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INTERNATIONAL STANDARD

Electrical installations in ships -
Part 302-2: Low voltage switchgear and controlgear assemblies - Marine power

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Electrical installations in ships - Part 302-2: Low voltage switchgear and controlgear assemblies - Marine power

FOREWORD

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IEC 60092-302-2 has been prepared by IEC technical committee 18: Electrical installations of ships and of mobile and fixed offshore units. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) amended and updated in line with, and correctly referenced to the updated clauses of IEC 61439-1:2020 and IEC 61439-2:2020;
b) explanation of the need to special consideration for marine applications added;
c) Figure 201 updated;
d) adjustment has been made to the "safety factors" for creepage and clearance distances.

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

Draft	Report on voting
18/1994/FDIS	18/2007/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This International Standard is to be used in conjunction with IEC 61439-1:2020 and IEC 61439-2:2020.

This document supplements or modifies the corresponding clauses in IEC 61439-1:2020 and IEC 61439-2:2020. Where this document states "addition", "deletion", "replacement" or “amendment”, the relevant text of IEC 61439-1:2020 and IEC 61439-2:2020 is adapted accordingly. When no modification of the text of IEC 61439-1:2020 is in IEC 61439-2:2020, the modification in this document is referred directly to the IEC 61439-1:2020.

Clauses and subclauses which are additional to those of IEC 61439-1:2020 and IEC 61439-2:2020 are numbered starting from 201. Additional annexes are numbered starting from AAA.

In this document, terms written in small capitals are defined in Clause 3.

Where the abbreviated term PSC-assembly is used in applicable clauses of IEC 61439-2:2020, this refers to MPSC-assembly.

A list of all parts in the IEC 60092 series, published under the general title *Electrical installations in ships*, 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

INTRODUCTION

This part of IEC 60092 forms a series of International Standards for electrical installations in sea-going ships, incorporating good practice and coordinating, as far as possible, existing rules.

These standards form a code of practical interpretation and amplification of the requirements of the International Convention for the Safety of Life at Sea, a guide for future regulations which can be prepared and a statement of practice for use by ship owners, shipbuilders and appropriate organizations.

The IEC 61439 series specifies the requirements for land based low voltage switchgear and controlgear assemblies. The IEC 60092-302 series has been developed in line with Figure 201, which illustrates opportunities to develop relevant marine standards.

The IEC 60092 series remains the principal series of standards for electrical installations in ships, and the applicable standards are applied accordingly. Wherever there are differences between the IEC 61439 series and the IEC 60092 series, the IEC 60092 series takes precedence.

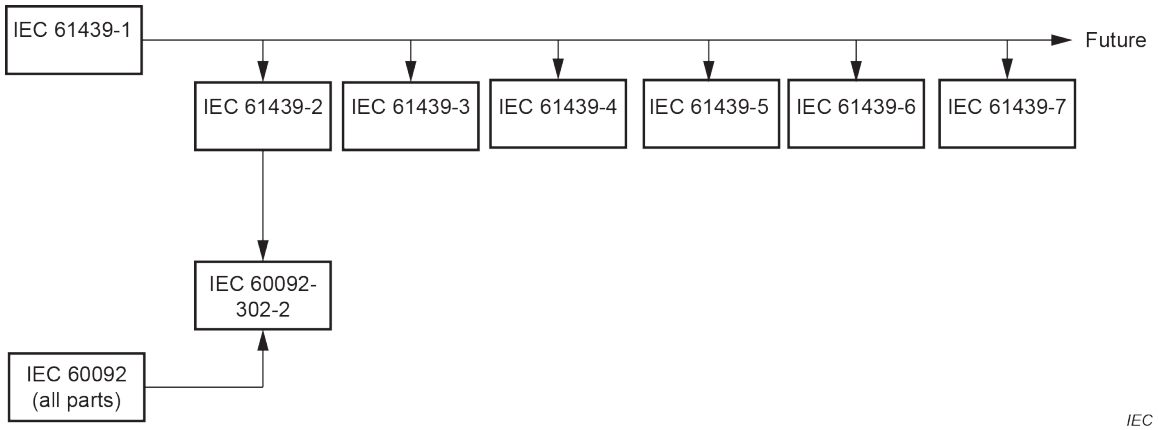


Figure 201 – Relationship of standards

1 Scope

This part of IEC 60092 defines the specific requirements of low voltage marine power switchgear and controlgear assemblies (MPSC-assemblies) as follows:

– stationary assemblies with enclosure for which the rated voltage does not exceed 1 000 V AC or 1500 V DC;
– assemblies intended for use in conjunction with the power generation, distribution and conversion of electric energy, and for the control of electric energy consuming equipment.

Due to the marine application and the risks associated with loss of power, additional safety factors have been applied to minimise the risk of failure, such as applying an additional safety factor on clearance distances.

This document applies to all assemblies whether they are designed, manufactured and verified on a one-off basis or fully standardised and manufactured in quantity.

Either the manufacture or assembly, or both, of the MPSC assembly can be carried out by others than the original manufacturer.

This document does not apply to individual devices and self-contained components, such as motor starters, fuse switches, electronic equipment, which comply with the relevant product standards.

NOTE Individual devices and components include those that are covered by the IEC 60947 series.

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 60092 (all parts), *Electrical installations in ships*

IEC 60092-101:2018, *Electrical installations in ships - Part 101: Definitions and general requirements*

IEC 60092-201:2019, *Electrical installations in ships - Part 201: System design - General*

IEC 60533, *Electrical and electronic installations in ships - Electromagnetic compatibility (EMC) - Ships with a metallic hull*

IEC 61439-1:2020, *Low-voltage switchgear and controlgear assemblies - Part 1: General rules*

IEC 61439-2:2020, *Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies*