
Električne inštalacije zgradb - 7-740. del: Zahteve za posebne inštalacije ali lokacije - Začasne električne inštalacije za objekte, zabaviščne naprave in stojnice na sejmiščih, v zabaviščnih parkih in cirkusih (IEC 60364-7-740:2000, spremenjen)

(istoveten HD 60364-7-740:2006)

Electrical installations of buildings - Part 7-740: Requirements for special installations or locations - Temporary electrical installations for structures, amusement devices and booths at fairgrounds, amusement parks and circuses (IEC 60364-7-740:2000, modified)

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Electrical installations of buildings
Part 7-740: Requirements for special installations or locations –
Temporary electrical installations for structures, amusement devices
and booths at fairgrounds, amusement parks and circuses
(IEC 60364-7-740:2000, modified)

Installations électriques des bâtiments
Partie 7-740: Règles pour les installations
ou emplacements spéciaux –
Installations électriques temporaires
de structures, jeux et baraques
dans des champs de foire, des parcs
de loisirs et des cirques
(CEI 60364-7-740:2000, modifiée)

Elektrische Anlagen von Gebäuden
Teil 7-740: Anforderungen für
Betriebsstätten, Räume und Anlagen
besonderer Art –
Vorübergehend errichtete elektrische
Anlagen für Aufbauten,
Vergnügungseinrichtungen und Buden
auf Kirmesplätzen, Vergnügungsparks
und für Zirkusse
(IEC 60364-7-740:2000, modifiziert)

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This Harmonization Document was approved by CENELEC on 2005-10-01. 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.

Up-to-date lists and bibliographical references concerning such national implementations may be obtained on application to the Central Secretariat or to any CENELEC member.

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

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60364-7-740:2000, prepared by IEC TC 64, Electrical installations and protection against electric shock, together with the common modifications prepared by SC 64B, Protection against thermal effects, of Technical Committee CENELEC TC 64, Electrical installations and protection against electric shock, was submitted to the formal vote and was approved by CENELEC as HD 60364-7-740 on 2005-10-01.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2006-04-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2007-03-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2008-10-01

Annexes ZA, ZB and ZC have been added by CENELEC.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those of IEC 60364-7-740 are prefixed "Z".

In this standard, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

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Introduction

The requirements of this part of HD 60364 modify or replace certain of the general requirements of HD 60364.

The clause numbering of Part 7-740 follows the pattern and corresponding references of IEC 60364.

The numbers following the particular number of Part 7-740 are those of the corresponding parts or clauses of IEC 60364.

The absence of reference to a part or a clause means that the general requirements of HD 60364 are applicable.

Numbering in parenthesis corresponds to the numbering of the “non restructured” IEC 60364 dated before 2002.

740.1 (740.11) Scope, object and fundamental principles

740.1.1 (740.11) Scope

Add:

This part of HD 60364 specifies the minimum electrical installation requirements to facilitate the safe design, installation and operation of temporarily installed mobile or transportable electrical machines and structures which incorporate electrical equipment. The machines and structures are intended to be installed repeatedly, without loss of safety, temporarily, at fairgrounds, amusement parks, circuses or similar places.

NOTE Z1 The permanent electrical installation is excluded from the scope.

The object of this part of HD 60364 is to define the electrical installation requirements for such structures and machines, being either integral parts or constituting the total amusement device.

This part does not apply to the electrical equipment of machines (see EN 60204-1).

NOTE Z2 See also Annex ZA.

740.1.2 (740.12) Normative references

Add:

