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Introduction

This draft standard is based on European discussions in which the UK took an active part. Your comments on this draft are welcome and will assist in the preparation of the consequent British Standard. Comment is particularly welcome on national legislative or similar deviations that may be necessary.

Even if this draft standard is not approved by the UK, if it receives the necessary support in Europe, the UK will be obliged to publish the official English Language text unchanged as a British Standard and to withdraw any conflicting standard.

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Please indicate whether you consider the UK should submit a negative (with reasons) or positive vote on this draft.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	(7)
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/ Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

Central safety power supply systems

Systèmes d'alimentation à source centrale

Zentrale
Sicherheitsstromversorgungssysteme

This draft European Standard is submitted to CENELEC members for CENELEC enquiry.
Deadline for CENELEC: 2013-10-25.

It has been drawn up by CLC/TC 22X.

If this draft becomes a European Standard, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

CENELEC

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

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Foreword

50 This document (prEN 50171:2013) has been prepared by CLC/TC 22X "Power electronics".

51 This document is currently submitted to the Enquiry.

52 This document will supersede EN 50171:2001 + corrigendum August 2001.

53 This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for
54 Use within Certain Voltage Limits (LVD - 2006/95/EC).

1 Scope

This European Standard specifies the general requirements for central power supply systems for an independent energy supply to essential safety equipment. This standard covers systems that are permanently connected to AC supply voltages not exceeding 1 000 V and use batteries as an alternative power source.

Central safety power supply systems are intended to ensure energy supply to emergency escape lighting in the event of normal supply failure and may be suitable for energising other essential safety equipment, for example:

- electric circuits of automatic fire extinguishing installations;
- paging systems and signalling safety installations;
- smoke extraction equipment;
- carbon monoxide warning systems;
- special safety installations related to specific buildings, e.g. high-risk areas.

Combination of the aforementioned equipment types should not be mixed together on the same central safety power supply system.

Schematic representations of typical central safety power supply equipment are depicted in Clause 4.

Power supply systems for fire alarm equipment that are covered by EN 54 are excluded.

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 1838, *Lighting applications – Emergency lighting*

EN 50272-2:2001, *Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries*

EN 50274, *Low-voltage switchgear and controlgear assemblies – Protection against electric shock – Protection against unintentional direct contact with hazardous live parts*

EN 60051 (series), *Direct acting indicating analogue electrical measuring instruments and their accessories*

EN 60146-1-1, *Semiconductor converters – General requirements and line commutated converters – Part 1-1: Specification of basic requirements*

EN 61951-1, *Secondary cells and batteries containing alkaline or other non-acid electrolytes - Portable sealed rechargeable single cells – Part 1: Nickel-cadmium*

EN 60417 (series), *Graphical symbols for use on equipment*

EN 60598-1, *Luminaires – Part 1: General requirements and tests (IEC 60598-1, modified)*

EN 60622, *Sealed nickel-cadmium prismatic rechargeable single cells*

EN 60623, *Vented nickel-cadmium prismatic rechargeable single cells*

EN 60721-3-3, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*

EN 60896-11, *Stationary lead-acid batteries – Part 11: Vented types – General requirements and methods of test*

EN 60896-21, *Stationary lead-acid batteries – Part 21: Valve regulated types – Methods of test*

- 95 EN 60896-22, *Stationary lead-acid batteries – Part 22: Valve regulated types – Requirements*
- 96 EN 60947-2, *Low-voltage switchgear and controlgear – Part 2: Circuit-breakers*
- 97 EN 60947-4-1, *Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor-starters – Electro-*
- 98 *mechanical contactors and motor-starters*
- 99 EN 61000-6-2, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial*
- 100 *environments*
- 101 EN 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for*
- 102 *residential, commercial and light-industrial environments*
- 103 EN 61032:1998, *Protection of persons and equipment by enclosures – Probes for verification*
- 104 EN 61558-2-4, *Safety of transformers, reactors, power supply units and similar products for supply voltages*
- 105 *up to 1 100 V – Part 2-4: Particular requirements and tests for isolating transformers and power supply units*
- 106 *incorporating safety isolating transformers*
- 107 EN 62040-1, *Uninterruptible power systems (UPS) - Part 1: General and safety requirements for UPS*
- 108 EN 62079, *Preparation of instructions – Structuring, content and presentation*
- 109 EN 50525-2-31, *Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V*
- 110 *(U0/U) - Part 2-31: Cables for general applications - Single core non-sheathed cables with thermoplastic*
- 111 *PVC insulation*
- 112 EN 60038, *CENELEC standard voltages*
- 113 HD 60364-6:2007, *Erection of low-voltage installations – Part 6: Verification*

114 **3 Terms and definitions**

115 For the purposes of this document, the following terms and definitions apply.

116 **3.1**

117 **automatic transfer switching device (ATSD)**

118 device arranged to connect the emergency supply automatically to the essential safety equipment circuit(s)

119 on failure of the normal supply or to transfer the load from the normal supply to the battery

120 **3.2**

121 **battery charger**

122 part of the equipment that provides the charge to the battery from the normal supply

123 **3.3**

124 **Inverter**

125 device for the conversion of direct current (DC) to alternating current (AC)

126 **3.4**

127 **changeover mode**

128 mode in which the emergency power supply source is kept on standby and will, in the event of a failure of the

129 normal supply, automatically be transferred to the essential safety equipment

130 **3.5**

131 **converter**

132 device for changing the voltage of a direct current supply

133 **3.6**

134 **mode without interruption**

135 mode in which the emergency power supply source operates in parallel to the normal supply, is connected to

136 the load and supplies power without interruption when the normal supply fails