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HOONE AUTOMAATIKA- JA JUHTIMISSÜSTEEMID.
OSA 3: ELEKTRIOHUTUSNÕUDED**

**Home and Building Electronic Systems (HBES) and
Building Automation and Control Systems (BACS) -
Part 3: Electrical safety requirements
(IEC 63044-3:2017 + IEC 63044-3:2017/A1:2021)**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN IEC 63044-3:2018+A1:2025 sisaldab Euroopa standardi EN IEC 63044-3:2018 ja selle muudatuse A1:2025 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 63044-3:2018+A1:2025 consists of the English text of the European standard EN IEC 63044-3:2018 and its amendment A1:2025.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.01.2018, muudatus A1 04.04.2025.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 19.01.2018, for A1 04.04.2025.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega A1 A1 .	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags A1 A1 .
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 29.120.01; 29.120.99

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English Version

**Home and Building Electronic Systems (HBES) and Building
Automation and Control Systems (BACS) -
Part 3: Electrical safety requirements
(IEC 63044-3:2017 + IEC 63044-3:2017/A1:2021)**

Systèmes Electroniques pour les Foyers Domestiques et
les Bâtiments (HBES) et Systèmes de Gestion Technique
du Bâtiment (SGTB) - Partie 3: Exigences de sécurité
électrique
(IEC 63044-3:2017 + IEC 63044-3:2017/A1:2021)

Allgemeine Anforderungen an die Elektrische
Systemtechnik für Heim und Gebäude (ESHG) und an
Systeme der Gebäudeautomation (GA) -
Teil 3: Anforderungen an die elektrische Sicherheit
(IEC 63044-3:2017 + IEC 63044-3:2017/A1:2021)

This European Standard was approved by CENELEC on 2017-03-03. Amendment A1 was approved by CENELEC on 2021-06-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard and its amendment the status of a national standard without any alteration.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 23/735/CDV, future edition 1 of IEC 63044-3, prepared by IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63044-3:2018.

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) 2018-07-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-01-19

This document supersedes EN 50491-3:2009.

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For the relationship with EU Directive see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 63044-3:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60065	NOTE	Harmonized as EN 60065.
IEC 60598 Series	NOTE	Harmonized as EN 60598 Series.
IEC 60669-2-1	NOTE	Harmonized as EN 60669-2-1.
IEC 60669-2-5	NOTE	Harmonized as EN 60669-2-5.
IEC 60730-1	NOTE	Harmonized as EN 60730-1.
IEC 60730-2-11	NOTE	Harmonized as EN 60730-2-11.
IEC 60730-2-14	NOTE	Harmonized as EN 60730-2-14.
IEC 60950-1:2005	NOTE	Harmonized as EN 60950-1:2006 (modified).
IEC 60990	NOTE	Harmonized as EN 60990.
IEC 61140	NOTE	Harmonized as EN 61140.
IEC 61558 Series	NOTE	Harmonized as EN 61558 Series.
IEC 61800 Series	NOTE	Harmonized as EN 61800 Series.
IEC 62040 Series	NOTE	Harmonized as EN 62040 Series.
IEC 62080	NOTE	Harmonized as EN 62080.
IEC 62094-1	NOTE	Harmonized as EN 62094-1.
IEC 62368-1	NOTE	Harmonized as EN 62368-1.
ISO 16484-2	NOTE	Harmonized as EN ISO 16484-2.

A1 Amendment A1 European foreword

The text of document 23/912/CDV, future edition 1 of IEC 63044-3/A1, prepared by TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63044-3:2018/A1:2025.

The following dates are fixed:

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The text of the International Standard IEC 63044-3:2017/A1:2021 was approved by CENELEC as a European Standard without any modification. **A1**

INTERNATIONAL STANDARD



**Home and building electronic systems (HBES) and building automation and control systems (BACS) –
Part 3: Electrical safety requirements**



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Edition 1.1 2021-05
CONSOLIDATED VERSION

INTERNATIONAL STANDARD



**Home and building electronic systems (HBES) and building automation and control systems (BACS) –
Part 3: Electrical safety requirements**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOME AND BUILDING ELECTRONIC SYSTEMS (HBES) AND
BUILDING AUTOMATION AND CONTROL SYSTEMS (BACS) –****Part 3: Electrical safety requirements**

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International Standard IEC 63044-3 has been prepared by IEC technical committee 23: Electrical accessories.

