3621 Saunders Avenue
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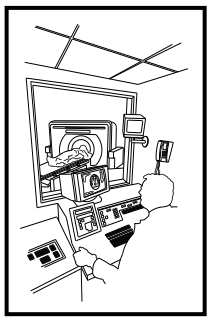
Specs Define Effective Surge Protection

September 29, 2009 was the mandatory compliance date for the new Underwriters Laboratories' Standard for Surge Protective Devices (SPDs), UL 1449 3rd Edition. With this new 3rd Edition came a number of significant changes having direct impact on the *Design, Performance, Construction, Test Requirements,* and the *Specifications* of SPDs. The UL 1449 4th Edition was issued in August 2014 and the large majority of the existing Transient Voltage Surge Suppression (TVSS) specifications still reflect compliance with a now obsolete 2nd Edition Standard.

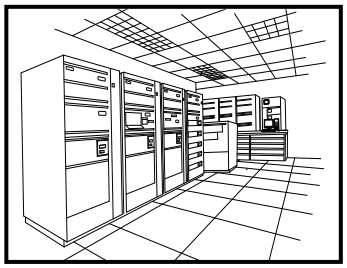
Ref. Standards:
- ***UL 1449 4th Ed.***
- ***UL 1283 5th Ed.***
- ***C62.41.1: 2002 IEEE***
- ***C62.41.2: 2002 IEEE***
- ***C62.45: 2002 IEEE***
- ***C62.62: 2010 IEEE***
- ***C62.72: 2007 IEEE***
- ***NEMA***
- ***NEC 2014***
- ***NFPA 70***
- ***FIPS 94***
- ***MIL-STD 220A***

How can the specifying engineer effectively sort through the extensive amount of published materials from the multitude of SPD manufacturers to select and specify surge protection products that meet the new standard and the more rigorous test requirements without sacrificing the performance necessary to protect their clients' critical equipment and processes?



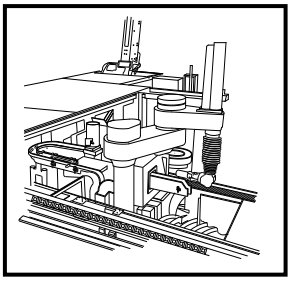
Medical Application

While the specification writing process can be technically challenging and provide the opportunity for creativity, when it comes to translating the document into enforceable prose, the creative process is over. For most engineers, writing specifications becomes a "cut and paste" exercise of taking an existing document that has worked in the past and updating it for the new standards. That editing process may have been effective before September 29, 2009, but may no longer be applicable and you risk overlooking opportunities provided by the latest technologies. Starting with a "Guide Specification" often leads to writing a proprietary specification that locks your client into a single supplier or using a "Master Spec" often allows low performance and poor value products to be provided, jeopardizing credibility and client relationships.



Data Center Application

What makes the ***General UL 1449 4th Edition Bid Spec: Surge Protective Devices*** by THOR SYSTEMS different from the guide specs and the "master canned specs" published by others? There are five major differences:



Industrial Application

1. The specification, based on UL 1449 4th Edition Standards, was created in MS Word using CSI format with Selectable Form Fields which provides the means to configure the specification to the clients' facility requirements.
2. The specification is open and non-proprietary.
3. The specification provides options, not mandates, for new technologies.
4. The specification lists three approved manufacturers with defined product series for Service Entrance/Main Distribution and for Distribution/Sub-distribution/Branch Circuit Panels, who manufacture quality products providing good value to the customer.
5. There are application-specific surge current rating charts which are relevant to individual, medical, data center, and various other applications. There is also an *Engineering Notes* section addressing UL 4th Edition Standard changes, terminology, application notes, connection methods, and sizing guides for SPD applications.

In addition to providing the reference documents, we would be pleased to review and comment on any existing SPD specifications, suggesting changes to bring them in compliance with the new UL 1449 4th Edition standards.

Ref. Documents:

TSI 102	***SPD Standard Changes, UL 1449 3RD Ed.***
TSI 107	***Design/Build Spec***
TSI 099	***Bid Spec***
TSI 0119	***Site Risk Assessment Spreadsheet***

THOR SYSTEMS offers products and services that provide protection from the more *obvious external* to the more *frequent internal* transient voltage sources. Should you have any questions, please feel free to contact us (804.355.1100) or visit our Web site, www.ThorSystems.us.