BS EN 12098-5:2017

BSI Standards Publication

Energy Performance of Buildings - Controls for heating systems

Part 5: Start-stop schedulers for heating systems - Modules M3-5,6,7,8

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National foreword

This British Standard is the UK implementation of EN 12098-5:2017. It supersedes BS EN 12098-5:2005, which is withdrawn.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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Energy Performance of Buildings - Controls for heating systems - Part 5: Start-stop schedulers for heating systems - Modules M3-5,6,7,8

Performance énergétique des bâtiments - Régulation pour les systèmes de chauffage - Partie 5 : Programmateurs d'intermittences pour les systèmes de chauffage - Modules M3-5, 6, 7, 8

Energetische Bewertung von Gebäuden - Mess-, Steuer- und Regeleinrichtungen für Heizungen - Teil 5: Schalteinrichtungen zur programmierten Ein- und Ausschaltung von Heizungsanlagen - Module M3-5, 6, 7, 8

This European Standard was approved by CEN on 27 February 2017.

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Full document details: BS EN 12098-5:2017

Contents

Page

European foreword ... 4
Introduction ... 5
1 Scope ... 6
2 Normative references ... 8
3 Terms and definitions ... 8
4 Symbols, subscripts and abbreviations ... 11
4.1 Symbols ... 11
4.2 Subscripts ... 11
5 Functionality ... 11
6 Requirements ... 13
6.1 Data protection ... 13
6.2 Scheduler operating modes ... 14
6.3 Start-stop switch times ... 14
6.3.1 Timers ... 14
6.3.2 Clock schedulers ... 15
6.3.3 Exception handling ... 15
6.3.4 Start period ... 16
6.3.5 Tariff compensation ... 17
6.4 Parameter setting facilities ... 18
6.5 Factory settings ... 18
6.6 Switching output relays ... 18
6.7 Electrical requirements ... 18
6.7.1 General ... 18
6.7.2 Supply voltage ... 18
6.7.3 Protection against electric shock ... 18
6.7.4 Electromagnetic compatibility ... 18
6.7.5 Degree of protection ... 18
6.7.6 Electrical power consumption ... 18
6.7.7 Environmentally induced stress due to temperature ... 19
6.7.8 Materials ... 19
6.8 Use of graphical symbols ... 19
7 Test methods ... 19
7.1 General ... 19
7.2 Data protection ... 19
7.3 Scheduler operating modes ... 20
7.4 Start-stop switch times ... 20
7.4.1 General ... 20
7.4.2 Timers ... 20
7.4.3 Clock schedulers ... 20
7.4.4 Exception handling ... 20
7.4.5 Start period ... 20
7.4.6 Tariff compensation ... 20
7.5 Manual operation ... 20
7.6 Parameter setting facilities ... 20

Documents
Document Sharing Hub
Full document details: BS EN 12098-5:2017

7.7 Factory settings 20
8 Marking 20
9 Documentation 21
9.1 Technical documents 21
9.2 Technical specifications 21
9.3 Instruction for installation 22
9.4 Instruction for operator 22
Bibliography 23

Documents
Document Sharing Hub
Full document details: BS EN 12098-5:2017

European foreword

This document (EN 12098-5:2017) has been prepared by 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 November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

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 12098-5:2005.

This document has been prepared under a mandate [12] given to CEN by the European Commission and the European Free Trade Association.

This document is part of the set of standards on the energy performance of buildings (the set of EPB standards).

In case this standard is used in the context of national or regional legal requirements, mandatory choices may be given at national or regional level for such specific applications, in particular for the application within the context of EU Directives transposed into national legal requirements.

Further target groups are users of the voluntary common European Union certification scheme for the energy performance of non-residential buildings (EPBD art.11.9) and any other regional (e.g. Pan European) parties wanting to motivate their assumptions by classifying the building energy performance for a dedicated building stock.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Full document details: BS EN 12098-5:2017

Introduction

This European Standard is part of a series of standards aiming at international harmonization of the methodology for the assessment of the energy performance of buildings, called “EPB set of standards”.