The following referenced documents are indispensable for the application 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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
		Cables of rated voltages up to and including 450/750 V and having cross-linked insulation Part 8: Polychloroprene or equivalent synthetic elastomer sheathed cable for decorative chains	HD 22.8 S2	
		Cable trunking systems and cable ducting systems for electrical installations	EN 50085	Series
		Conduit systems for cable management	EN 50086	Series
		Common test methods for cables under fire conditions – Test for resistance to vertical flame propagation for a single insulated conductor or cable	EN 50265	Series
IEC 60050-826		International Electrotechnical Vocabulary (IEV) - Chapter 826: Electrical installations of buildings	-	-
IEC 60309-1		Plugs, socket-outlets and couplers for industrial purposes - Part 1: General requirements	EN 60309-1	
IEC 60309-2		Plugs, socket-outlets and couplers for industrial purposes - Part 2: Dimensional interchangeability requirements for pin and contact tube accessories	EN 60309-2	
IEC 60364-3 (mod.)		Electrical installations of buildings - Part 3: Assessment of general characteristics	HD 384.3 S2	
IEC 60364-4-41 (mod.)		Low-voltage electrical installations – Part 4-41: Protection for safety - Protection against electric shock	HD 60364-4-41	
IEC 60364-5-54 (mod.)		Electrical installations of buildings -- Part 5-54: Selection and erection of electrical equipment - Earthing arrangements, protective conductors and protective bonding conductors	HD 60364-5-54	
IEC 60947-2		Low-voltage switchgear and controlgear - Part 2: Circuit-breakers	EN 60947-2	
IEC 61008-1 (mod.)		Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – Part 1: General rules	EN 61008-1	
IEC 61009-1 (mod.)		Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – Part 1: General rules	EN 61009-1	
IEC 61347-2-2		Lamp controlgear - Part 2-2: Particular requirements for d.c. or a.c. supplied electronic step-down convertors for filament lamps	EN 61347-2-2	

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61386-21		Conduit systems for cable management - Part 21: Particular requirements - Rigid conduit systems	EN 61386-21	
IEC 61537		Cable tray systems and cable ladder systems for cable management	EN 61537	
IEC 61558-2-4		Safety of power transformers, power supply units and similar - Part 2-4: Particular requirements for isolating transformers for general use	EN 61558-2-4	
IEC 61558-2-6		Safety of power transformers, power supply units and similar - Part 2-6: Particular requirements for safety isolating transformers for general use	EN 61558-2-6	

740.2 (740.B.1.0) Definitions

For the purpose of this part of HD 60364, the definitions given in IEC 60050-826 as well as the following definitions apply:

740.2.1

fairground

area where one or more stands, amusement devices or booths are erected for leisure use

740.2.2

booth

non-stationary unit, intended to accommodate equipment generally for pleasure or demonstration purposes

740.2.3

stand

area or temporary structure used for display, marketing, sales or entertainment

740.2.4

amusement device

ride, stand, textile or membrane building, side stall, side show, tent, booth or grandstand intended for the entertainment of the public

740.2.Z1

temporary electrical installation

electrical installation erected and dismantled at the same time as the structure with which it is associated

740.3 Assessment of general characteristics

740.31 Purposes, supplies and structure

740.313 Supplies

740.313.1.3 Voltage

The nominal supply voltage of a temporary electrical installation in a booth, stand or amusement device shall not exceed 230 V / 400 V a.c or 440 V d.c.

740.413.1.5 IT systems

Add:

Where an alternative system is available, an IT system shall not be used. An IT system, however, may be used for d.c. applications where continuity of service is needed.

NOTE Z1 In Norway IT system is commonly used for public distribution system.

740.413.1.6 Supplementary equipotential bonding

740.413.1.6.1

Add:

In a location intended for animals, local supplementary equipotential bonding shall connect all exposed-conductive-parts and extraneous-conductive-parts which can be touched simultaneously.

740.462 (740.536) Isolation

740.462.1 (740.536.2.1.1)

Add:

Every separate temporary electrical installation for an amusement device and each distribution circuit supplying an outdoor installation shall be provided with its own readily accessible and properly identified means of isolation.

740.47 Application of protective measures for safety

740.471 Measures of protection against electric shock

740.471.1 (740.412.3) Protection against electric shock in normal service

Replace:

The protective measure against direct contact by means of obstacles (see Clause 412.3 of HD 384.4.41) shall not be used.

Placing out of arm's reach is acceptable for electric dodgems (see 740.55.09).

740.471.2 (740.413.3) Protection against electric shock in case of fault

Replace:

The protective measure against indirect contact by non-conducting location (see Clause 413.3 of HD 384.4.41) and by earth-free equipotential bonding (see Clause 413.4 of HD 384.4.41) shall not be used.

740.48 Choice of protective measures as a function of external influences

740.481 Selection of measures for protection against electric shock in relation to external influences

740.481.1 General

740.481.1.4

Deleted

740.481.3 Choice of protective measures against indirect contact

740.481.3.1.3 (740.410.3.4.3)

Automatic disconnection of supply to the temporary electrical installation shall be provided at the origin of the installation by an RCD with a rated residual operating current not exceeding 300 mA which shall incorporate a time delay in accordance with EN 60947-2 or be of the S-type in accordance with EN 61008-1 or EN 61009-1 for discrimination with RCDs protecting final circuits.

