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INTERNATIONAL STANDARD

colour inside

Home and building electronic systems (HBES) and building automation and control systems (BACS) – Part 1: General requirements

IEC 63044-1:2017-01+AMD1:2021-05 CSV(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: General requirements

FOREWORD

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In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 63044-1 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 and Control Systems (BACS)*, can be found on the IEC website.

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

Part 1: General requirements

1 Scope

This part of IEC 63044 applies to all Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) and specifies the general requirements for these systems and products.

~~This document is applicable (but not limited) to~~

~~– operator stations and other human–system interface devices,~~

~~– devices for management functions,~~

~~– control devices, automation stations and application specific controllers,~~

~~– field devices and their interfaces, and~~

~~– cabling and interconnection of devices~~

~~used within a dedicated HBES/BACS network.~~

This document provides an overview of the IEC 63044 series.

To enable integration of a wide spectrum of applications, the IEC 63044 series covers

- electrical safety,
- functional safety,
- environmental conditions,
- EMC requirements, and
- installation and cabling rules and topologies.

IEC 63044 is a series of product family standards

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 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/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
~~**home and building electronic/building automation and control products**~~
~~**HBES/BACS products**~~
~~devices intended to be used for control, monitoring, operation or management of building services and/or home electronic systems which can interact via a dedicated HBES/BACS network~~

gateway
functional unit that connects different networks through interfaces

3.1.2
HBES/BACS network
~~interconnection between HBES/BACS products used for communication~~

~~Note 1 to entry: An HBES/BACS network can carry digital data as well as analogue signals.~~

network based on one physical layer that facilitates the communication in HBES/BACS

Note 1 to entry: Examples of HBES/BACS networks are RF, twisted pair, PLC.

Note 2 to entry: HBES/BACS can be supported by different networks.

3.1.3
HBES/BACS
~~combination of HBES/BACS products (including their separate connected/detachable devices) linked together via one or more HBES/BACS networks~~

~~Note 1 to entry: Other names used such as "home control network", "home control systems", "home and building electronic systems", "building systems", "building automation system", etc. describe types of HBES/BACS system.~~

system consisting of control devices, processing equipment, network interfaces, and gateways, where the functions are distributed and linked through a common communication process, managing multiple applications in home and building premises

Note 1 to entry: Examples of applications are heating, alarming, shading and lighting.

Note 2 to entry: The term "managing" includes one or more activities such as measuring, monitoring and controlling.

Note 3 to entry: Other terms that are used in the market to refer to HBES/BACS include the following: "home control network", "home control system", "smart home", "building system" and "building automation system".

Note 4 to entry: The principles of HBES/BACS can also be used for single application systems if no specific standards are available.

Note 5 to entry: A common communication process is a process using a common data model (such as KNX, LON, Bacnet, Dotdot, etc.), independent of the physical layer.

Note 6 to entry: An application can comprise individual products or systems.

Note 7 to entry: The controlled device is not part of HBES/BACS except for the interface to the HBES/BACS network.

3.1.4
~~**interface**~~
~~shared boundary between two implementations of functions belonging to one or more functional groupings~~

network interface
boundary between two functional units, defined by functional characteristics, signal characteristics, or other characteristics as appropriate

Note 1 to entry: This concept includes the specification of the connection of two devices having different functions.

3.1.5
interoperability
ability of devices to exchange commands via the higher layers resulting in meaningful actions

Note 1 to entry: This includes aspects of the application domain, which by definition is beyond the OSI domain.

3.1.6
service
~~benefit provided by an interapplication binding, or a local controller or remotely by a service provider to a consumer, and using entities and functions of applications that are available to it~~

action or function of a system creating an added value for customers, controlled locally, or remotely by a service provider

[SOURCE: IEC 60050-871:2018, 871-01-04, modified – deletion of "AAL" from the term and from the definition, deletion of the example and note, and addition of "controlled locally, or remotely by a service provider".]

3.1.7
cluster
group of applications using the same type of HBES for approximately the same type of information to be exchanged driven by the same industrial and market sector

3.2 Abbreviated terms

BACS Building Automation and Control Systems

HBES Home and Building Electronic Systems

HVAC Heating, Ventilation and Air Conditioning

4 General requirements

A product claiming compliance with IEC 63044 shall comply with all applicable parts listed under Clause 5 in the framework of its intended use as declared by the manufacturer. Compliance with single parts of IEC 63044 shall be notified individually ~~in the product documentation~~ (e.g. compliant with IEC 63044-3, IEC 63044-5-1 and IEC 63044-5-2, etc.).

