TECHNICAL REPORT

ISO/TR 52127-2

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2021-02

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

Part 2: Explanation and justification of ISO 52127-1

Performance énergétique des bâtiments — Automatisation, régulation et gestion technique du bâtiment —

Partie 2: Explication et justification de l'ISO 52127-1

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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	Building (as such)	Technical building system									
Sub module	**Descriptions**	**Descriptions**	**Descriptions**	**Heating**	**Cooling**	**Ventila-tion**	**Humidifi-cation**	**Dehumidi-fication**	**Domestic hot waters**	**Lighting**	**Building au-tomation and control**	**PV, wind...**
sub1	**M1**	**M2**		**M3**	**M4**	**M5**	**M6**	**M7**	**M8**	**M9**	**M10**	**M11**
1	General	General	General									
2	Common terms and definitions; symbols, units and subscripts	Building energy needs	Needs									
3	Application	(Free) Indoor conditions without systems	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)*

	Over-arching	Building (as such)	Technical building system									
Sub module	**Descriptions**	**Descriptions**	**Descriptions**	**Heating**	**Cooling**	**Ventila-tion**	**Humidifi-cation**	**Dehumidi-fication**	**Domestic hot waters**	**Lighting**	**Building au-tomation and control**	**PV, wind...**
sub1	**M1**	**M2**		**M3**	**M4**	**M5**	**M6**	**M7**	**M8**	**M9**	**M10**	**M11**
9	Calculated energy per-formance	Building dy-namics (ther-mal mass)	Load dis-patching and operating conditions									
10	Measured energy per-formance	Measured energy per-formance	Measured energy per-formance									
11	Inspection	Inspection	Inspection									
12	Ways to ex-press 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 purposes 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.