

SUMMARY OF TOPICS

The following is being proposed for preliminary review and comment only:

- 1. For Preliminary Review Only: Addition of requirements for products which rely on solid-state devices or software for safety-related functions.**
- 2. For Preliminary Review Only: Clarification of transfer switch/mechanism requirements throughout the standard.**
- 3. For Preliminary Review Only: Revisions to the Maximum Acceptable Temperatures table and addition of a marking and instruction manual requirement for hot surfaces to reflect present practice.**

COMMENTS DUE: MAY 4, 2007

This proposal is for review and comment only (no ballot at this time). Please note that comments on a preliminary review document will not receive a response from the proposal author through CSDS. Instead, the proposal author is asked to review the comments received during the preliminary review and adjust the proposals and/or supporting rationale as the author determines to be appropriate. The preliminary review process is an informal mechanism that provides authors with the opportunity to refine their proposals before the proposals advance in UL's standards development process. Normally, the next step in the process is the more formal STP ballot and stakeholder review process. Only comments newly posted during the more formal STP ballot and stakeholder review process will be addressed and responded to.

For your convenience in review, proposed additions to existing requirements are shown underlined and proposed deletions are shown ~~lined-out~~.

- 1. For Preliminary Review Only: Addition of requirements for products which rely on solid-state devices or software for safety-related functions.**

RATIONALE

Proposal submitted by: Ray Stanko, UL

Products have been developed which rely on solid-state devices or software for safety-related functions such as control, protection, and monitoring functions which are intended to reduce the risk of fire, electric shock, or injury to persons. Therefore, UL is proposing to add the following paragraphs to address this type of construction.

PROPOSAL

20 Overload-Protective Devices

20.1 General

20.1.3 When circuit analysis or test results indicate that single component failure affects the ability of an electronic or solid-state circuit to perform its back-up, limiting, or other function intended to reduce the risk of fire, electric shock, or injury to persons, the circuit shall comply with the requirements in the Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991, including environmental and stress tests applicable to the intended usage of the end-product. When such circuits employ a microprocessor executing software to perform the safety-related function, the software shall comply with the Standard for Software in Programmable Components, UL 1998.

20.1.4 With reference to 20.1.3, the components are to be subjected to the following test in accordance with the methods described in the Standard for Tests for Safety-Related Controls Employing Solid-State Devices, UL 991:

- a) Transient Overvoltage Test.
- b) Ramp Voltage Test.
- c) Electromagnetic Susceptibility Tests
- d) Electrostatic Discharge Test.
- e) Thermally Cycling Tests.
- f) Humidity Test, and
- g) Effects of Shipping and Storage Test.

2. For Preliminary Review Only: Clarification of transfer switch/mechanism requirements throughout the standard.

RATIONALE

Proposal submitted by: Ray Stanko, UL

UL is proposing clarifications to the transfer switch/mechanism requirements throughout the standard because they are vague and confusing as presently written. In addition, Appendix A has been updated to include references to UL 508 – Industrial Control Equipment, UL 20 – Snap Switches, General Use, UL 1998 – Software in Programmable Components, UL 61058-1 – Switches for Appliances, and UL 1008 – Transfer Switch Equipment.

PROPOSAL

2 Glossary

2.33 SWITCH, TRANSFER – An automatic or nonautomatic device for transferring load conductor connections from one power source to another. May be referred to as transfer switch/mechanism.

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12 Low-Voltage DC Connections and Wiring

12.1 General

12.1.5 A field-wiring terminal assembly provided as part of a transfer mechanism ~~switch or relay~~ shall comply with the requirements in 11.1.2.1 – 11.1.2.10, and shall be of such size as to accommodate a load based on 1.25 times the output current rating of the unit. A lead provided for this purpose shall be capable of carrying the same current without exceeding its temperature rating.

19 Switches and Controllers

19.4 Solid state switches shall comply with the requirements in this standard, others are per the applicable Standard, the most commonly used are referenced in Appendix A.

19.5 A means used to transfer the load directly from one source to an alternate source operating at voltages greater than 42.4 V_{peak} ac or 60 V dc, shall comply with requirements in the Standard for Transfer Switch Equipment, UL 1008.

64 Transfer ~~Switches~~Switch/Mechanisms

64.1 A transfer switch/mechanism ~~or relay~~ provided to transfer ~~change~~ from unit to line power shall disconnect both the grounded and ungrounded circuit conductors.

64.2 With reference to the requirement in 64.1 the rating of a transfer switch/mechanism and associated wiring shall be acceptable for the higher of the unit or line-supply ratings. See 67.6.