
Nizkonapetostne električne inštalacije - 7-730. del: Zahteve za posebne inštalacije ali lokacije - Kopenske naprave za napajanje plovil za celinske vode

Low-voltage electrical installations - Part 7-730: Special installations or locations - Onshore units of electrical shore connections for inland navigation vessels

Errichten von Niederspannungsanlagen - Teil 7-730: Anforderungen für Betriebsstätten, Räume und Anlagen besonderer Art - Elektrischer Landanschluss für Fahrzeuge der Binnenschifffahrt

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Installations électriques à basse tension - Partie 7-730: Exigences pour les installations et emplacements spéciaux - Unités à terre des connexions au réseau électrique terrestre pour les bateaux de navigation intérieure

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Low-voltage electrical installations - Part 7-730: Requirements
for special installations or locations - Onshore units of electrical
shore connections for inland navigation vessels

Installations électriques à basse tension - Partie 7-730:
Exigences pour les installations et emplacements spéciaux -
Unités à terre des connexions au réseau électrique terrestre
pour les bateaux de navigation intérieure

Errichten von Niederspannungsanlagen - Teil 7-730:
Anforderungen für Betriebsstätten, Räume und Anlagen
besonderer Art - Elektrischer Landanschluss für Fahrzeuge
der Binnenschifffahrt

This Harmonization Document was approved by CENELEC on 2015-06-30. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

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This Harmonization Document exists in three official versions (English, French, German).

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European foreword

This document (HD 60364-7-730:2015) has been prepared by CLC/TC 64 "Electrical installations and protection against electric shock".

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-06-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-06-30

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Introduction

For the purposes of this part of HD 60364, the requirements of the general parts of HD 60364 (Parts 1 to 6) apply.

Parts 7XX of HD 60364 contain particular requirements for special installations or locations that are based on the requirements of the general parts of HD 60364 (Parts 1 to 6). Parts 7XX have to be considered in conjunction with the requirements of the general parts.

The particular requirements of this part of HD 60364 supplement, modify or replace certain of the requirements of the general parts of HD 60364 being valid at the time of publication of this part. The absence of reference to the exclusion of a part or a clause of a general part means that the corresponding clauses of the general part are applicable (undated reference).

Requirements of other Parts 7XX being relevant for installations covered by this part also apply. This part of HD 60364 may therefore also supplement, modify or replace certain of these requirements valid at the time of publication of this part.

The clause numbering of this part of HD 60364 follows the pattern and corresponding references of HD 60364. The numbers following the particular number of this part are those of the corresponding parts, or clauses of HD 60364 being valid at the time of publication of this part as indicated in the normative references of this document (dated reference).

If additional requirements or explanations are needed which have no direct relation to general parts or other Parts 7XX, the numbering of such clauses are stated as 7XX.101, 7XX.102, 7XX.103 etc.

In the case where new or amended general parts with modified numbering were published after this part was issued, the clause numbers referring to a general part in this part of HD 60364 may no longer align with the latest edition of the general part. Dated references should be observed.

730 Onshore units of electrical shore connections for inland navigation vessels

730.1 Scope

The particular requirements specified in this part of HD 60364 apply to onshore installations dedicated to supply inland navigation vessels for commercial and administrative purpose, berthed in ports and berths.

For single- and three-phase supplies to pleasure craft, use HD 60364-7-709.

This part of HD 60364 applies to installations with nominal supply voltage a.c. 400/230 V, single-phase and three-phase, 50 Hz.

Additional requirements that do not relate to electrical installation are given in EN 15869-1 and EN 15869-2.

The particular requirements do not apply to the onboard installations of inland navigation vessels including their connection cables. Additional requirements on the onboard installation are given in EN 15869-3.

730.2 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.

