipment from transient overvoltage
- Applications: combiner boxes and inverters

For more information on all surge protective devices visit Littelfuse.com/SPD

Solar Applications

- Small Inverter
  TVS Diodes/SCRs
- Central Inverter
  600 V to 1500 V Solar Fuses
  Power Distribution Blocks
  Earth Leakage/Ground-Fault Relays

- Micro Inverter
  TVS Diodes/SCRs

- Wireless Multi-Channel Tether

For more information, visit Littelfuse.com/Solar

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