A list of all parts in the IEC 63044 series, published under the general title *Home and Building Electronic Systems (HBES) and Building Automation Control Systems (BACS)*, can be found on the IEC website.

The text of this standard is based on the following documents:

CDV	Report on voting
23/735/CDV	23/747/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this publication, the following print types are used:

- Requirements proper: in roman type.
- *Test specifications: in italic type.*

This document shall be used in conjunction with relevant product safety standards.

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A1 Amendment A1 FOREWORD

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Amendment 1 to IEC 63044-3:2017 has been prepared by IEC technical committee 23: Electrical accessories.

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CDV	Report on voting
23/912/CDV	23/961A/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications/.

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INTRODUCTION

The IEC 63044 series deals with developing and testing Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS).

This document deals with electrical safety requirements for HBES/BACS.

This document is based on the philosophy that a device considered electrically safe according to an appropriate product safety standard should also remain safe when connected to a network. This document specifies in addition to the specific product standard the electrical safety requirements necessary in order for an HBES/BACS device connected to a network to remain safe under normal and single-fault conditions of the HBES/BACS network and at the same time under normal and single-fault conditions of one or more HBES/BACS devices connected to the HBES/BACS network. This includes protection from overvoltages on the network, protection from hazards caused by connection of different types of A_1 network A_1 , the limitation of the touch current to a network and protection of the communication wiring from overheating.

The HBES/BACS network is any interconnection between HBES/BACS A_1 devices A_1 . The HBES/BACS networks can be either an ICT network with interfaces classified according to IEC 62949 or a dedicated network classified as a mains, ELV, FELV, SELV or PELV A_1 network A_1 .

For HBES/BACS A_1 devices A_1 connected to an ICT network, the requirements in IEC 62949 apply.

For HBES/BACS A_1 devices A_1 connected to a dedicated HBES/BACS network, the requirements for the electrical separation between the device and the network A_1 *deleted text* A_1 are specified (see Table 1). These specifications of the electrical separations follow the principle in the basic safety publications IEC 60664-1 and IEC 61140, together with the installation requirements of IEC 60364. The following compromises are used.

- According to the principles of IEC 60664-1, the rated impulse voltage for the separation shall be the higher of the impulse voltage on the network and the rated impulse voltage of the device circuit to be connected to the network.
- The overvoltage categories considered by IEC 60664-1 refer to overvoltages derived directly from the mains through the power supply.
- The overvoltages coming from other sources (e.g. capacitive couplings) are not specified in IEC 60664-1. IEC 60664-1 recommends that technical committees specify overvoltage categories or rated impulse voltages as appropriate.

For the purposes of this document, the following impulse voltages have been specified.

- For networks with galvanic electrical separation from mains (FELV, SELV or PELV A_1 *deleted text* A_1), the impulse overvoltage coming from the network side of the separation has been limited to 2,5 kV for fixed installed networks and 1,5 kV for detachable networks.
- For ICT networks, particular requirements apply (see 6.3.2.1).

HOME AND BUILDING ELECTRONIC SYSTEMS (HBES) AND BUILDING AUTOMATION AND CONTROL SYSTEMS (BACS) –

Part 3: Electrical safety requirements

1 Scope

A1 This document specifies the electrical safety requirements for HBES/BACS. **A1**

In addition, it defines safety requirements for the interface of equipment intended to be connected to an HBES/BACS **A1** *deleted text* **A1**. It does not apply to interfaces to other networks.

NOTE An example of other networks is a dedicated ICT network covered by IEC 62949.

A1 *deleted text* **A1**

A1 This document covers the following requirements and compliance criteria:

- protection against hazards from the device;
- protection against overvoltages on the network;
- protection against touch current;
- protection against hazards caused by different types of network;
- protection of the communication wiring against overheating caused by excessive current. **A1**

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60038:2009, *IEC standard voltages*

IEC 60364 (all parts), *Low-voltage electrical installations*

IEC 60364-5-52, *Low-voltage electrical installations – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61180, *High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment*

IEC 62151:2000, *Safety of equipment electrically connected to a telecommunication network*

IEC 62949, *Particular safety requirements for equipment to be connected to information and communication networks*¹

IEC 63044-1, *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 1: General requirements*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 63044-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

¹ Under preparation. Stage at the time of publication: IEC/FDIS 62949:2016.