UL 347A

Outline of Investigation for Medium Voltage Power Conversion Controllers

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Summary of Topics

This fourth issue of the Outline of Investigation for Medium Voltage Power Conversion Controllers, UL 347A, covers medium voltage power conversion equipment that controls and transfers power to motors.

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INTRODUCTION

1 Scope

1.1 These requirements cover medium voltage power conversion equipment that controls and transfers power to motors. These requirements also cover power-supply modules, input/output modules, and electronic solid state switching devices, for use with power conversion equipment.

1.2 These requirements cover equipment rated above 1500 volts to 38kV.

1.3 These requirements do not cover equipment for use in hazardous locations as defined by the National Electrical Code, NFPA 70.

1.4 These requirements do not cover solid state reduced voltage motor controllers (soft starters).

1.5 These requirements do not cover low voltage power conversion equipment rated 1500 volts and below. This type of equipment is covered by the Standard for Power Conversion Equipment, UL 508C.

2 Glossary

2.1 For the purpose of this document, the following definitions apply.

2.2 AMBIENT TEMPERATURE – The temperature of the air medium into which the heat of the equipment is dissipated. See 30.1.3.

2.3 BUS – A conductor, or group of conductors, that serve as a common connection for two or more circuits.

2.4 BUS, HORIZONTAL – A bus that extends through a vertical section, that is intended to connect to another vertical section, that may be provided in the future.

2.5 BUS, VERTICAL – A bus that connects one or more controllers in a vertical section together. Where the assembly also contains a horizontal bus, the vertical bus connects the controllers in a vertical section to the horizontal bus.

2.6 BYPASS CIRCUIT – A circuit, typically consisting of a switch or contactor, that when closed, creates an alternate path for current flow in parallel with the circuit being bypassed, allowing the original circuit to be turned off while maintaining current flow to the load.

2.7 CONTACTOR – A two-state (ON-OFF) device for repeatedly establishing and interrupting an electric power circuit.

2.8 CONTACTOR, AIR-GAP – A contactor that introduces a gap (in air) between contacts to interrupt a circuit.

2.9 CONTACTOR, SOLID-STATE – A contactor that introduces a high impedance to interrupt a circuit. Typical solid-state contactors use silicon controlled rectifiers (SCR) or insulated gate bipolar transistors (IGBT) as the switching device(s).

2.10 CONTACTOR, VACUUM – A contactor that introduces a gap between contacts (located in a vacuum) to interrupt a circuit.

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