



DPC: 23 / 30446882 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 07 June 2023

Origin: International

Latest date for receipt of comments: 23 August 2023

Project No. 2021/03049

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

Interested committees:

Title: BS IEC 61892-5 Mobile and fixed offshore units - Electrical installations

Part 5: Mobile units

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

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 23 August 2023**

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.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: **Mr Michael Peace (IET) (BSI)**
Direct tel: **01438 765566**
E-mail: **michaelpeace@theiet.org**

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
------------------	------------------------

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.	



18/1837/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 61892-5 ED5

DATE OF CIRCULATION:

2023-06-02

CLOSING DATE FOR COMMENTS:

2023-09-22

SUPERSEDES DOCUMENTS:

18/1750/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:

TC 1,TC 2,TC 8,SC 8A,SC 8B,TC 17,SC 17A,SC 17C,SC 18A,TC 20,TC 21,SC 21A,TC 22,SC 22E,SC 22F,SC 22G,SC 22H,SC 23H,TC 31,SC 31J,TC 34,TC 64,TC 65,SC 65A,SC 65B,SC 65C,SC 65E,TC 73,TC 77,SC 77A,SC 77B,SC 77C,TC 80,TC 88,TC 94,TC 99,TC 120,TC 121,SC 121A,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:

Mobile and fixed offshore units - Electrical installations - Part 5: Mobile units

NOTE FROM TC/SC OFFICERS:

MT 18 has revised the seven parts of the IEC 61892 series. There are several technical changes made in all seven parts. However, we would like to highlight that IEC 61892-7 has been restructured with separate clauses that deals with IEC 61892-10-1 and IEC

Copyright © 2023 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

CONTENTS

1		
2	FOREWORD.....	4
3	INTRODUCTION.....	6
4	1 Scope.....	7
5	2 Normative references	8
6	3 Terms, definitions and abbreviations	8
7	4 General requirements	10
8	4.1 Environmental conditions	10
9	4.1.1 Ambient temperature	10
10	4.1.2 Relative humidity	11
11	4.2 Protection against flooding.....	11
12	4.3 Rotating machines	11
13	4.4 Conductors, equipment and apparatus	11
14	4.5 Main switchboards	11
15	4.6 Handrails or handles on mobile units	12
16	4.7 Axes of rotation.....	12
17	5 Limits of inclination of the unit	12
18	5.1 Authority requirement.....	12
19	5.2 Machines, equipment and apparatus – General.....	12
20	5.3 Propulsion machinery.....	12
21	5.4 Essential source of power	12
22	5.5 Emergency machinery.....	13
23	5.6 Dynamic condition.....	13
24	6 Bilge pumps.....	13
25	6.1 Power supply	13
26	6.2 Cables and cable connections.....	13
27	6.3 Location of starting arrangement.....	13
28	7 Navigation and obstruction lights	14
29	7.1 General.....	14
30	7.2 Obstruction lights when in operation	14
31	7.3 Navigation lights	14
32	7.4 Power supply and monitoring systems	14
33	7.5 Special requirements for lights using LEDs	14
34	8 Steering gear.....	15
35	8.1 Power operated steering gear	15
36	8.2 Motors	15
37	8.3 Motor starters	15
38	8.4 Power circuit supply.....	16
39	8.5 Supply of control circuits and control systems	16
40	8.6 Circuit protection.....	16
41	8.7 Starting and stopping of motors for steering gear power units	16
42	8.8 Steering gear control systems.....	17
43	8.9 Alarms and indications	17
44	8.10 Rudder angle indication	17
45	8.11 Separation of circuits	18
46	8.12 Communication between navigating bridge and steering gear compartment	18
47	9 Electric propulsion	

48	10	Dynamic positioning	18
49	11	Ballast systems	19
50	11.1	General.....	19
51	11.2	Ballast pumps	19
52	11.3	Control and indicating systems	19
53	11.4	Internal communication	20
54	11.5	Protection against flooding	20
55	12	Jacking systems	21
56	12.1	General.....	21
57	12.2	Design	21
58	12.3	Holding capacity	21
59	12.4	Electric motor capacity.....	21
60	12.5	Jacking gear motors and motor controller.....	22
61	12.5.1	General	22
62	12.5.2	Group installation	22
63	12.5.3	Overcurrent protection	22
64	12.5.4	Running protection	22
65	12.5.5	Monitoring	22
66	12.6	Testing at factory at site or on board after modifications	22
67	13	Anchoring systems	23
68	13.1	General.....	23
69	13.2	Anchoring arrangements	23
70	13.3	Control systems	23
71	13.4	Thruster-assisted anchoring systems (TA)	23
72		Annex A (informative) Typical VSD driven AC jacking system	24
73		Bibliography.....	25
74			
75		Figure A.1 – Typical VSD driven AC jacking system.....	24
76			
77		Table 1 – Ambient temperature	11
78			
79			

