AS IEC 62196.2:2014
IEC 62196-2, Ed. 1.0 (2011)

AS IEC 62196.2:2014

Australian STANDARD

Plugs, socket-outlets, vehicle connectors and vehicle inlets—Conductive charging of electric vehicles

Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories

STANDARDS Australia

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- Australasian Road Rescue Organisation
- Australian Automobile Association
- Australian Electric Vehicle Association
- Australian Industry Group
- Auto Skills Australia
- ChargePoint
- Consumers Federation of Australia
- Curtin University of Technology
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- Energy Networks Association
- Federal Chamber of Automotive Industries
- Motor Trades Association of Australia
- National Association of Testing Authorities Australia
- Transport for NSW
- Tritium
- Victorian Automobile Chamber of Commerce

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Australian Standard®

Plugs, socket-outlets, vehicle connectors and vehicle inlets—Conductive charging of electric vehicles

Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories

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PREFACE

This Standard was prepared by Standards Australia Committee EM-001, Electric Vehicle Operation.

The objective of this Standard is to specify requirements for plugs, socket-outlets, vehicle connectors and vehicle inlets with pins and contact-tubes of standardized configurations, herein referred to as accessories. They have a nominal rated operating voltage not exceeding 500 V a.c., 50 to 60 Hz, and a rated current not exceeding 63 A three-phase or 70 A single phase, for use in conductive charging of electric vehicles.

This Standard is identical with, and has been reproduced from, IEC 62196-2, Ed. 1.0 (2011) *Plugs, socket-outlets, vehicle connectors and vehicle inlets—Conductive charging of electric vehicles*—Part 2: *Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories*.

This Standard is to be read in conjunction with IEC 62196-1, Ed. 2.0 (2011). The clauses of the particular requirements in this Standard supplement or modify the corresponding clauses in Part 1. Where the text indicates an 'addition' to or a 'replacement' of the relevant requirement, test specification or explanation of Part 1, these changes are made to the relevant text of Part 1, which then becomes part of the Standard. Where no change is necessary, the words 'This clause of Part 1 is applicable' are used..

In this Standard, the following print type is used:

- *compliance statements: in italic type.*

As this Standard is reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

None of the normative references in the source document have been adopted as Australian or Australian/New Zealand Standards.

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INTRODUCTION

Responding to global challenges of CO_2 reduction and energy security, the automobile industries have been accelerating the development and commercialization of electric vehicles and hybrid electric vehicles. In addition to the prevailing hybrid electric vehicles, battery electric vehicles including plug-in hybrid electric vehicles are going to be mass-marketed. To support the diffusion of such vehicles, this standard provides the standard interface configurations of a.c. vehicle couplers and accessories to be used in conductive charging of electric vehicles, taking the most frequent charging situations into consideration.

IEC 62196 is divided into several parts:

Part 1: General requirements

Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories

Part 3: Dimensional compatibility and interchangeability requirements for pin and contact-tube accessories for dedicated d.c. charging or for combined a.c./d.c. charging (under consideration)

AUSTRALIAN STANDARD

Plugs, socket-outlets, vehicle connectors and vehicle inlets— Conductive charging of electric vehicles

Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories

1 Scope

This standard applies to plugs, socket-outlets, vehicle connectors and vehicle inlets with pins and contact-tubes of standardized configurations, herein referred to as accessories. They have a nominal rated operating voltage not exceeding 500 V a.c., 50 to 60 Hz, and a rated current not exceeding 63 A three-phase or 70 A single phase, for use in conductive charging of electric vehicles.

This standard covers the basic interface accessories for vehicle supply as specified in IEC 62196-1, and intended for use in conductive charging systems for circuits specified in IEC 61851-1:2010.

Electric vehicles covers all road vehicles, including plug-in hybrid road vehicles (PHEV), that derive all or part of their energy from on-board batteries.

NOTE 1 These accessories may provide a contact that can be used for the proximity contact function.

These accessories are intended to be used for circuits specified in IEC 61851-1:2010 which operate at different voltages and frequencies and which may include ELV and communication signals.

These accessories may be used for bidirectional energy transmission (under consideration).

This standard applies to the accessories to be used in an ambient temperature of between – 30 °C and + 50 °C.

NOTE 2 In the following country, other requirements may apply: FI.

These accessories are intended to be connected only to cables with copper or copper-alloy conductors.

Vehicle inlet and vehicle connector to this standard are intended to be used for charging in modes 1, 2 and 3, cases B and C. The socket-outlets and plugs covered by this standard are intended to be used for charging mode 3 only, case A and B.

The modes and permissible connections are specified in Part 1.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*