EN 15869-1, *Inland navigation vessels – Electrical shore connection, three phase current 400 V, up to 63 A, 50 Hz – Part 1: General requirements*

EN 15869-2, *Inland navigation vessels – Electrical shore connection, three phase current 400 V, up to 63 A, 50 Hz – Part 2: Onshore unit, safety requirements*

EN 15869-3, *Inland navigation vessels – Electrical shore connection, three phase current 400 V, up to 63 A, 50 Hz – Part 3: On-board unit, safety requirements*

EN 60309-1, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements (IEC 60309-1)*

EN 60309-2, *Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tubes accessories (IEC 60309-2)*

EN 60309-4, *Plugs, socket-outlets and couplers for industrial purposes – Part 4: Switched socket-outlets and connectors with or without interlock (IEC 60309-4)*

EN 61558-2-4, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers (IEC 61558-2-4)*

730.3 Terms and definitions

For the purposes of this document, the following term and definition apply.

730.3.1

inland navigation vessel

vessel used for commercial or administrative purposes navigating on inland waterways

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730.31 Purposes, supplies and structure

730.312 Conductor arrangement and system earthing

730.312.2 Types of system earthing

Add the following:

NOTE In accordance with European Directive 2008/59/EC, the following systems are allowed for a.c. three-phase current onboard inland navigation vessels: TN-S, TT, IT.

730.313 Supplies

Add the following:

730.313.1.101

The nominal supply voltage (supplied from the transformer station) shall be 400 V three-phase a.c., 50 Hz.

An arrangement diagram of an electrical shore connection is shown in EN 15869-1, and an overview diagram of an electrical power-supply station with two connector units is shown in EN 15869-2.

730.313.1.102 Galvanic separation

Where a fixed on-shore isolation transformer is used to prevent galvanic currents circulating between the hull of the vessel and metallic parts on the shore side, equipment complying with EN 61558-2-4 shall be used.

The protective conductor (PE) of the supply to the isolating transformer shall not be connected to the earth terminal in the socket-outlet supplying the inland navigation vessel.

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730.4 Protection for safety

730.41 Protection against electric shock

730.410.3.5

Replacement:

The protective measures specified in Annex B of HD 60364-4-41:2007 shall not be used:

- obstacles;
- placing out of reach.

730.410.3.6

Replacement:

The protective measures specified in Annex C of HD 60364-4-41:2007 shall not be used:

- non-conducting location;
- earth-free local equipotential bonding.

730.5 Selection and erection of electrical equipment

730.512 Operational conditions and external influences

730.512.2 External influences

Add the following:

730.512.2.101 Degree of protection

Equipment shall be selected with a degree of protection of at least IP44.

730.521 Types of wiring systems

Add the following:

730.521.101 Wiring systems of berths, ports and floating landing stages

730.521.101.1 Berths and ports

The following wiring systems and cables are suitable for distribution circuits in berths and ports:

- a) underground cables;
- b) overhead cables;
- c) cables with copper conductors and thermoplastic or elastomeric insulation and installed within an appropriate cable management system taking into account external influences such as movement, impact, corrosion and ambient temperature;
- d) mineral-insulated cables with thermoplastic protective covering;
- e) armoured cables with a thermoplastic or elastomeric covering.

Other cables and materials that are at least as suitable as those listed under a), b), c), d) or e) may be used.

730.521.101.2 Floating landing stages

Wiring systems and cables shall be suitable for the movement of floating landing stages. The following wiring systems and cables are suitable for distribution circuits on floating landing stages:

- a) cables with copper conductors and thermoplastic or elastomeric insulation and installed within an appropriate cable management system taking into account external influences such as movement, impact, corrosion and ambient temperature;
- b) armoured cables with a thermoplastic or elastomeric covering.

Other cables and materials that are at least as suitable as those listed under a) or b) may be used.

730.521.101.3 Cables and cable management systems

730.521.101.3.1 General

Cables and cable management systems shall be selected and installed so that mechanical damage due to tidal and other movement of floating structures is prevented.

Cable management systems shall be installed to allow the drainage of water/condensate e.g. by sloping way and/or drainage holes.