ICS 29.200 SLOVENSKÁ TECHNICKÁ NORMA Október 2019

STN	**Obojsmerné výkonové meniče pripojené na elektrickú sieť Časť 2: Rozhranie výkonových meničov pripojených na elektrickú sieť (GCPC) a distribuovaných zdrojov energie**	**STN EN IEC 62909-2** 33 4211

Bi-directional grid-connected power converters - Part 2: Interface of GCPC and distributed energy resources

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/19

Obsahuje: EN IEC 62909-2:2019, IEC 62909-2:2019

129329

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62909-2

April 2019

ICS 29.200

English Version

Bi-directional grid-connected power converters - Part 2: Interface of GCPC and distributed energy resources (IEC 62909-2:2019)

Convertisseurs de puissance connectés aux réseaux bidirectionnels - Partie 2: Interface du GCPC avec les ressources énergétiques réparties (IEC 62909-2:2019)

Bidirektionale netzgekoppelte Leistungsumrichter - Teil 2: Schnittstelle des GCPC und erneuerbaren Energiequellen (IEC 62909-2:2019)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 62909-2:2019 E

European foreword

The text of document 22E/196/FDIS, future edition 1 of IEC 62909-2, prepared by SC 22E "Stabilized power supplies" of IEC/TC 22 "Power electronic systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62909-2:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-01-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-04-12

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Endorsement notice

The text of the International Standard IEC 62909-2:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60364-7-722:2018	NOTE Harmonized as HD 60364-7-722:2018
IEC 61851-1:2017	NOTE Harmonized as EN IEC 61851-1:—[1] (not modified)
IEC 61982:2012	NOTE Harmonized as EN 61982:2012 (not modified)
IEC 62109-1:2010	NOTE Harmonized as EN 62109-1:2010 (not modified)
IEC 62619:2017	NOTE Harmonized as EN 62619:2017 (not modified)
IEC 63027:—[2]	NOTE Harmonized as EN IEC 63027:—[3]

[1] Under preparation. Stage at the time of publication: FprEN 61851-1:2016.

[2] Under preparation. Stage at the time of publication: IEC/PCC 63027:2018.

[3] Under preparation. Stage at the time of publication: prEN 63027:2017.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60730-1 (mod)	2013	Automatic electrical controls - Part 1: General requirements	EN 60730-1	2016
+ A1	2015		+ A1	2019
IEC 61508	series	Functional safety of electrical/electronic/programmable electronic safety-related systems	EN 61508	series
IEC 61851-23	2014	Electric vehicle conductive charging system - Part 23: DC electric vehicle charging station	EN 61851-23	2014
IEC 62909-1	2017	Bi-directional grid connected power converters - Part 1: General requirements	EN IEC 62909-1	2018

IEC 62909-2

Edition 1.0 2019-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Bi-directional grid-connected power converters – Part 2: Interface of GCPC and distributed energy resources

Convertisseurs de puissance connectés aux réseaux bidirectionnels – Partie 2: Interface du GCPC avec les ressources énergétiques réparties

IEC 62909-2:2019-03(en-fr)

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INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONALE

ICS 29.200 ISBN 978-2-8322-6613-7

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BI-DIRECTIONAL GRID-CONNECTED POWER CONVERTERS –

Part 2: Interface of GCPC and distributed energy resources

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62909-2 has been prepared by subcommittee 22E: Stabilized power supplies, of IEC technical committee 22: Power electronic systems and equipment.

This International Standard is to be used in conjunction with IEC 62909-1:2017.

The clauses of particular requirements in this document supplement or modify the corresponding clauses in IEC 62909-1:2017. Where the text of subsequent clauses indicates an "addition" to or a "replacement" of the relevant requirement, test specification or explanation of IEC 62909-1:2017, these changes are made to the relevant text of IEC 62909-1:2017. Where no change is necessary and the clause is applicable, the words "The provisions of IEC 62909-1:2017, Clause XX shall apply" are used. Additional clauses, tables, figures and notes which are not included in IEC 62909-1:2017, are numbered starting from 101.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
22E/196/FDIS	22E/198/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62909 series, published under the general title *Bi-directional grid-connected power converters*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

In order to optimize power consumption, for example, within the nanogrid of a home, electricity generation should be optimally combined with rechargeable energy storage. This optimization is accomplished, in part, by providing an efficient transfer between DC and AC electricity to accommodate storage batteries. The IEC 62909 series describes a bi-directional grid-connected power converter (GCPC) which efficiently integrates sources of power generation with energy storage.

IEC 62909-1 defines common general requirements, independent from the special characteristics of individual applications. This document defines the additional requirements necessary for interfacing particular types of distributed energy resources to a GCPC.

BI-DIRECTIONAL GRID-CONNECTED POWER CONVERTERS –

Part 2: Interface of GCPC and distributed energy resources

1 Scope

This part of IEC 62909 specifies GCPC interface requirements for particular distributed energy resources, namely electric vehicle (EV), battery, and photovoltaic (PV) systems. These requirements are in addition to the general requirements given in IEC 62909-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60730-1:2013, *Automatic electrical controls – Part 1: General requirements*
IEC 60730-1:2013/AMD1:2015

IEC 61508 (all parts), *Functional safety of electrical/electronic/programmable electronic safety-related systems*

IEC 61851-23:2014, *Electric vehicle conductive charging system – Part 23: DC electric vehicle charging station*

IEC 62909-1:2017, *Bi-directional grid-connected power converters – Part 1: General requirements*