IEC/IEEE 80005-2

Edition 1.0 2016-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Utility connections in port –
Part 2: High and low voltage shore connection systems – Data communication for monitoring and control

Alimentation des navires à quai –
Partie 2: Systèmes de connexion à quai à haute et basse tensions – Description de l'interface de communication de données dédiées au suivi et contrôle

IEC/IEEE 80005-2:2016-06(en-fr)

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It is published as a triple logo (IEC, ISO and IEEE) standard.

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

FDIS	Report on voting
18/1490/FDIS	18/1495/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.

International standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

Texts in italics in this standard are for signals of the data packets.

A list of all parts in the IEC 80005 series, published under the general title *Utility connections in port*, can be found on the IEC website.

The IEC Technical Committee, the ISO Subcommittee and the IEEE Technical Committee have decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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[1] A list of IEEE participants can be found at the following URL: http://standards.ieee.org/downloads/80005-2/80005-2-2016/80005-2-2016_wg-participants.pdf

INTRODUCTION

Onshore power supply systems need communication between the ship side and the shore side. Different kinds of communication have to be distinguished, see Clause 3.

This Part 2 of IEC/IEEE 80005 series deals with the non-safety related communication. It covers the requirements of the HVSC systems described in Part 1 and is also intended to cover the requirements of a forthcoming standard for LV shore connection systems.

UTILITY CONNECTIONS IN PORT –

Part 2: High and low voltage shore connection systems – Data communication for monitoring and control

1 Scope

This part of IEC/IEEE 80005 describes the data interfaces of shore and ships as well as step by step procedures for low and high voltage shore connection systems communication for non-emergency functions, where required. This standard specifies the interface descriptions, addresses and data type. This standard also specifies communication requirements on cruise ships, in Annex A.

Application of this standard relates to annexes of IEC/ISO/IEEE 80005-1.

This standard does not specify communication for emergency functions as described in IEC/ISO/IEEE 80005-1.

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/ISO/IEEE 80005-1:2012, *Utility connections in port – Part 1: High Voltage Shore Connection (HVSC) Systems – General requirements*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions given in IEC/ISO/IEEE 80005-1, as well as the following apply.

3.1
communication for emergency function
hard wired signals that trip the feeding circuit breakers (ship side and shore side)

3.2
communication for non-emergency function
data exchange between shore and the ship for informational purposes

Note 1 to entry: If such data exchange requires tripping of the circuit breaker it will also be communicated via the pilot loop.

3.3
register
16 bit location for storing data

3.4
High Byte
HB
high byte of a register, the leftmost eight bits

3.5
Low Byte
LB
low byte of a register, the rightmost eight bits

3.6
big endian format
High Byte is stored firstly in the memory, Low Byte in a subsequent position

3.7
Most Significant Bit
MSB
leftmost bit

3.8
Least Significant Bit
LSB
rightmost bit

3.9
bypass key
keyed selector switch that allows data communication to be switched on or off

3.10
alarm
activation of an event that shows a critical state

3.11
warning
announcing a situation or condition requiring attention but no-immediate attention or action and presented for precautionary reasons to make personnel aware of changed conditions which are not immediately hazardous, but may become so, if no forward-looking decision is made or action is taken

3.12
Co
command

3.13
ESD-1
emergency shutdown initiated when the ship moves past the warning range of allowable motion forward, aft or outward from the dock, and which initiates an LNG ship – ESD signal from shore to ship

3.14
ESD-2
emergency shutdown initiated when the ship moves past the maximum range of allowable motion forward, aft or outward from the dock, and which initiates loading arm disconnection on shore

4 General

4.1 Power connection single line diagram

Figure 1 shows the connection cables with the designation of the main switches used in this standard.