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MOBILE AND FIXED OFFSHORE UNITS –
ELECTRICAL INSTALLATIONS –

Part 5: Mobile units

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.
 - 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
 - 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
 - 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
 - 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
 - 6) All users should ensure that they have the latest edition of this publication.
 - 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
 - 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
 - 9) IEC attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC [had/had not] received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch> [and/or] www.iso.org/patents. [IEC/IEC and ISO] shall not be held responsible for identifying any or all such patent rights.
- IEC 61892-5 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 fifth edition cancels and replaces the fourth edition published in 2019-04. This edition constitutes a technical revision.

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

This list will be developed when preparing the CDV. See instead the red line version provided as a supplementary working document.

a) ...;

b)

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/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.

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

151

INTRODUCTION

152 IEC 61892 forms a series of International Standards for safety in the design, selection,
153 installation, maintenance and use of electrical equipment for the generation, transmission,
154 storage, distribution and utilization of electrical energy for all purposes in offshore units which
155 are used for the purpose of exploration or exploitation of petroleum resources.

156 This part of IEC 61892 incorporates and coordinates, as far as possible, existing rules and
157 forms a code of interpretation, where applicable, of the requirements of the International
158 Maritime Organization (IMO) and constitutes a guide for future regulations which may be
159 prepared and a statement of practice for offshore unit owners, designers, installers and
160 appropriate organizations.

161 This document is based on solutions and methods which are in current use, but it is not intended
162 to impede development of new or improved techniques.

163 In this revision, voltage limitations have been removed. However, voltage limitations may be
164 given in the referenced equipment standards. The removal of voltage limitations is considered
165 necessary due to the interconnection of, and supply from shore to offshore units. In such cases
166 transmission voltages up to 132 kV AC and 150 kV DC are used and higher voltages are being
167 planned.

168 The IEC 61892 series aims to constitute a set of International Standards for the offshore
169 petroleum industry, but it is not intended to prevent their use beyond petroleum installations.

170 The requirements specified in this International Standard are based on the Code for the
171 Construction and Equipment of Mobile Offshore Drilling Units (MODU Code) published by the
172 International Maritime Organization (IMO), and might include additional provisions.

173

174

175

MOBILE AND FIXED OFFSHORE UNITS – ELECTRICAL INSTALLATIONS –

Part 5: Mobile units

1 Scope

This document specifies additional characteristics for electrical installations in mobile units.

It applies to installations that depend on buoyancy, such as column-stabilized units (semi-submersible units), ship- or barge-type units as well as self-elevating units. It specifies additional characteristics for such units, used during transfer from one location to another and for drilling, production, accommodation, processing, storage and offloading purposes.

It applies to all installations, whether permanent, temporary, transportable or hand-held, to AC installations and DC installations without any limitation on voltage level. Referenced equipment standards may give voltage level limitations.

This document specifies requirements such as those concerning

- environmental conditions,
- limits of inclination for the unit where the equipment is required to operate,
- bilge pumps,
- navigation and obstruction lights,
- steering gear,
- ballast system,
- jacking systems, and
- anchoring systems.

For electric propulsion, reference is made to IEC 60092-501.

For dynamic positioning systems, reference is made to relevant IMO requirements.

This document does not apply to

- fixed equipment for medical purposes,
- electrical installations of tankers, and
- control of ignition sources other than those created by electrical equipment.

NOTE 1 For medical rooms, IEC 60364-7-710 provides specific requirements. Requirements for tankers are given in IEC 60092-502.

NOTE 2 Guidance on protection of non-electrical equipment can be found in ISO 80079-36, ISO 80079-37 and IMO 2009 MODU Code, 6.7.

NOTE 3 Attention is drawn to further requirements concerning electrical installations on such mobile offshore units contained in the IMO MODU Code.