

Building automation and control systems (BACS) - Part  
1: Project specification and implementation (ISO  
16484-1:2024)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 16484-1:2024 sisaldab Euroopa standardi EN ISO 16484-1:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.01.2024.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 16484-1:2024 consists of the English text of the European standard EN ISO 16484-1:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 24.01.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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English Version

**Building automation and control systems (BACS) - Part 1:  
Project specification and implementation (ISO 16484-  
1:2024)**

Systèmes de gestion technique du bâtiment (SGTB) -  
Partie 1: Spécifications et mise en œuvre d'un projet  
(ISO 16484-1:2024)

Systeme der Gebäudeautomation (GA) - Teil 1:  
Projektplanung und -ausführung (ISO 16484-1:2024)

This European Standard was approved by CEN on 23 December 2023.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 16484-1:2024) has been prepared by Technical Committee ISO/TC 205 "Building environment design" in collaboration with Technical Committee CEN/TC 247 "Building Automation, Controls and Building Management" the secretariat of which is held by SNV.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2024, and conflicting national standards shall be withdrawn at the latest by July 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 16484-1:2010.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## Endorsement notice

The text of ISO 16484-1:2024 has been approved by CEN as EN ISO 16484-1:2024 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 205, *Building environment design*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 247, *Building Automation, Controls and Building Management*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16484-1:2010), which has been technically revised.

The main changes are as follows:

- updating of normative references;
- updating of terms and definitions;
- mention of cyber security measures and wireless communication.

A list of all parts in the ISO 16484 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The ISO 16484 series is aimed at the design of new buildings and the retrofitting of existing buildings for an acceptable indoor environment, practical energy conservation and efficiency.

The ISO 16484 series is applicable to building automation and control systems (BACS), as follows:

- The environmental design for all building types requires complex methods of automation and control. The functional integration of services other than heating, ventilating and air conditioning (HVAC) is a general task for all parties employed to develop an integrated multi-application system. The integration comprises, for example, lighting and electric power distribution control, security control, transportation, maintenance management or facilities management. This system integration allows the user to take advantage of synergies between the different applications. The ISO 16484 series gives guidance to architects, consultants and contractors as well as guidance to users on how to share such resources.
- The innovation cycles between devices, systems and networks vary. In order to make it possible to add and to change existing devices and extend the building automation and control network, several interfaces, both proprietary and standardized, are defined between the BACS network and the other systems. A manufacturer can design a product, both to meet their specific marketing objectives and to give the option to integrate that special device into a multi-application BACS. Interfaces are also defined in appropriate parts of the ISO 16484 series along with the necessary communications protocol and conformance test required to support the interworking of devices.
- A manufacturer, a systems house, or an electrical or mechanical contractor can assemble the implementation of a building automation and control system.
- The application of the ISO 16484 series is not to standardize the hardware and software design or the architecture of a system, but to define the process for the creation of project specifications, where the functionality and the quality of the solution are clearly defined.

The ISO 16484 series is intended for use by those involved in the design, manufacture, engineering, installation, commissioning, operational maintenance and training of BACS when contracted, i.e.

- as a guideline to the terminology of the building automation and control trade. Unambiguous terminology is required for a complete and accurate conveyance of the intent and details of the ISO 16484 series;
- in product development, to avoid unnecessary duplication of function or terminology, but not necessarily placing a restraint on the evolution of new products, systems or applications;
- as a basis for interfacing products and systems. In order to interoperate, the elements of a BACS require a unified data communication protocol and information model;
- as a basis for drawing up a project specification for procurement;
- as a code of practice for expert commissioning;
- by educational establishments wishing to train people in the field of BACS.

# Building automation and control systems (BACS) —

## Part 1: Project specification and implementation

### 1 Scope

This document specifies guiding principles for project design and implementation and for the integration of other systems into the building automation and control systems (BACS).

This document specifies the phases required for the BACS project, including

- design (determination of project requirements and production of design documents including technical specifications),
- engineering (detailed function and hardware design),
- installation (installing and commissioning of the BACS), and
- completion (handover, acceptance and project finalization).

This document also specifies the requirements for as-built documentation and training.

This document is not applicable to operation and maintenance, nor is it applicable to retro or continuous commissioning, including a commissioning authority.

### 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.

ISO/IEC 14763-2, *Information technology — Implementation and operation of customer premises cabling — Part 2: Planning and installation*

ISO 16484-2, *Building automation and control systems (BACS) — Part 2: Hardware*

ISO 16484-5, *Building automation and control systems (BACS) — Part 5: Data communication protocol*

ISO 16484-6, *Building automation and control systems (BACS) — Part 6: Data communication conformance testing*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16484-2, ISO 16484-5, ISO 16484-6 and the following apply.

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

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