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Conductive charging of electric vehicles – DC vehicle coupler configuration GG

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CONDUCTIVE CHARGING OF ELECTRIC VEHICLES – DC VEHICLE COUPLER CONFIGURATION GG

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IEC PAS 63454 has been processed by subcommittee 23H: Plugs, Socket-outlets and Couplers for industrial and similar applications, and for Electric Vehicles, of IEC technical committee TC 23: Electrical accessories.

The text of this PAS is based on the following document:	This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document:
Draft PAS	**Report on voting**
23H/509/DPAS	23H/514A/RVDPAS

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of 2 years starting from the publication date. The validity may be extended for a single period up to a maximum of 2 years, at the end of which it shall be transformed, with or without changes, into another type of normative document, or shall be withdrawn.

This PAS is to be read in conjunction with IEC 62196-1:2022 and IEC 62196-3:2022.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

A total of four widely used DC charging interfaces is defined in IEC 62196-3:2022 as follows:

- configuration AA proposed by Japan,
- configuration BB proposed by China,
- configuration EE proposed by North America, and
- configuration FF proposed by Europe.

This PAS introduces the charging interface (configuration GG), a new electric vehicle DC charging system jointly developed by some Chinese, Japanese and European companies. This interface is currently included in the Chinese draft national standard and in the Japanese standard and has considerable potential for future applications.

After consideration within SC 23H/MT 8 (in charge of the maintenance of the IEC 62196 series) and noting that the next revision of IEC 62196-3:2022 will come up after a longer period, it was agreed to issue configuration GG in a first stage in the form of an IEC PAS. The addition of configuration GG into IEC 62196-3 will be considered in the frame of the next revision of IEC 62196-3.

CONDUCTIVE CHARGING OF ELECTRIC VEHICLES – DC VEHICLE COUPLER CONFIGURATION GG

1 Scope

This document is applicable to vehicle couplers with pins and contact-tubes of standardized configuration (GG), herein also referred to as "accessories", intended for use in electric vehicle conductive charging systems which incorporate control means, with rated operating voltage and current in accordance with IEC 62196-1:2022.

The DC vehicle connectors and inlets covered by this document are used only in charging mode 4, according to IEC 61851-1:2017, 6.2.4, and case C, as shown in IEC 61851-1:2017, Figure 3.

These vehicle couplers are intended to be used for circuits specified in IEC 61851-23 which operate at different voltages and which can include extra-low voltage (ELV) and communication signals.

This document applies to the vehicle couplers to be used in an ambient temperature of between −30 °C and +40 °C.

NOTE 1 In some countries, other requirements may apply.

NOTE 2 In the following country, −35 °C applies: SE.

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

2 Normative references

Clause 2 of IEC 62196-3:2022 applies.