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SUBJECT 2734

OUTLINE OF INVESTIGATION  
FOR  
CONNECTORS FOR USE WITH ON-BOARD ELECTRICAL VEHICLE (EV)  
CHARGING SYSTEMS

Issue No. 2

May 11, 2011

*Summary of Topics*

*This is the second issue of the Outline of Investigation for Connectors for Use with On-Board Electrical Vehicle (EV) Charging Systems. This issue clarifies the intended mounting of the device and the insulating material requirements.*

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## INTRODUCTION

### 1 Scope

1.1 This outline covers connectors of an on-board electric vehicle (EV) charging system. Connectors are intended to interconnect both communication and power circuit conductors rated up to 30 amperes and up to 600 volts ac or dc, within an on-board vehicle charging system.

1.2 For the purpose of this outline, connectors consist of mating devices intended for factory assembly to copper or copper alloy conductors.

1.3 These devices are intended to be mounted internal to the vehicle and are not accessible to the operator or in locations where they may be subjected to mechanical abuse.

1.4 This outline does not cover:

- a) Plugs, receptacles, and couplers for electric vehicles covered by the Standard for Plugs, Receptacles and Couplers for Electric Vehicles UL 2251;
- b) Plugs, receptacles, and cable connectors, of the pin and sleeve type covered by the Standard for Plugs, Receptacles, and Cable Connectors, of the Pin and Sleeve Type, UL 1682;
- c) Devices molded integrally with flexible cord or cable that are covered by the Standard for Cord Sets and Power-Supply Cords, UL 817;
- d) Attachment plugs, cord connectors, and receptacles that are covered by the Standard for Attachment Plugs and Receptacles, UL 498;
- e) Single and multi-pole connectors, which may include 3 or more pilot contacts, intended for connection to copper conductors, for use in data, signal, control and power applications within and between electrical equipment, where exposed, that are covered by the Standard for Component Connectors for Use in Data, Signal, Control and Power Applications, UL 1977;
- f) Devices intended for use in hazardous (Classified) locations that are covered by the Standard for Receptacle-Plug Combinations for Use in Hazardous (Classified) Locations, UL 1010;
- g) Devices consisting of wiring terminals and supporting blocks intended for the connection of wiring that are covered by the Standard for Terminal Blocks, UL 1059;
- h) Devices such as modular jacks and plugs that are intended for use with telecommunications networks, that are covered by the Standard for Information Technology Equipment Safety - Part 1: General Requirements, UL 60950, and the Standard for Communications-Circuit Accessories, UL 1863;
- i) Devices such as wire connectors and soldering lugs that are covered by the Standard for Wire Connectors, UL 486A-486B; the Standard for Splicing Wire Connectors, UL 486C; or the Standard for Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors, UL 486E; or
- j) Devices such as quick-connect terminals that are covered by the Standard for Electrical Quick-Connect Terminals, UL 310.

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