

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

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**EN IEC 62909-2**

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**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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Europäisches Komitee für Elektrotechnische Normung

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**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
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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:—<sup>1</sup> (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:—<sup>2</sup> NOTE Harmonized as EN IEC 63027:—<sup>3</sup>

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<sup>1</sup> Under preparation. Stage at the time of publication: FprEN 61851-1:2016.

<sup>2</sup> Under preparation. Stage at the time of publication: IEC/PCC 63027:2018.

<sup>3</sup> Under preparation. Stage at the time of publication: prEN 63027:2017.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 electrical/electronic/programmable electronic safety-related systems	of 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

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**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**





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Edition 1.0 2019-03

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**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**

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**BI-DIRECTIONAL GRID-CONNECTED POWER CONVERTERS –****Part 2: Interface of GCPC and distributed energy resources**

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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**

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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*

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