

Leisure accommodation vehicles — 12 V direct current extra low voltage electrical installations —

Part 1: Caravans

The European Standard EN 1648-1:2004 has the status of a British Standard

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National foreword

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 1648-1:2004) has been prepared by Technical Committee CEN/TC 245 "Leisure accommodation vehicles", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

This European Standard supersedes EN 1648-1:1997.

This European Standard is based on ISO 8818 "Leisure accommodation vehicles — Caravans — 12 V direct current extra low voltage electrical installations" and takes into consideration specific aspects relating to electrical installations in caravans.

The requirements of relative ISO/IEC and CENELEC publications were taken into consideration during the preparation of this European Standard.

This European Standard is one of a series covering the habitation aspects of leisure accommodation vehicles.

Requirements for 12 V direct current extra low voltage electrical installations for motor caravans are specified in EN 1648-2.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This document specifies safety, health and functional requirements for 12 V direct current (DC) extra low voltage (ELV) electrical installations for habitation aspects of caravans. It covers the design and integration of the caravan system with the towing vehicle system.

It does not apply to commercial trailers, nor does it include requirements for ELV road lighting and signalling lamps and their installations, except for safety requirements for the routing of cables in LPG storage compartments.

This document also specifies the ELV output requirements of low voltage (LV) equipment that may be used to provide an ELV supply but it does not specify safety, technical and functional requirements for LV appliances and installations. Requirements for LV installations are specified in HD 384-7-708.S1.

2 Normative references

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.

EN 1645-1, *Leisure accommodation vehicles — Caravans — Part 1: Habitation requirements relating to health and safety*.

EN 13878:2003, *Leisure accommodation vehicles — Terms and definitions*.

EN 50102, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*.

EN 60335-1, *Household and similar electrical appliances - Safety - Part 1: General requirements (IEC 60335-1:2001, modified)*.

EN 60335-2-29, *Safety of household and similar electrical appliances — Part 2: Particular requirements for battery chargers (IEC 60335-2-29:1994, modified)*.

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*.

EN 61558-1, *Safety of power transformers, power supply units and similar — Part 1: General requirements and tests (IEC 61558-1:1997, modified)*.

EN 61558-2-1, *Safety of power transformers, power supply units and similar — Part 2-1: Particular requirements for separating transformers for general use (IEC 61558-2-1:1997)*.

EN 61558-2-4, *Safety of power transformers, power supply units and similar — Part 2-4: Particular requirements for isolating transformers for general use (IEC 61558-2-4:1997)*.

EN 61558-2-6, *Safety of power transformers, power supply units and similar — Part 2-6: Particular requirements for safety isolating transformers for general use (IEC 61558-2-6:1997)*.

EN ISO 11446, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 13-pole connectors for vehicles with 12 V nominal supply voltage (ISO 11446:2004)*.

HD 21.1 S4, *Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation — Part 1: General requirements*.

HD 21.3 S3, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V — Part 3: Non-sheathed cables for fixed wiring (IEC 60227-3:1993, modified)*.

HD 21.4 S2, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V — Part 4: Sheathed cables for fixed wiring*.