740.481.3.1.4

Deleted

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740.482 (740.42) Protection against fire where particular risks or danger exist (*Protection against thermal effect*)

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740.482.2 (740.422.3) Nature of processed or stored materials

740.482.2.8 (740.422.3.8)

Replace:

A motor which is automatically or remotely controlled and which is not continuously supervised shall be fitted with a manually reset protective device against excess temperature.

740.5 Selection and erection of electrical equipment

740.51 Common rules

Add:

Switchgear and controlgear shall only be installed in cabinet which can be opened by the use of a key or a tool, except for those parts designed and intended to be operated by ordinary persons (Code BA1, as defined in Clause 322.1 of HD 384.3).

740.512 Operational conditions and external influences

740.512.2 External influences

Add:

Electrical equipment shall have a degree of protection of at least IP44.

740.513 Accessibility

740.513.1 General

All equipment, including wiring, shall be arranged so as to facilitate its operation, inspection and maintenance and access to its connection. Such facilities shall not be significantly impaired by mounting equipment in enclosures or compartments.

740.52 Wiring systems

740.521 Types of wiring systems

740.521.6 Cables and cable management systems

A conduit system shall comply with EN 50086, a cable trunking system and cable ducting system shall comply with the relevant part 2 of EN 50085, a tray and ladder system shall comply with EN 61537.

Every cable shall meet the requirements of EN 50265.

Every cable shall have a minimum rated voltage of 450 / 750 V, except that a cable or cord having a minimum rated voltage of 300 / 500 V may be used within an amusement device.

The route of a cable buried in the ground shall be marked at suitable intervals. Every buried cable shall be protected against mechanical damage.

NOTE Z1 Conduit classified as 450 N regarding protection against compression and classified as normal regarding protection against impact, according to EN 50086-2-4 is considered to fulfil the above requirement.

Armoured cable or cable protected against mechanical damage shall be used wherever there is a risk of mechanical damage due to external influence (e.g. > AG2). Mechanical protection shall be used in any public area and in an area where a wiring system is crossing a road or a walkway.

NOTE Z2 The following methods are considered to meet the above requirements:

- conduit classified as 1 250 N regarding protection against compression, classified as Heavy regarding protection against impact and classified as Medium/High (Inside/Outside) regarding protection against corrosion according to EN 50086-2-1 or by EN 61386-21 (National Committees are invited to select the appropriate standard according to the validity period).
- cable trunking system and cable ducting system classified as heavy protection against impact according to EN 50085-1.

Where subjected to movement, a wiring system shall be of flexible construction.

NOTE Z3 Cable of type H07RNF or H07BN4-F together with conduit complying with EN 50086-2-3 is deemed to satisfy this requirement.

740.526 Electrical connections

Replace:

A joint shall not be made in a cable except where necessary as a connection into a circuit. Where a joint is made, it shall be made either using connectors in accordance with the relevant IEC standards or the connection shall be made in an enclosure with a degree of protection of at least IP4X or IPXXD.

Where strain can be transmitted to terminals the connection shall incorporate cable anchorage(s).

740.53 Switchgear and controlgear

740.537 (740.536.2.2) Devices for isolation and switching

Add:

A device for isolation shall disconnect all live conductors (line conductors and neutral conductor).

740.537.1 (740.536.0) General (Introduction)

Add:

Every electrical installation of a booth, stand or amusement device shall have its own means of isolation, switching and over-current protection, which shall be readily accessible.

740.55 Other equipment

740.55.01 (740.559) Lighting installation

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740.55.01.01 Luminaires

Every luminaire or decorative lighting chain shall

- have a suitable IP rating,
- be installed such that its ingress protection is not impaired and
- be securely attached to the structure or support intended to carry it.

The weight of the luminaire or decorative lighting chain shall not be carried by the supply cable, unless it has been selected and erected for this purpose.

A luminaire or decorative lighting chain mounted less than 2,5 m (arm's reach) above floor level or otherwise accessible to accidental contact shall be firmly fixed, and so sited or guarded as to prevent risk of injury to persons or ignition of materials. Access to the fixed light source shall only be possible after removing a barrier or an enclosure and this operation shall require the use of a tool.

Flat illumination leads H05RNH2-F shall be in accordance with HD 22.8 S2.

NOTE A lighting chain may be used in any length provided the overcurrent protective device in the circuit is properly rated.