IEC 61892-7

Edition 3.0 2014-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

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

IEC 61892-7:2014-12(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MOBILE AND FIXED OFFSHORE UNITS – ELECTRICAL INSTALLATIONS –

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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.
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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 third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision.

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

a) The EPL (Explosion Protection Level) concept has been introduced.
b) The requirements to installations in hazardous area has been rewritten, based on the requirements of IEC 60079-14:2013.

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

FDIS	Report on voting
18/1432/FDIS	18/1446/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61892 series, 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 publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

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

This part of IEC 61892 also incorporates and co-ordinates, as far as possible, existing rules. It forms a code of interpretation, where applicable, of the requirements laid down by the International Maritime Organization, and constitutes a guide for future regulations which may be prepared and a statement of practice for offshore unit owners, constructors and appropriate organizations.

IEC 60079-14 has been used as reference document. Clauses related to gas, vapour and liquid have been used, where suitable, for offshore purposes. Additional text is added to meet offshore requirements.

This standard is based on equipment and practices which are in current use, but it is not intended in any way to impede development of new or improved techniques.

The ultimate aim has been to produce a set of International Standards exclusively for the offshore petroleum industry.

MOBILE AND FIXED OFFSHORE UNITS – ELECTRICAL INSTALLATIONS –

Part 7: Hazardous areas

1 Scope

This part of IEC 61892 contains provisions for hazardous areas classification and choice of electrical installation in hazardous areas in mobile and fixed offshore units, including pipelines, pumping or 'pigging' stations, compressor stations and exposed location single buoy moorings, used in the offshore petroleum industry for drilling, processing and for storage purposes.

It applies to all installations, whether permanent, temporary, transportable or hand-held, to AC installations up to and including 35 000 V and DC installations up to and including 1 500 V. (AC and DC voltages are nominal values).

This standard does not apply to electrical installations in rooms used for medical purposes, or in tankers.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60079-0:2011, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-1, *Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"*

IEC 60079-2, *Explosive atmospheres – Part 2: Equipment protection by pressurized enclosure "p"*

IEC 60079-5, *Explosive atmospheres – Part 5: Equipment protection by powder filling "q"*

IEC 60079-6, *Explosive atmospheres – Part 6: Equipment protection by oil immersion "o"*

IEC 60079-7, *Explosive atmospheres – Part 7: Equipment protection by increased safety "e"*

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

IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"*

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

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

IEC 60079-15, *Explosive atmospheres – Part 15: Equipment protection by type of protection "n"*

IEC TR 60079-16, *Electrical apparatus for explosive gas atmospheres – Part 16: Artificial ventilation for the protection of analyser(s) houses*

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

IEC 60079-18, *Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"*

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

IEC 60079-25, *Explosive atmospheres – Part 25: Intrinsically safe electrical systems*

IEC 60079-26, *Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga*

IEC 60079-28, *Explosive atmospheres – Part 28: Protection of equipment and transmission systems using optical radiation*

IEC 60079-29 (all parts), *Explosive atmospheres – Part 29: Gas detectors*

IEC 60079-30-2, *Explosive atmospheres – Part 30-2: Electrical resistance trace heating – Application guide for design, installation and maintenance*

IEC 60079-33, *Explosive atmospheres – Part 33: Equipment protection by special protection "s"*

IEC 60364-4-41:2005, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

IEC 61008-1, *Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules*

IEC 61285, *Industrial-process control – Safety of analyser houses*

IEC 61558-2-6, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

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

IEC 61892-3, *Mobile and fixed offshore units – Electrical installations – Part 3: Equipment*

IEC 61892-4, *Mobile and fixed offshore units – Electrical installations – Part 4: Cables*

IEC 61892-6, *Mobile and fixed offshore units – Electrical installations – Part 6: Installation*

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

IEC/ISO 80079 (all parts), *Explosive atmospheres*

IMO MODU code, *Code for the construction and equipment of mobile offshore drilling units*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60079-0 and the following apply. For the definitions of any other term, particularly those of a more general nature, reference should be made to IEC 60050-426 or other appropriate parts of IEC 60050 (International Electrotechnical Vocabulary).

3.1
appropriate authority
governmental body and/or classification society with whose rules a unit is required to comply

[SOURCE: IEC 60092-101:1994, 1.3.2, modified – The word “ship” has been replaced with “unit”.]

3.2
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 material 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 include start-up and shutdown conditions.

[SOURCE: IEC 60050-426:2008, 426-04-10, modified – The notes to entry have been added.]

3.3
valve regulated lead acid battery
VRLA
secondary battery in which cells are closed but have a valve which allows the escape of gas if the internal pressure exceeds a predetermined value

Note 1 to entry: The cell or battery cannot normally receive additions to the electrolyte.

Note 2 to entry: This note applies to the French language only.

[SOURCE IEC 60050-482:2004, 482-05-15]

3.4
inspection
action comprising careful scrutiny of an item carried out either without dismantling, or with the addition of partial dismantling as required, supplemented by means such as measurement, in order to arrive at a reliable conclusion as to the condition of an item

[SOURCE: IEC 60050-426:2008, 426-14-02]

3.5
maintenance
combination of any actions carried out to retain an item in or restore it to, conditions in which it is able to meet the requirements of the relevant specification and perform its required functions

[SOURCE: IEC 60050-426:2008, 426-14-01]