IEC 63044-4

Edition 1.0 2021-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Home and building electronic systems (HBES) and building automation and control systems (BACS) –
Part 4: General functional safety requirements for products intended to be integrated in HBES and BACS

Systèmes électroniques pour les foyers domestiques et les bâtiments (HBES) et systèmes de gestion technique du bâtiment (SGTB) –
Partie 4: Exigences générales de sécurité fonctionnelle pour les produits destinés à être intégrés dans les HBES et SGTB

IEC 63044-4:2021-06 -11-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 29.120.01; 29.120.99

ISBN 978-2-8322-9898-5

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 4: General functional safety requirements for products intended to be integrated in HBES and BACS

FOREWORD

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The text of this International Standard is based on the following documents:

FDIS	Report on voting
23/973/FDIS	23/975/RVD

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 International Standard 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.

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

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Functional safety includes the safe operation of devices and appliances ("products") when installed into and operating on a communications network in a home or building ("premises").

This document specifies installation, control, operating, and failure mode procedures to enhance the functional safety of devices installed in homes and buildings. A device functions safely if it causes no harm while operating and performing an intended task. Such devices might not operate safely due to installation or control problems.

The growing use of home and building networks to interconnect devices introduces additional challenges to maintaining functional safety because of possible device interactions. Therefore, this document addresses the risks of connecting devices to a home or building network, which enables data exchanges and remote control from within the home or building.

Furthermore, if the home or building network is connected to a public network, control from remote locations may be possible. Such control messages might originate from a smart phone app, be sent through a mobile telephone network, routed to a building gateway and sent via a home or building network to a device communications interface. Thus there are many opportunities for such messages to be compromised. Remote access poses additional threats to functional safety that are addressed in this document.

This document is part of IEC 63044 series and applies to home and building electronic systems (HBES/BACS).

This document applies to home and building electronic systems (HBES) in general and specifically to systems conforming to the home electronic system (HES) family of ISO/IEC standards.

HBES/BACS products in this document are for non-safety-related systems.

The intention of this document is to specify, as far as possible, all safety requirements for HBES/BACS products in their life cycle.

This document specifies the general functional safety requirements for devices connected to a home or building network following the principles of the basic standard for functional safety, IEC 61508 (all parts). It covers functional safety issues related to device and device installations. The requirements are based on a risk analysis in accordance with IEC 61508.

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

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1 Scope

This part of IEC 63044 provides the functional safety requirements for HBES/BACS.

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

NOTE 1 An example of another network is a dedicated ICT network covered by IEC 62949.

This document does not provide functional safety requirements for safety-related systems.

NOTE 2 Examples of non-safety-related HBES/BACS applications are given in Annex C.

This document does not provide requirements on data protection and security.

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

IEC 63044-3:2017, *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 3: Electrical safety requirements*

IEC 63044-5 (all parts), *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)*

IEC 61508 (all parts), *Functional safety of electrical/electronic/programmable electronic safety-related systems*

IEC 61709:2017, *Electric components – Reliability – Reference conditions for failure rates and stress models for conversion*

3 Terms and definitions

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

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

- IEC Electropedia: available at http://www.electropedia.org/
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