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UL 3801

Outline of Investigation for Fault Limiters

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Summary of Topics

This First issue of the Outline of Investigation for Fault Limiters, UL 3801 covers fault limiters.

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INTRODUCTION

1 Scope

1.1 These requirements cover fault limiters intended to sense and interrupt high magnitude overcurrent conditions in a prescribed range of short circuit current values, limiting both the time and peak current of the short circuit. Fault Limiters open the circuit within an interval equal to or less than the first major or symmetrical current loop duration; limiting the peak current to a value less than the available peak current.

1.2 Fault Limiters may be designed such that the interrupting portions are field replaceable.

1.3 These requirements cover Fault Limiters rated up to 1000 V ac maximum.

1.4 These requirements are intended to be used in conjunction with the requirements in the Standard for Low-Voltage Fuses – Part 1, General Requirements, UL 248-1, hereafter referred to as UL 248-1, except as modified or supplemented by this Outline of Investigation, hereafter referred to as Outline.

1.5 This Outline does not include the requirements for devices that sense and interrupt overcurrent conditions solely by use of a current responsive element. Requirements for these types of devices can be found in the UL 248 Series of Fuse Standards.

1.6 Devices covered by this Outline are not intended to be used as branch circuit overcurrent protection.

1.7 Fault Limiters are intended for installation in switchgear, switchboards, and the like or in locations accessible only to qualified personnel in accordance with the NFPA 70, “National Electric Code” (NEC). The acceptability of the combination of a Fault Limiter with respect to any end product shall be determined as part of the end-product evaluation.

1.8 This standard does not cover effects of excessive sound or pressure.

2 Components

2.1 Except as indicated in 2.2, a component of a product covered by this Outline shall comply with the requirements for that component.

2.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this Outline or
- b) Is superseded by a requirement in this Outline.

2.3 A component shall be used in accordance with its rating established for the intended conditions of use.

2.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

4 Undated References

4.1 Any undated reference to a code or standard appearing in the requirements of this Outline shall be interpreted as referring to the latest edition of that code or standard.

5 Glossary

5.1 For the purpose of this outline, the following definitions supplement the definitions shown in UL 248-1. Note that not all definitions in UL 248-1 are applicable to Fault Limiters covered by this Outline.

5.2 CONTROL BOX – An enclosure housing control components of the Fault Limiter.

5.3 TRIGGER LEVEL – The predetermined current level, rate of rise of current, integrated logic, or any combination of these, as defined by the manufacturer, where the current interrupting sequence is initiated.

5.4 TRIGGER LOGIC – The control components that determine whether interrupting functionality of the Fault Limiter is initiated based on the input from the current sensing device.

CONSTRUCTION

6 General

6.1 Fault limiters generally sense and interrupt the short circuit current as follows:

6.2 Fault limiters generally sense and interrupt the short circuit current as follows:

a) Current transformers or other current sensing device sense the current, and send an output to a control box, which may be integral to, or remote from, the main portion of the fault limiter, and

b) The control box initiates the interrupting sequence based on predetermined current level, rate of rise of current, integrated logic, or any combination of these, as defined by the manufacturer, signaling the interrupters to interrupt the circuit.

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