

INTERNATIONAL STANDARD

AMENDMENT 1

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

IEC 63044-3:2017/AMD1:2021

<https://standards.iteh.ai/catalog/standards/sist/a3e285b8-349d-40b5-af2a-6f16d283aea8/iec-63044-3-2017-amd1-2021>



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

Part 3: Electrical safety requirements

AMENDMENT 1

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

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

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/.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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INTRODUCTION

In the last sentence of the third paragraph, replace "circuit" with "network".

In the first sentence of the fourth paragraph, replace "products" with "devices".

In the last sentence of the fourth paragraph, replace "circuit" with "network".

In the fifth paragraph, replace "products" with "devices".

In the first sentence of the sixth paragraph, replace "products" with "devices" and delete "circuit" after "network".

In the first bulleted list item, delete "circuit" after "PELV".

1 Scope

Replace the two first paragraphs with the following:

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

In the third paragraph, delete "network" after "HBES/BACS".

Delete the fourth paragraph and list, which begins: "This document is applicable to...".

Replace the fifth paragraph and list with the following:

"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."

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

In 3.1.1, replace "circuits" and "circuit" with "networks" and "network", respectively, in the third dashed list item of the definition and in Note 1 and Note 4.

In 3.1.6, replace "circuit" with "network" in the term itself and in the definition.

In 3.1.8, replace "circuit" with "network" in the terms, and in the definition and note.

In 3.1.9, replace "circuit" with "network" in the terms, and in the definition and Note 2.

In 3.1.10, replace "circuit" and "circuits" with "network" and "networks", respectively, in the terms, and in the definition and notes.

In 3.1.11, replace "circuit" and "circuits" with "network" and "networks", respectively, in the terms, and in the definition and notes.

In 3.1.12, replace "circuits" and "circuit" with "networks" and "network", respectively, in the definition.

In 3.1.13, replace "circuit" with "network" in the definition and replace the SOURCE line with the following:

[SOURCE: IEC 60050-195:1998, 195-06-19, modified – "(electrically)" has been omitted from the term and "circuit" has been replaced with "network" in the definition.]

In 3.1.17, replace "circuits" with "networks" in the definition and replace the SOURCE line with the following:

[SOURCE: IEC 60050-195:1998, 195-06-18, modified – "circuits" has been replaced with "networks" in the definition.]

3.2 Abbreviated terms

Add the following abbreviated term:

FELV Functional Extra Low Voltage

4 Classification of HBES/BACS network interfaces

Replace the content of Clause 4 with "Void".

5 Safety requirements and compliance criteria

Replace "appropriate" with "electrical" and "Table 1" with "Annex A".

Add the following paragraphs after the existing paragraph:

"This document applies in the following way.

- a) If the safety standard for the device to be part of the HBES/BACS does not specify electrical safety requirements for HBES/BACS, this document (IEC 63044-3) applies.
- b) If the safety standard for the device to be part of the HBES/BACS specifies electrical safety requirements for HBES/BACS, the requirements of this document (IEC 63044-3) shall be used as the minimum levels required."

6 Requirements

6.1 General

Delete first paragraph.

6.2 Classification requirements of installation areas

6.2.1 Overvoltage category

Delete "system" in the first paragraph.

6.2.2 Pollution degree

Delete "system" in the first paragraph.

Add a new subclause:

6.2.3 Material class

All devices of an HBES/BACS shall comply with the minimum material class IIIa (CTI = 175 V).

6.3 Electrical safety requirements

In the heading to 6.3.2, replace "**circuit**" with "**network**".

In 6.3.2.1, heading, replace "**products**" with "**devices**".

In the first paragraph of 6.3.2.1, replace "products" with "devices" and "3.1.4" with "3.1.1".

In 6.3.2.2, heading, replace "**Products connected to**" with "**Devices interconnected via**".

In 6.3.2.2, replace the first paragraph with the following:

"For devices connected to an HBES/BACS network as defined in IEC 63044-1:2017, 3.1.2 and IEC 63044-1:2017/AMD1:2021, 3.1.2, the protection against electric shock in accordance with 6.3.1 applies. Table 1 specifies the required electrical separation between the device network and the HBES/BACS network and applies in addition to the product standard."

Add the following after the first paragraph:

"If the separation between the mains and SELV is done with a transformer, this shall be a safety transformer according to IEC 61558-2-6 or IEC 61558-2-16."

In the third dashed list item at the end of 6.3.2.2, replace "Table 12" with "in Table 1".

After the sentence of the fourth dashed list item at the end of 6.3.2.2, add the following sentence:

"If clearances have been chosen for inhomogeneous field conditions according to IEC 60664-1:2007, Table F.2, no verification by a voltage withstand test is needed."

In the Note of 6.3.3.1, replace "products" with "devices".

In 6.3.3.2, replace the existing heading with the following new heading:

6.3.3.2 Limitation of touch current from the HBES/BACS device to an ICT network

Replace the first paragraph with the following:

"For HBES/BACS devices connected to an ICT network, as defined in 3.1.1, the appropriate requirements in IEC 62949 apply in addition to the product standard."

In 6.3.3.3, replace the heading with the following new heading:

6.3.3.3 Limitation of the touch current from the device to the HBES/BACS network

In 6.3.3.4.1, replace the Note with the following Note:

NOTE The values used for these requirements are taken from IEC 61140:2016.

In 6.3.3.4.2, 1), add "AC RMS or 10 mA ripple-free DC" after "3,5 mA".

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Replace existing Annex A with the following new Annex A:

Annex A (informative)

List of product standards for electrical safety

Device type	Relevant standard	Title
Data processing devices (Server stations) Peripherals (Storage and archiving devices, visual display units, printers) Interfaces (Data Interface Unit (DIU), interfaces to Dedicated Special Systems (DSS)) Audio/video equipment	IEC 62368-1	Audio/video, information and communication technology equipment – Part 1: Safety requirements
Alarm indication and annunciation devices (acoustic annunciation devices, optical indication device)	IEC 62080	Sound signalling devices for household and similar purposes
	IEC 62094-1	Indicator light units for household and similar fixed-electrical installations – Part 1: General requirements
	IEC 60598 (all parts)	Luminaires
Controllers and automation stations, application-specific controllers (ASC), coupling modules, local override / indication devices, room devices, operator panels (HMIs), temperature sensors.	IEC 60730-1	Automatic electrical controls – Part 1: General requirements
Electric actuators (prime mover),	IEC 60730-2-14	Automatic electrical controls – Part 2-14: Particular requirements for electric actuators
Thermostats	IEC 60730-2-9	Automatic electrical controls – Part 2-9: Particular requirements for temperature sensing control
Uninterruptible power systems (UPS)	IEC 62040 (all parts)	Uninterruptible power systems (UPS)
Electronic control devices (e.g. HBES/BACS push-buttons, dimmers, switches, motion detectors, RF push-buttons, etc.)	IEC 60669-2-1	Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic control devices
Power transformers, power supply units and similar devices	IEC 61558 (all parts)	Safety of transformers, reactors, power supply units and combinations thereof
Adjustable speed electrical power drive systems	IEC 61800 (all parts)	Adjustable speed electrical power drive systems
NOTE For a more detailed description of the BACS devices, see ISO 16484-2.		