

	Energetická hospodárnosť budov. Inšpekcia automatizácie budov, riadenia a technického manažérstva budov. Časť 2: Sprievodná technická správa prEN 16946-1: 2015 - Moduly M10-11.	TNI CEN/TR 16946-2 73 0723
--	---	--

Energy Performance of Buildings - Inspection of Building Automation, Controls and Technical Building Management - Part 2: Accompanying TR prEN 16946-1:2015 - Modules M10-11

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/TR 16946-2:2016.
This Technical standard information includes the English version of CEN/TR 16946-2:2016.

Táto technická normalizačná informácia bola oznámená vo Vestníku ÚNMS SR č. 02/17

124345

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2017
Tento dokument a ani jeho časti sa nesmú rozmnožovať a rozširovať v akejkoľvek podobe
a akýmkoľvek prostriedkami bez písomného povolenia ÚNMS SR.

TECHNICAL REPORT

CEN/TR 16946-2

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

September 2016

ICS 97.120

English Version

**Energy Performance of Buildings - Inspection of Building
Automation, Controls and Technical Building Management
- Part 2: Accompanying TR prEN 16946-1:2015 - Modules
M10-11**

This Technical Report was approved by CEN on 11 April 2016. It has been drawn up by the Technical Committee CEN/TC 247.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
European foreword.....	3
Introduction	4
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 BAC audit methodology.....	6
4.1 Introduction	6
4.2 Energy flow and mapping of functionality groups of EN 15232	7
4.2.1 General.....	7
4.2.2 Explanation of graphic	7
4.3 Functionality Description	8
4.4 Implementation of Inspection Procedures.....	8
4.5 Scope	8
5 Classification Method.....	8
5.1 Purpose of Classification	8
5.2 Classification using Points	8
5.3 Classification influence factors	8
5.4 EN 15232 Classes.....	9
Annex A (informative) Example of an inspection system (available through eu.bac.org)	10
A.1 Introduction	10
A.2 Detailed description.....	12
A.2.1 Point Scale related to Functions	12
A.2.2 Weights	15
A.2.3 Applications (groups of functions) – importance factors.....	16
A.2.4 Actual importance factor.....	17
A.2.5 Importance factors depending on type of building	17
A.2.6 Sections of functions – relative importance	18
A.2.7 Missing major functionality.....	19
A.2.8 Different functionality depending on available equipment	21
A.2.9 Actual Importance of Section 7 Technical building management.....	21
A.2.10 Different parts of a building and different types of spaces in a building.....	21
A.3 Explanation of the POINTS AND CLASS SUMMARY table.....	22
A.4 eu.bac classification	23
A.4.1 AA/A/B/C/D/E	23
Bibliography.....	25

European foreword

This document (CEN/TR 16946-2:2016) has been prepared by 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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document is currently divided into the following parts:

- *Inspection of Building Automation, Controls and Technical Building Management — Module M10-11* [currently at Enquiry stage];
- *Inspection of Building Automation, Controls and Technical Building Management — Part 2: Accompanying prEN 16946-1:2015 Modules M10-11* [the present Technical Report; currently at Voting stage].

Introduction

The CENSE project, the discussion between CEN and the Concerted action highlighted the high page count of the entire package due to a lot of “textbook” information. This resulted in flooding and confusing the normative text.

A huge amount of informative contents shall indeed be recorded and available for users to properly understand, apply and nationally adapt the EPB standards.

The detailed technical rules 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 shall be accompanied by an informative technical report, like this one, where all informative content is collected.

Table 1 shows the relative position of this standard within the EN EPB set of standards.

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

Submodule	Over-arching	Building (as such)	Technical Building System									
	Descriptions	Descriptions	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
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	Heat Transfer by Infiltration and Ventilation	Distribution and control									

	Over-arching	Building (as such)	Technical Building System									
Submodule	Descriptions	Descriptions	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
	Conditions											
7	Aggregation of Energy Services and Energy Carriers	Internal Heat Gains	Storage and control									
8	Building Partitioning	Solar Heat Gains	Generation and control									
9	Calculated Energy Performance	Building Dynamics (thermal mass)	Load dispatching and operating conditions									
10	Measured Energy Performance	Measured Energy Performance	Measured Energy Performance									
11	Inspection	Inspection	Inspection								x	
12	Ways to Express Indoor Comfort		BMS									
13	External Environment Conditions											
14	Economic Calculation											

1 Scope

This Technical Report refers to prEN 16946-1, *Inspection of Building Automation, Controls and Technical Building Management — Module M10-11*.

It contains information to support the correct understanding, use and national adaption of standard prEN 16946-1:2015.

This Technical Report does not contain any normative provision.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 16946-1:2015, *Inspection of Building Automation, Controls and Technical Building Management — Module M10-11*

prEN 15232-1:2015, *Energy performance of buildings — Part 1: Impact of Building Automation, Controls and Building Management — Modules M10-4,5,6,7,8,9,10*

prEN ISO 52000-1:2015, *Energy performance of buildings — Overarching EPB assessment — Part 1: General framework and procedures (ISO/DIS 52000-1:2015)*

prCEN ISO/TR 52000-2:2014, *Energy Performance of buildings — Module M1-x — Accompanying Technical Report on draft Overarching standard EPB*

EN ISO 7345:1995, *Thermal insulation - Physical quantities and definitions (ISO 7345:1987)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN