

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Mobile and fixed offshore units – Electrical installations –
Part 7: Hazardous areas**

**Unités mobiles et fixes en mer – Installations électriques –
Partie 7: Emplacements dangereux**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MOBILE AND FIXED OFFSHORE UNITS –
ELECTRICAL INSTALLATIONS –****Part 7: Hazardous areas****FOREWORD**

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International Standard IEC 61892-7 has been prepared by IEC technical committee 18: Electrical installations of ships and of mobile and fixed offshore units.

This fourth edition cancels and replaces the third edition published in 2014. This edition constitutes a technical revision.

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

- a) the document has been completely rewritten. References are, to the extent possible, made to IEC 60079-14 and to other relevant standards, as appropriate, from IEC TC 31; only requirements concerning offshore installations that deviate from the general requirements for installations in hazardous areas are given;
- b) requirements as to gas detection have been transferred to an informative annex;

- c) requirements concerning emergency shutdown (ignition source control) have been transferred to IEC 61892-1.

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

FDIS	Report on voting
18/1655/FDIS	18/1666/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 61892 series, published under the general title *Mobile and fixed offshore units – Electrical installations*, 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- withdrawn,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.

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INTRODUCTION

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

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

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

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

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

MOBILE AND FIXED OFFSHORE UNITS – ELECTRICAL INSTALLATIONS –

Part 7: Hazardous areas

1 Scope

This part of IEC 61892 provides requirements for hazardous area classification and selection of electrical equipment and installation in hazardous areas in mobile and fixed offshore units, including pipeline, pumping or "pigging" stations, compressor stations and single buoy moorings, used in the offshore petroleum industry for drilling, production, accommodation, processing, storage and offloading purposes.

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

This document is based on the requirements of International Standards developed by IEC TC 31 regarding area classification and requirements as to installations in hazardous areas and gives additional requirements for installations on mobile and fixed offshore units.

This document specifies requirements such as those concerning

- area classification,
- electrical systems,
- selection of electrical equipment,
- cables and wiring systems,
- ventilation,
- ventilation requirement for battery compartments, and
- inspection, maintenance, repair and overhaul.

This document gives information on topics such as

- gas detection systems, and
- electrical installations in extremely low ambient temperatures.

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

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 60079-10-1:2015, *Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres*

IEC 60079-13, *Explosive atmospheres – Part 13: Equipment protection by pressurized room "p" and artificially ventilated room "v"*

IEC 60079-14:2013, *Explosive atmospheres – Part 14: Electrical installations design, selection and erection*

IEC 60079-17, *Explosive atmospheres – Part 17: Electrical installations inspection and maintenance*

IEC 60079-19, *Explosive atmospheres – Part 19: Equipment repair, overhaul and reclamation*

IEC 61892-1:2019, *Mobile and fixed offshore units – Electrical installations – Part 1: General requirements and conditions*

IEC 61892-2:2019, *Mobile and fixed offshore units – Electrical installations – Part 2: System design*

IEC 62485-2:2010, *Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries*

IMO, 2009 MODU Code, *Code for the Construction and Equipment of Mobile Offshore Drilling Units*, 2009, 2010 edition

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61892-1, IEC 60079-14 and the following 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>

3.1

normal operation

operation of apparatus conforming electrically and mechanically with its design specification and used within the limits specified by the manufacturer

Note 1 to entry: Minor releases of flammable substances may be part of normal operation. For example, releases from seals which rely on wetting by the fluid which is being pumped are considered to be minor releases.

Note 2 to entry: Failures (such as the breakdown of pump seals, flange gaskets or spillages caused by accidents) which involve urgent repair or shutdown are not considered to be part of normal operation nor are they considered to be catastrophic.

Note 3 to entry: Normal operation includes start-up and shutdown conditions.