Overview

The industry standard for surge protection is UL 1449 (ANSI/UL 1449-2006). Every few years the standard is revised, reflecting best practices for safety. On September 29, 2009 the new, 3rd edition of UL 1449 went into effect.

In February 2007 most of the required safety changes were implemented as UL 1449 version 2.5. The remaining changes implemented in September 2009 are to harmonize and standardize the terminology and ratings of the products with other standards organizations.

The new version of UL 1449 contains changes in terminology used to describe devices and their ratings. These are outlined in Table 1.

To be listed or recognized to the UL 1449 standard, the manufacturer must produce devices tested against the current standard. A device manufactured before September 29, 2009, meeting a prior UL 1449 standard is not obsolete because the standard changed. Products that are listed with an older standard should not be considered outdated, inferior or dangerous.

UL 1449 2nd edition expired on September 28, 2009, and the files listing approved components were automatically removed from UL’s website. Products manufactured under authority of UL 1449 2nd edition are still valid to sell and install as “listed” components when required by UL and National Electric Code (NEC).

Phoenix Contact surge products compliant to UL 1449 3rd edition are listed under VZCA2.E330181 (components and recognized devices) and VZCA.E167572 (listed devices). Additional listings will be introduced as they are tested by UL and current inventories are depleted. This will vary by product. There will be no lapse in product availability for use by our customers under NEC and UL 508.

Table 1 – Terminology Changes in UL 1449

<table>
<thead>
<tr>
<th>Old Term</th>
<th>New Term</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transient Voltage Surge Suppressor (TVSS)</td>
<td>Surge Protective Devices (SPD)</td>
<td>A common modification to the proper term is “Surge Protection Device”</td>
</tr>
<tr>
<td>Surge Voltage Rating (SVR) (not previously defined)</td>
<td>Voltage Protection Rating (VPR)</td>
<td>Maximum value of let-through voltage of the SPD when tested to UL 1449 3rd edition</td>
</tr>
<tr>
<td></td>
<td>Nominal Discharge Current (In)</td>
<td>Type 1 = 10 kA, 20 kA Type 2 = 3 kA, 5 kA, 10 kA, 20 kA Type 3 = 3 kA</td>
</tr>
<tr>
<td>Category C, B or A</td>
<td>See “Type” Below</td>
<td>IEEE location of use nomenclature – not used – now refers to Type x SPD. X=1,2,3, or 4</td>
</tr>
<tr>
<td>Surge Arrester</td>
<td>Type 1 SPD</td>
<td>SPD installed on the line side of the main over-current protective device</td>
</tr>
<tr>
<td>Hard wired TVSS</td>
<td>Type 2 SPD</td>
<td>SPD installed on the load side of the main over-current protective device</td>
</tr>
<tr>
<td>Point of Use TVSS</td>
<td>Type 3 SPD</td>
<td>Cord attached (power strip)</td>
</tr>
<tr>
<td>Recognized Component</td>
<td>Type 4 SPD</td>
<td>Component level SPD or a partial assembly SPD</td>
</tr>
</tbody>
</table>
1. Can I use or sell an SPD manufactured under the previous edition of UL 1449 in a panel I am building after the September 29, 2009 effective date?
   – Yes

2. How can I tell the difference between UL 1449 2nd edition and UL 1449 3rd edition?
   – The labeling will have a date code on it. If the date code is after September 29, 2009 and has a UL mark on it, then it will have a UL 1449 3rd edition file.

3. Will the pricing change on UL 1449 products?
   – Products without a part number change will remain at the same pricing level.

4. Will some Phoenix Contact products become obsolete?
   – Due to the expense of testing and maintaining a product, specialty products may no longer be produced and/or may no longer be listed.

5. Can a UL 1449 2nd edition plug be replaced with a UL 1449 3rd edition plug without requiring retesting and recertification of the assembly and without replacing the base?
   – Yes, providing the ratings of the replacement are compatible with the original.

6. What changes are required to the products?
   – The changes involve the testing procedures that the manufacturer performs. Specifically the nominal current (I_n) value determines the nominal surge discharge current (I_s). Previously, this was not required to be tested and measured. This now provides a value to compare similar SPD devices. The maximum surge handling capability is stated by the manufacturer and not tested by UL.

7. Do the changes to UL 1449 affect the performance of the SPD product?
   – No, though the ratings may change, the products fundamentally remain the same.

8. Are products manufactured before the UL 1449 3rd edition considered unsafe and need to be replaced?
   – No, UL does not require replacement and Phoenix Contact does not recommend replacement.

9. Is there a difference between UL Listing/Recognition and a National Recognized Test Laboratory (NRTL) Listing/Recognition?
   – Yes and No. The testing should be the same. A product listed by an NRTL will meet the requirements of UL and NEC. However, for electrical inspectors a UL mark might carry more credibility. NRTL Recognized products used within a UL 508 panel assembly might call that listing into question by the UL inspector and require more testing.

10. Is there a white paper providing more detail on the changes in UL 1449 3rd edition?
    – For technical details on the key changes to UL 1449 see our white paper titled "UL 1449: Key Changes from 2nd Edition to 3rd Edition" located on our website.