As part of the “EPB set of standards” it complies with the requirements for the set of basic EPB documents EN ISO 52000-1 (see Normative references), CEN/TS 16628 and CEN/TS 16629 (see bibliography [2] and [3]) developed under a mandate given to CEN by the European Commission and the European Free Trade Association (Mandate M/480).

The standards issued by TC 247 for M/480 belong to the EPB set of standards and are in line with the over-arching standard (EN ISO 52000-1) and drafted in accordance with the basic principles and detailed technical rules developed in the Phase I of the mandate.

Also these standards are clearly identified in the modular structure developed to ensure a transparent and coherent EPB standard set. BAC (Building Automation and Control) is identified in the modular structure as Technical Building System M10. However, the standards of TC 247 deal with control accuracy, control functions and control strategies using standards communications protocol (these last standards do not belong to the EPB standards set).

To avoid a duplication of calculation due to the BAC (avoid double impact), no calculation are done in BAC EPB standard set, but in each underlying standard of EPB set of standards (from M1 to M9 in the Modular Structure), an IDENTIFIER developed and present in the M10 covered by EN 15232-1 is used where appropriate. These way of interaction is described in detailed in the Technical Report (CEN ISO/TR 52000-2) accompanying the over-arching standard. As consequence, the Annex A and Annex B concept as EXCEL sheet with the calculation formulas used in the EPB standards are not applicable for the standards issued by TC 247 for M/480.

The main target groups of this standard are all the users of the set of EPB standards (e.g. architects, engineers, regulators).

Further target groups are parties wanting to motivate their assumptions by classifying the building energy performance for a dedicated building stock.

More information is provided in the Technical Report accompanying this standard (CEN/TR 12098-8 [5]).

This second edition cancels and replaces the first edition EN 12098-5:2005.

The most important changes are:

— respect the presentation of the project in the frame EPB in accordance with the drafting rules;

— modify classification of clocks A to E for a new classification based on periodicity: daily, weekly, yearly, introducing new requirements for digital, networked clocks;

— for homogeneity with EN 12098-1, EN 12098-3 and many other TC247 standards: deletion of block schematic describing functions in details.

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Full document details: BS EN 12098-5:2017

1 Scope

This European Standard applies to scheduling equipment for heating systems. The signals can be processed by using either analogue or digital techniques, or both.

It applies to start-stop scheduling functions and sets minimum acceptable standards for functions, performance and documentation.

NOTE 1 The start-stop function can be integrated within a main control device. In this case, the controller would be expected to this standard for scheduling function.

Safety requirements on heating systems and heating control systems remain unaffected by this European Standard. The actuators and the dynamic behaviour of the valves are not covered in this European Standard. This control equipment may or may not be connected to a data network.

Table 1 shows the relative position of this standard within the set of EPB standards in the context of the modular structure as set out in EN ISO 52000-1.

NOTE 2 In CEN ISO/TR 52000-2 the same table can be found, with, for each module, the numbers of the relevant EPB standards and accompanying technical reports that are published or in preparation.

NOTE 3 The modules represent EPB standards, although one EPB standard may cover more than one module and one module may be covered by more than one EPB standard, for instance a simplified and a detailed method respectively.

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Table 1 — Position of this standard (in casu M3–5,6,7,8), within the modular structure of the set of EPB 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	x								
6	Building Occupancy and Operating Conditions	Heat Transfer by Infiltration and Ventilation	Distribution and control	x								
7	Aggregation of Energy Services and Energy Carriers	Internal Heat Gains	Storage and control	x								
8	Building Partitioning	Solar Heat Gains	Generation and control	x								
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									
13	External Environment Conditions											
14[a]	Economic Calculation											

[a] The shaded modules are not applicable.

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