5 Standardization structure

5.1 Part 2: Environmental conditions

This part is under consideration.

~~IEC 63044-2 provides the environmental conditions for all devices connected to HBES/BACS and defines the general requirements for devices operating in weather protected and non-weather protected locations, sea environments, portable use and also for storage and transport.~~

IEC 63044-2 provides the environmental conditions for HBES/BACS devices, when declared in the manufacturer's documentation for use in one or more of the environment classes.

5.2 Part 3: Electrical safety requirements

~~IEC 63044-3 provides the electrical safety requirements related to the HBES/BACS network in addition to the product safety standards for HBES/BACS devices.~~

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

~~It also applies to devices used within a HBES/BACS network for which no specific HBES/BACS product safety standard exists.~~

In addition, IEC 63044-3 defines 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 An example of other networks is a dedicated ICT network covered by IEC 62949.

5.3 Part 4: Functional safety

This part is under consideration.

IEC 63044-4 sets the requirements for functional safety for HBES/BACS products and systems. The requirements may also apply to the distributed functions of any equipment connected in a home or building control system if no specific functional safety standard exists for this equipment or system. IEC 63044-4 does not provide functional safety requirements for safety-related systems.

5.4 Part 5: EMC requirements

5.4.1 Overview

~~This product family standard sets the minimum level of EMC performance for the HBES/BACS network in addition to the product EMC standards for HBES/BACS devices.~~

~~It also applies to devices used within a HBES/BACS network for which no specific HBES/BACS product EMC standard exists.~~

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

This product family standard specifies the EMC requirements for HBES/BACS.

In addition, it defines EMC requirements for the interface of equipment intended to be connected to an HBES/BACS network.

NOTE An example of other networks is a dedicated ICT network covered by CISPR 32.

5.4.2 Part 5-1: EMC requirements, conditions and test set-up

IEC 63044-5-1 provides the general performance requirements and test set-ups.

5.4.3 Part 5-2: EMC requirements for HBES/BACS used in residential, commercial and light-industrial environments

IEC 63044-5-2 specifies EMC requirements for HBES/BACS to be installed in residential, commercial and light-industrial environments, according to the definition given in IEC 61000-6-1.

5.4.4 Part 5-3: EMC requirements for HBES/BACS used in industrial environments

IEC 63044-5-3 specifies EMC requirements for HBES/BACS to be installed in industrial environments, according to the definition given in IEC 61000-6-2.

NOTE Industrial environment covers the office spaces that may be present in industrial premises.

Industrial automation systems are outside the scope of IEC 63044-5-3.

5.5 Part 6: Planning and installation of HBES

This part is under consideration.

IEC 63044-6 specifies the additional specific HBES requirements for the common rules for the planning and the installation of HBES/BACS.

Power line systems are outside the scope of IEC 63044-6.

6 HBES/BACS applications and clusters overview

Table 1 provides an overview of Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS).

Table 1 – Summary of the most relevant application requirements

Cluster	Applications covered by HBES and BACS	Exchange of information					
		Control/ Commands	Mono-channel streaming		Multi-channel streaming		Data
		–	Audio	Video	Audio	Video	–
Automation	Lighting control	X	–	–	–	–	–
	Shutters control	X	–	–	–	–	–
	Portal and door control	X	–	–	–	–	–
HVAC	Heating control	X	–	–	–	–	X
	Air conditioning control	X	–	–	–	–	–
	Ventilation	X	–	–	–	–	–
	Smart energy metering	(X)	–	–	–	–	(X)
Security	Gas detection	X	–	–	–	–	–
	Smoke detection	X	–	–	–	–	–
	Fire alarm detection	X	–	–	–	–	–
	Flood detection	X	–	–	–	–	–
Ultra low voltage installer	Intrusion detection	(X)	–	(X)	–	–	–
	Social alarm	X	X	–	–	–	–
	Access control	(X)	–	(X)	–	–	–
	Building intercom	X	X	X	–	–	–
	Video surveillance	X	–	X	–	–	–
	Indoor voice communication	–	–	–	–	–	–
	Outdoor voice communication	X	X	–	–	–	–
AV	Music distribution	X	X	–	–	–	–
	Video distribution	X	–	–	–	–	–
	TV programme distribution	X	–	–	X	X	–
IT	PC and peripherals sharing	–	–	–	–	–	X
	Internet access	X	–	–	X	X	X
	Network storage	–	–	–	X	X	X
General	Home supervision	X	–	–	–	–	
X = relevant (X) = conditional							

An overview of the applications and clusters of services for HBES/BACS is available in Table 2.

