



BSI Standards Publication

Energy performance of buildings – Building automation, controls and building management

Part 2: Explanation and justification of ISO 52127-1

National foreword

This Published Document is the UK implementation of CEN ISO/TR 52127-2:2021. It is identical to ISO/TR 52127-2:2021. It supersedes PD CEN/TR 16947-2:2016, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RHE/16, Performance requirements for control systems.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Automatisation, régulation et gestion technique du
bâtiment - Partie 2: Explication et justification de l'ISO
52127-1 (ISO/TR 52127-2:2021)

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European foreword

This document (CEN ISO/TR 52127-2:2021) 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.

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 CEN/TR 16947-2:2016.

Endorsement notice

The text of ISO/TR 52127-2:2021 has been approved by CEN as CEN ISO/TR 52127-2:2021 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 documents 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).

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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.

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).

A list of all parts in the ISO 52127 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.

Introduction

This document consolidates information that is considered important for users to properly understand, apply and nationally adopt the EPB standards.

The detailed technical rules in CEN/TS 16629 ask for a clear separation between normative and informative contents:

- to avoid flooding and confusing the actual normative part with informative content;
- to reduce the page count of the actual standard;
- to facilitate understanding of the package.

Therefore, each EPB standard should be accompanied by an informative Technical Report, like this document, where all informative contents are collected.

[Table 1](#) shows the relative position of this document within the EPB set of standards.

Table 1 — Position of this document within the EPB set of standards

Over-arching		Technical building system										
Sub module	Building (as scope)	Descriptions	Descriptions	Heating	Cooling	Ventilation	Humidification	Dehumidification	Domestic hot waters	Lighting	Building automation and control	PV, wind...
sub1	M2	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
1	General	General	General									
2	Building energy needs	Common terms and definitions; symbols, units and subscripts	Building energy needs	Needs								
3	(Free) Indoor conditions without systems	Application	Maximum load and power									
4	Ways to express energy performance	Ways to express energy performance	Ways to express energy performance									
5	Building functions and building boundaries	Heat transfer by transmission	Emission and control									
6	Building occupancy and operating conditions	Heat transfer by infiltration and ventilation	Distribution and control									
7	Aggregation of energy services and energy carriers	Internal heat gains	Storage and control									
8	Building partitioning	Solar heat gains	Generation and control									

NOTE The shaded modules are not applicable.

Table 1 (continued)

Overall archiving		Technical building system										
Sub module	Descriptions	Building Descriptions (as such)	Descriptions	Heating	Cooling	Ventilation	Humidification	Dehumidification	Domestic hot waters	Lighting	Building automation and control	PV, wind...
sub1	M1	M2		M3	M4	M5	M6	M7	M8	M9	M10	M11
9	Calculated energy performance	Building dynamics (thermal mass)	Building dynamics and operating condition									
10	Measured energy performance	Measured energy performance	Measured energy performance									
11	Inspection	Inspection	Inspection									
12	Ways to express indoor comfort		BMS								x	
13	External environment conditions											
14	Economic calculation											

NOTE The shaded modules are not applicable.

Energy performance of buildings — Building automation, controls and building management —

Part 2: Explanation and justification of ISO 52127-1

1 Scope

This document contains information to support the correct understanding, use and adoption of ISO 52127-1.

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 52127-1, *Energy performance of buildings — Building management system — Part 1: Module M10-12*

ISO 7345, *Thermal insulation of buildings and building components — Physical quantities and definitions*

ISO 52000-1, *Energy performance of buildings — Overarching EPB assessment — Part 1: General framework and procedures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345, ISO 52000-1 and ISO 52127-1 apply.

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

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

4 Symbols

For the purpose of this document, the symbols given in ISO 52000-1 and ISO 52127-1 apply.

5 Method description

5.1 Effect of building automation and control (BAC) and technical building management (TBM)

The key-role of building automation and control and TBM is to ensure the balance between the desired human comfort - which should be maximal, and energy used to obtain this goal - which should be minimal.

The scope of BAC and TBM covers in accordance with their role from one side all technical building systems (where the effect of the BAC is used in the calculation procedures) and from another side the global optimization of the energy performance of a building.