

	System manažérstva budov. Časť 2: Sprievodná technická správa EN 16947-1: 2015 - Moduly M10-12.	TNI CEN/TR 16947-2 73 0913
--	--	--

Building Management System - Part 2: Accompanying prEN 16947-1:2015 - Modules M10-12

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/TR 16947-2:2016.
This Technical standard information includes the English version of CEN/TR 16947-2:2016.

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

124346

TECHNICAL REPORT

CEN/TR 16947-2

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

September 2016

ICS 91.120.10; 97.120

English Version

**Building Management System - Part 2: Accompanying
prEN 16947-1:2015 - Modules M10-12**

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	Symbols and abbreviations	6
5	Method description	6
5.1	Effect of building automation and control (BAC) and technical building management (TBM)	6
5.2	Control Strategy	8
5.3	Rationale	8
5.4	Time steps	9
5.4.1	General	9
5.4.2	Assumption	9
5.4.3	Data input — Item 1	9
5.4.4	Simplified input	9
5.4.5	Calculation information	10
5.5	List of functions covered by the Method	10
5.5.1	Setpoint Management (BMS function 1)	10
5.5.2	Runtime Management (BMS function 2)	11
5.5.3	Sequencing of multiple generators (BMS function 3)	11
5.5.4	Local energy production and renewable energies (BMS function 4)	13
5.5.5	Heat recovery and heat shifting (BMS function 5)	13
5.5.6	Smart grid interactions and peak shaving (BMS function 6)	14
6	Method selection	14
7	Information on the accompanying spreadsheet	14
Bibliography		15

European foreword

This document (CEN/TR 16947-2:2016) has been prepared by Technical Committee CEN/TC 247 “Building Automation, Controls and Building Management”, the secretariat of which is held by SNV.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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 is currently divided into the following parts:

- prEN 16947-1:2015, *Building Management System — Module M10-12* [currently at Enquiry stage];
- CEN/TR 16947-2:2016, *Building Management System —Part 2: Accompanying prEN 16947-1:2015 Modules M10-12.*

Introduction

The CENSE project, the discussions 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 Detailed Technical Rules 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 contents is collected.

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

Table 1 — Position of this standard within the EPD set of standards

	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
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									

	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
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									
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									
12	Ways to Express Indoor Comfort		BMS								x	
13	External Environment Conditions											
14	Economic Calculation											

1 Scope

This Technical Report refers to prEN 16947-1:2015, *Building Management System — Module M10-12*. It contains information to support the correct understanding, use and national adaption of prEN 16947-1:2015.

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.

FprEN 15232-1:2016, *Energy performance of buildings — Part 1: Impact of Building Automation, Controls and Building Management — Modules M10-4,5,6,7,8,9,10*

prEN 15316-2:2015, *Heating systems and water based cooling systems in buildings — Method for calculation of system energy requirements and system efficiencies — Part 2: Space emission systems (heating and cooling)*

prEN 16947-1:2015, *Building Management System — Module M10-12*

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

EN ISO 13790, *Energy performance of buildings - Calculation of energy use for space heating and cooling (ISO 13790)*

prEN 16947-1:2015, *Building Management System — Module M10-12*

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

koniec náhľadu – text ďalej pokračuje v platenej verzii STN