Table 2 – Applications and clusters of services for HBES/BACS

Home and building applications [a]	Cluster services								
	Energy management	Security	Health care	Comfort	Video on demand	Advanced voice telecom.	Entertainment	Telemedicine	Tele services over internet
Lighting control	X	–	X	X	–	–	–	–	–
Shutters control	X	–	X	X	–	–	–	–	–
Portal and door control	–	X	–	X	–	–	–	–	–
Heating control	X	–	X	X	–	–	–	–	–
Air conditioning control	X	–	–	X	–	–	–	–	–
Ventilation	X	–	–	–	–	–	–	–	–
Gas detection	–	X	X	–	–	–	–	–	–
Smoke detection	–	X	X	–	–	–	–	–	–
Flood detection	–	X	X	–	–	–	–	–	–
Smart energy metering	X	–	–	–	–	–	–	–	X
Social alarm	–	X	X	–	–	–	–	–	–
Intrusion detection	–	X	–	–	–	–	–	–	–
Access control	–	–	X	–	–	–	–	X	–
Building intercom	–	–	X	X	–	X	–	X	–
Video surveillance	–	X	X	–	–	–	–	X	–
Indoor communication	–	–	X	X	–	X	–	–	–
Outdoor communication	–	X	X	–	–	X	–	–	–
Music distribution	–	–	–	X	–	–	X	–	–
Video distribution	–	–	–	–	X	–	X	–	–
TV programme distribution	–	–	X	–	–	–	X	–	X
PC and peripherals sharing	–	–	–	–	–	–	X	–	X
Internet access	X	X	X	–	X	X	–	–	X
Network storage	–	–	–	–	X	X	X	–	X
Home supervision	X	X	–	X	–	–	–	–	X

X – relevant

[a] There are two types of services: indoor and outdoor (for the outdoor type, an external third party is involved – the service provider).

Bibliography

IEC 62820-1-1, *Building intercom systems – Part 1-1: System requirements – General*

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

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

IEC 63044-5-1, *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 5-1: EMC requirements, conditions and test set-up*

IEC 63044-5-2, *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 5-2: EMC requirements for HBES/BACS used in residential, commercial and light industrial environments*

IEC 63044-5-3, *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 5-3: EMC requirements for HBES/BACS used in industrial environments*

CISPR 32, *Electromagnetic compatibility of multimedia equipment – Emission requirements*

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

Part 1: General requirements

1 Scope

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3.1.1
gateway
functional unit that connects different networks through interfaces

3.1.2
HBES/BACS network
network based on one physical layer that facilitates the communication in HBES/BACS

Note 1 to entry: Examples of HBES/BACS networks are RF, twisted pair, PLC.

Note 2 to entry: HBES/BACS can be supported by different networks.

3.1.3
HBES/BACS
system consisting of control devices, processing equipment, network interfaces, and gateways, where the functions are distributed and linked through a common communication process, managing multiple applications in home and building premises

Note 1 to entry: Examples of applications are heating, alarming, shading and lighting.

Note 2 to entry: The term "managing" includes one or more activities such as measuring, monitoring and controlling.

Note 3 to entry: Other terms that are used in the market to refer to HBES/BACS include the following: "home control network", "home control system", "smart home", "building system" and "building automation system".

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Note 6 to entry: An application can comprise individual products or systems.

Note 7 to entry: The controlled device is not part of HBES/BACS except for the interface to the HBES/BACS network.

3.1.4
network interface
boundary between two functional units, defined by functional characteristics, signal characteristics, or other characteristics as appropriate

Note 1 to entry: This concept includes the specification of the connection of two devices having different functions.

3.1.5
interoperability
ability of devices to exchange commands via the higher layers resulting in meaningful actions

Note 1 to entry: This includes aspects of the application domain, which by definition is beyond the OSI domain.

3.1.6
service
action or function of a system creating an added value for customers, controlled locally, or remotely by a service provider

[SOURCE: IEC 60050-871:2018, 871-01-04, modified – deletion of "AAL" from the term and from the definition, deletion of the example and note, and addition of "controlled locally, or remotely by a service provider".]

3.1.7
cluster
group of applications using the same type of HBES for approximately the same type of information to be exchanged driven by the same industrial and market sector

3.2 Abbreviated terms

BACS Building Automation and Control Systems

HBES Home and Building Electronic Systems

HVAC Heating, Ventilation and Air Conditioning

4 General requirements

A product claiming compliance with IEC 63044 shall comply with all applicable parts listed under Clause 5 in the framework of its intended use as declared by the manufacturer.