

# UL 3741 VS MLPEs

DUAL PATHWAYS FOR RAPID SHUTDOWN



## RAPID SHUTDOWN

GIVE FIRE FIGHTERS THE UPPER HAND WITH UNIRAC'S UL 3741 AND MLPE SAFETY SOLUTIONS

### UL3741 PV HAZARD CONTROL SYSTEMS

### MODULE-LEVEL POWER ELECTRONICS (RSDS, OPTIMIZERS, & MICROINVERTERS)

<p><b>KEY ADVANTAGES</b></p>	<ul style="list-style-type: none"> <li>• Provides multiple layers of enhanced electrical protection for firefighters who may need to perform work in the proximity of PV arrays.</li> <li>• Consolidates arrays layouts and provides greater accessibility for roof laborers, installers, and maintenance workers across multiple industries.</li> </ul>	<ul style="list-style-type: none"> <li>• Simplified method to deenergize conductors in a PV array where rapid shutdown is required.</li> <li>• Allows for flexible design layout on roofs with complicated geometries.</li> <li>• Module-level power optimization for more efficient production on roofs with shading throughout the day.</li> </ul>
<p><b>TARGET ROOF TYPES</b></p>	<ul style="list-style-type: none"> <li>• Large continuous arrays with minimal obstructions and/or subarrays.</li> </ul>	<ul style="list-style-type: none"> <li>• Roofs with multiple and/or varied mounting planes.</li> <li>• Roofs with severe shading.</li> <li>• Roofs with multiple broken up arrays.</li> </ul>
<p><b>O&amp;M ACCESSIBILITY</b></p>	<ul style="list-style-type: none"> <li>• Eliminates the need to service failed MLPEs in the middle of a large array.</li> <li>• More robust wire management for system longevity.</li> <li>• Fewer physical DC-to-DC connectors which are potential failing points in PV system.</li> <li>• Reduces E-waste.</li> </ul>	<ul style="list-style-type: none"> <li>• Module-level monitoring for faster identification of electric issues.</li> <li>• Oversee performance of modules at an individual level, in real time.</li> </ul>
<p><b>FINANCIAL IMPACT</b></p>	<ul style="list-style-type: none"> <li>• Lower upfront cost with the elimination of MLPEs.</li> <li>• Faster return on investment (ROI).</li> <li>• Eliminates labor cost of O&amp;M on MLPEs.</li> </ul>	<ul style="list-style-type: none"> <li>• Optimizes system to maximize the total power produced by the PV system.</li> <li>• Potentially less upfront design work with standardized process procedures.</li> </ul>
<p><b>RAPID-SHUTDOWN COMPLIANCE</b></p>	<ul style="list-style-type: none"> <li>• String-level PV Hazard Control as referenced in NEC 690.12 (B)(2)(1)</li> </ul>	<ul style="list-style-type: none"> <li>• Conductor attenuation between modules Complies with NEC 690.12 (B)(2)(2)</li> </ul>

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