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Electric Vehicle Charging Safety Guidelines

Part 3: In Cord–Control and Protection Devices

1 Application

1.1 This Part 3 of the Electric Vehicle Charging Safety Guidelines applies to electric vehicle charging stations installed and IC-CPD offered for sale on or after 5 November 2016.

2 Introduction

2.1 The Electric Vehicle Charging Safety Guidelines provide guidance for the safe selection and installation of charging stations for electric vehicles (EVs) consistent with New Zealand's electricity supply systems and infrastructure. They are intended to enable suppliers, installers and users to comply with fundamental safety requirements of the Electricity (Safety) Regulations 2010 and do not remove any obligation to comply with those regulations.

2.2 Part 3 of these Guidelines provides specific guidance, safe specification, supply, installation and use of In Cord–Control and Protection Devices (IC-CPD) for charging electric vehicles (EVs).

2.3 Part 3 of the Guidelines is intended to be read in conjunction with the *Electric Vehicle Charging Safety Guidelines* Parts 1 and 2, and with the Electricity (Safety) Regulations 2010. Refer to Part 1 for interpretation, terms and definitions, references and bibliography.

3 Scope

3.1 The specific guidance in Part 3 of these Guidelines applies to all In Cord–Control and Protection Devices (IC-CPD) specified, supplied or used for charging electric vehicles (EVs).

4 Interpretation – terms and definitions

4.1 The interpretation, terms and definitions stated in Part 1 of these Guidelines, apply to this Part.

4.2 See Part 1 of these Guidelines for references and bibliography.

5 Specification of In Cord–Control and Protection Devices

5.1 No person may supply an IC-CPD that does not comply with:

(a) IEC 62752:2016 *In-cable control and protection device for mode 2 charging of electric road vehicles (IC-CPD)*, or

(b) until 1 April 2017, IEC 61851-1:2010.

NOTE: Additional suitable standards, for example UL standards, may be added at a later date.

5.2 No person may supply an IC-CPD unless it is rated and labelled to operate at a voltage of 230/400 V, 50 Hertz a.c.

5.3 In any case, no IC-CPD may have an inlet supply cord length of greater than 2 m.

6 Presence of water

6.1 Where an IC-CPD is intended to be used outdoors or in a damp location, it must be selected with a degree of protection of at least IPX4 in accordance with AS 60529.

7 Supply plug

7.1 An IC-CPD inlet connection must be one of the following:

- (a) A plug compliant with AS/NZS 3112 rated at no more than 10 A and either
 - (i) restrict the maximum current to 8 A, or
 - (ii) restrict the maximum current to 10 A and use temperature sensing on the pins of the plug to limit the temperature of the pins to safe levels provided by the manufacturer of the plug.
- (b) A plug compliant with IEC 60309 rated at no more than 16 A and either
 - (i) restrict the maximum current to 10 A, or
 - (ii) restrict the maximum current to 16 A and use temperature sensing on the pins of the plug to limit the temperature of the pins to safe levels provided by the manufacturer of the plug.
- (c) A plug compliant with AS/NZS 3123 rated at no more than 20 A and either
 - (i) restrict the maximum current to 16 A, or
 - (ii) restrict the maximum current to 20 A and use temperature sensing on the pins of the plug to limit the temperature of the pins to safe levels provided by the manufacturer of the plug.

7.2 No person may supply or use of any other plug for the inlet connection of an IC-CPD.

7.3 No person may:

- (a) supply an IC-CPD with an adaptor, or
- (b) supply an adaptor for an IC-CPD.

7.4 No person may use an adaptor with an IC-CPD.

8 Limit on supply

8.1 An IC-CPD must not be used to supply more than one EV at a time.