

## **Tsentraalsed toitesüsteemid**

Central power supply systems

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 50171:2006 sisaldab Euroopa standardi EN 50171:2001+AC:2001 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 18.12.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 31.05.2001.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 50171:2006 consists of the English text of the European standard EN 50171:2001+AC:2001.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 18.12.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 31.05.2001.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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**Võttesõnad:** katsetamine, konstruktsioon, reservtoitesüsteemid, üldnõuded

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EUROPEAN STANDARD

**EN 50171**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2001

ICS 29.240.00

English version

## **Central power supply systems**

Systèmes d'alimentation à source centrale

Zentrale Stromversorgungssysteme

This European Standard was approved by CENELEC on 2000-08-01. 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.

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

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# **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

This European Standard was prepared by the CENELEC BTTF 62-8, emergency lighting systems.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50171 on 2000-08-01.

This European Standard is intended to replace, in part, national Standards relating to Central Power Supply Systems. For Emergency Lighting systems it should be read in conjunction with the standards being produced by CENELEC BTTF 62-8 and EN 1838, Emergency lighting.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2001-12-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2003-08-01

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## 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 permanently connected to AC supply voltages not exceeding 1 000 V and that use batteries as the alternative power source.

The central power supplies are intended to energise emergency escape lighting in the case of failure of the normal supply, and maybe suitable for energising other essential safety equipment for example:

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

Schematic representations of typical central power supply equipment are depicted in clause 4. When a UPS system is used to feed these essential safety systems, it must comply with EN 50091-1 and its relevant parts, and the additional requirements of this standard.

The power supply system for fire alarms covered by EN 54 are excluded.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1838	Lighting applications - Emergency lighting
EN 50091-1-1	Uninterruptible power systems (UPS) – Part 1-1: General and safety requirements for UPS used in operator access areas
EN 50091-1-2	Uninterruptible power systems (UPS) – Part 1-2: General and safety requirements for UPS used in restricted access locations
EN 50272-2	Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
EN 60051 (series)	Direct acting indicating analogue electrical measuring instruments and their accessories
EN 60146-1-1	Semiconductor convertors – General requirements and line commutated convertors – Part 1-1: Specifications of basic requirements
EN 60285	Alkaline secondary cells and batteries - Sealed nickel-cadmium cylindrical rechargeable single cells
EN 60417 (series)	Graphical symbols for use on equipment

EN 60598-1	Luminaires – Part 1: General requirements and tests (IEC 60598-1, mod.)
EN 60598-2-22	Luminaires – Part 2-22: Particular requirements - Luminaires for emergency lighting (IEC 60598-2-22, mod.)
EN 60622	Sealed nickel-cadmium prismatic rechargeable cells
EN 60623	Vented nickel-cadmium prismatic rechargeable single cells
EN 60896-1	Stationary lead-acid batteries - General requirements and methods of test – Part 1: Vented types
EN 60896-2	Stationary lead-acid batteries - General requirements and methods of test – Part 2: Valve regulated types
EN 60898	Circuit breakers for overcurrent protection for household and similar protection (IEC 60898, mod.)
EN 60947-2	Low-voltage switchgear and controlgear – Part 2: Circuit-breakers
EN 60947-4-1	Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters
EN 61032:1998	Protection of persons and equipment by enclosures - Probes for verification
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
HD 21 (series)	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V
HD 472 S1	Nominal voltages for low-voltage public electricity supply systems (IEC 60238:1983, mod.)

### 3 Definitions

For the purpose of this standard, the following definitions apply:

#### 3.1

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

a device arranged to connect the emergency supply automatically to the essential safety equipment circuit(s) on failure of the normal supply or to transfer the load from the normal supply to the battery

#### 3.2

##### **battery charger**

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

#### 3.3

##### **inverter**

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