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Responsible committee: JPEL/18 Electrical installations of ships and of mobile and fixed offshore units

Interested committees:

Title: BS IEC 60092-302-2 Electrical installations in ships

Part 302-2: Low voltage switchgear and controlgear assemblies - Marine power

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

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- iii) requires additional national guidance or information

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THIS DRAFT IS NOT CURRENT BEYOND 5 June 2024**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

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Responsible Committee Secretary: **Mr Michael Peace (IET) (BSI)**
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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



18/1896/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 60092-302-2 ED2

DATE OF CIRCULATION:

2024-04-12

CLOSING DATE FOR COMMENTS:

2024-07-05

SUPERSEDES DOCUMENTS:

18/1828/RR

IEC TC 18 : ELECTRICAL INSTALLATIONS OF SHIPS AND OF MOBILE AND FIXED OFFSHORE UNITS

SECRETARIAT:

Norway

SECRETARY:

Mr Arild Røed

OF INTEREST TO THE FOLLOWING COMMITTEES:

SC 18A,TC 64,TC 65,TC 80,SC 121B

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☒ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

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

NOTE FROM TC/SC OFFICERS:

This document refers to IEC 61439-1 and IEC 61439-2 throughout the document and is therefore needed to make a review.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSTALLATIONS IN SHIPS –

**Part 302-2: Low voltage switchgear and
controlgear assemblies – Marine power**

FOREWORD

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

This second edition cancels and replaces the first edition of IEC 60092-302-2 published in 2019. This edition constitutes a technical revision.

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

The text of this document is based on the following documents:

FDIS	Report on voting
18/1656/FDIS	18/1668/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.

This document supplements or modifies the corresponding clauses in IEC 61439-1:2020 and IEC 61439-2:2020. Where this document states "addition", "deletion" or "replacement", 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 the 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 refer 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 "<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.

A bilingual version of this publication may be issued at a later date.

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 may be prepared and a statement of practice for use by ship owners, shipbuilders and appropriate organizations.

IEC 61439 (all parts) identifies the requirements for land based low voltage switchgear and controlgear assemblies. IEC 60092-302 (all parts) has been developed in-line with Figure 201, which shows the future intention to develop appropriate marine standards for final distribution boards to be operated by ordinary persons; and busbar trunking systems.

This document supplements or modifies the corresponding clauses in IEC 61439-1:2020 and IEC 61439-2:2020. Where this document states "addition", "deletion" or "replacement", 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 the 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.

IEC 60092 (all parts) remains the lead standard series for electrical installations in ships, and the applicable standards are applied accordingly. Wherever there are differences between IEC 61439 (all parts) and IEC 60092 (all parts), IEC 60092 (all parts) takes precedence.

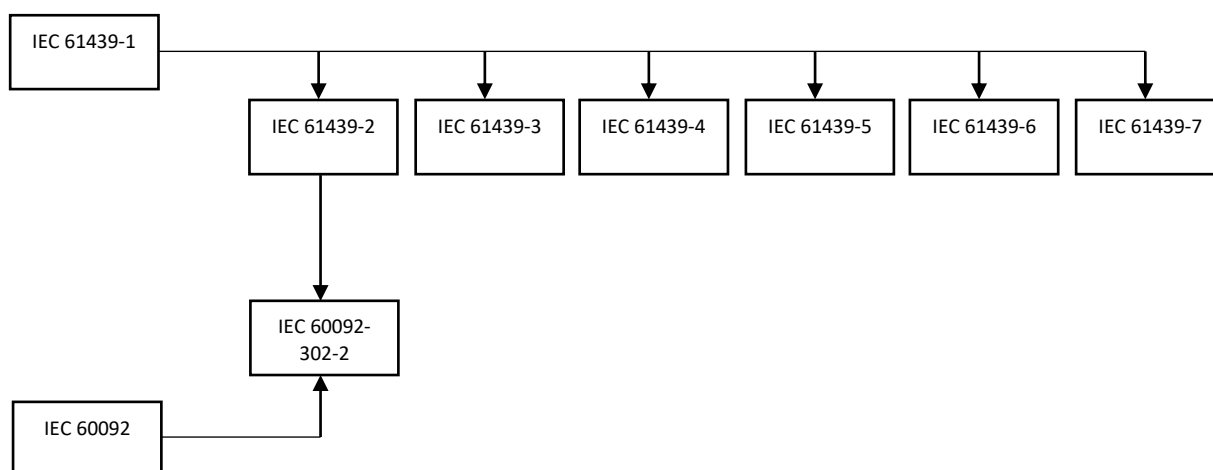


Figure 201 – Relationship of standards

ELECTRICAL INSTALLATIONS IN SHIPS –

Part 302-2: Low voltage switchgear and controlgear assemblies – Marine power

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, means that safety factors have been applied to minimise failure risk, such as an 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.

The manufacture and/or assembly can be carried out other than by 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 1 Individual devices and components include those that are covered by the IEC 60947 series.

NOTE 2 PEL, PEM and PEN are not used in the ship's installation hence requirements in IEC 61349 related to these conductors can be disregarded.

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 60092-101:2018, *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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

Clause 3 of IEC 61439-2:2020 is applicable except as follows.

3.1 General terms

Additional terms and definitions:

3.1.201

MARINE POWER SWITCHGEAR AND CONTROLGEAR ASSEMBLY

MPSC-assembly

low-voltage switchgear and controlgear assembly used to distribute and control energy for all types of loads, intended for marine applications specifically, in ships, operated by skilled or instructed persons only

Note 1 to entry: It is not excluded for a MPSC-assembly to be located in an area accessible to ordinary persons.

3.1.202

MAIN SWITCHBOARD

MPSC-assembly which is directly supplied by the main source of electrical power and is intended to control and distribute electrical energy to the ships services

3.1.203

MOTOR CONTROL CENTRE

MCC

MPSC-assembly which is supplied by main or emergency switchboards and is intended to control and distribute electrical energy

Note 1 to entry: It is possible for the MCC to be a section or sections of the main switchboard.

3.1.204

EMERGENCY SWITCHBOARD

MPSC-assembly which is normally supplied by the main switchboard, but in the event of failure of the main electrical power system is directly supplied by the emergency source of electrical power and is intended to control and distribute electrical energy to the emergency services

3.1.205

DISTRIBUTION BOARD

MPSC-assembly which is supplied by a main or emergency switchboard, or distribution boards and is used to distribute and control energy to other distribution boards, final distribution boards or final sub circuits

Note 1 to entry: The definition of "section board" as defined in previous versions of IEC 60092-302 has been replaced by the one of "distribution board".

4 Symbols and abbreviations

Clause 4 of IEC 61439-2:2020 is applicable.