ILNAS

Institut luxembourgeois de la normalisation de l'accréditation, de la sécurité et qualité des produits et services

ILNAS-EN 12098-5:2005

Controls for heating systems - Part 5: Start-stop schedulers for heating systems

Régulation pour les systèmes de chauffage - Partie 5: Programmateurs d'intermittences pour les systèmes de chauffage

Mess-, Steuer- und Regeleinrichtungen für Heizungen - Teil 5: Schalteinrichtungen zur programmierten Ein- und Ausschaltung von

09/2005

National Foreword

This European Standard EN 12098-5:2005 was adopted as Luxembourgish Standard ILNAS-EN 12098-5:2005.

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- Participate in the design of standards
- Foresee future developments
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Controls for heating systems - Part 5: Start-stop schedulers for heating systems

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chauffage

Mess-, Steuer- und Regeleinrichtungen für Heizungen - Teil
5: Schalteinrichtungen zur programmierten Ein- und
Ausschaltung von Heizungsanlagen

This European Standard was approved by CEN on 1 August 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

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Contents

Foreword

This European Standard (EN 12098-5:2005) has been prepared by CEN/TC 247 "Building automation control 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 March 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

This European Standard is one of a series of product standards for "Controls for heating systems". It considers Definitions, Functionality, Requirements, Test methods, and Documentation for heating controls with fixed start-stop functions. This European Standard consists of the following parts:

Part 1: Outside temperature compensated control equipment for hot water heating systems;

Part 2: Optimum start-stop control equipment for hot water heating systems;

Part 3: Outside temperature compensated control equipment for electrical heating systems;

Part 4: Tariff compensated optimum start-stop control equipment for electrical systems;

Part 5: Start-stop schedulers for heating systems.

No existing European Standard is superseded.

The position of this European Standardt in the series of standards for mechanical building services is illustrated below:
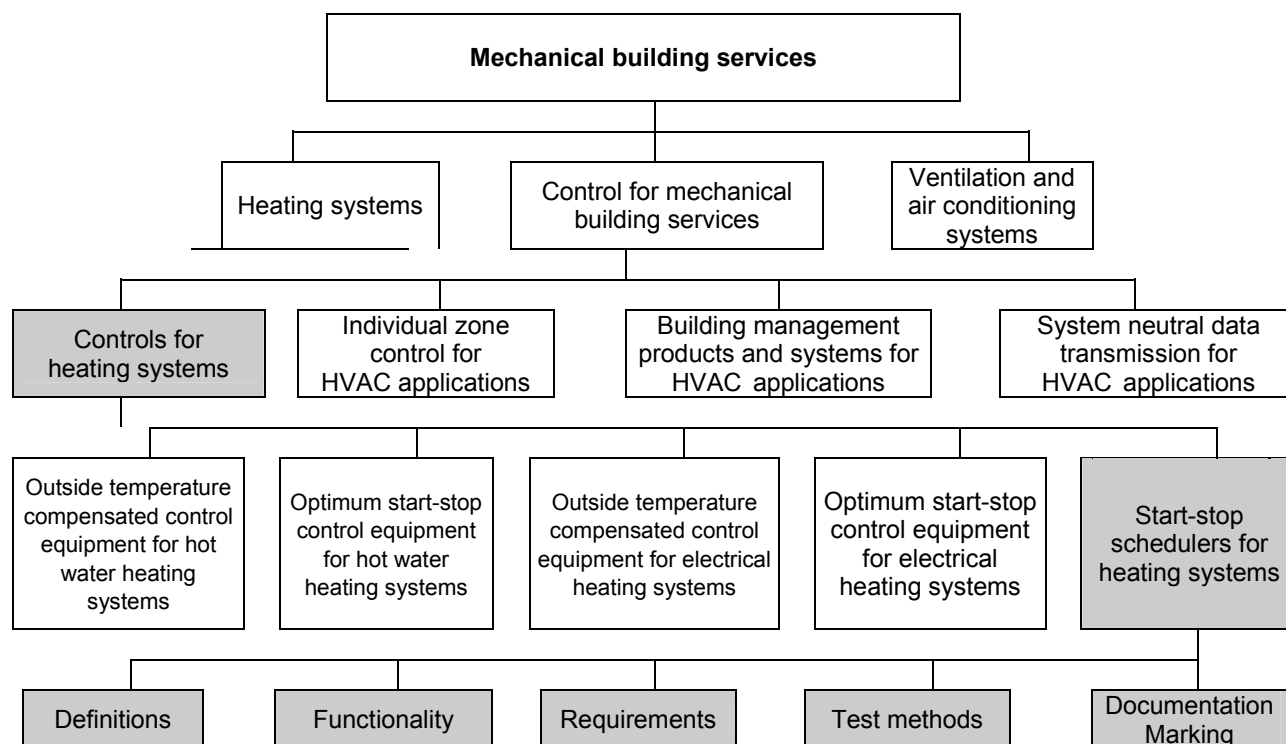
HVAC = Heating, Ventilation, Air Conditioning.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Equipment which controls scheduling of the heating supply in buildings is necessary to reduce the energy consumption of heating plants and maintain comfort level, either for water or electrical heating systems. Clock schedulers lead to energy saving by switching heating modes in relation with predictable occupancy. Timers and schedulers derogation functions start-stop heating modes for non periodic needs of heating.

Switch times may have to be manually changed to achieve energy savings and acceptable comfort levels.

NOTE 1   Fixed start-stop basic function is illustrated by Figure 1. In this example, mode I is nominal mode, J is stand-by mode.
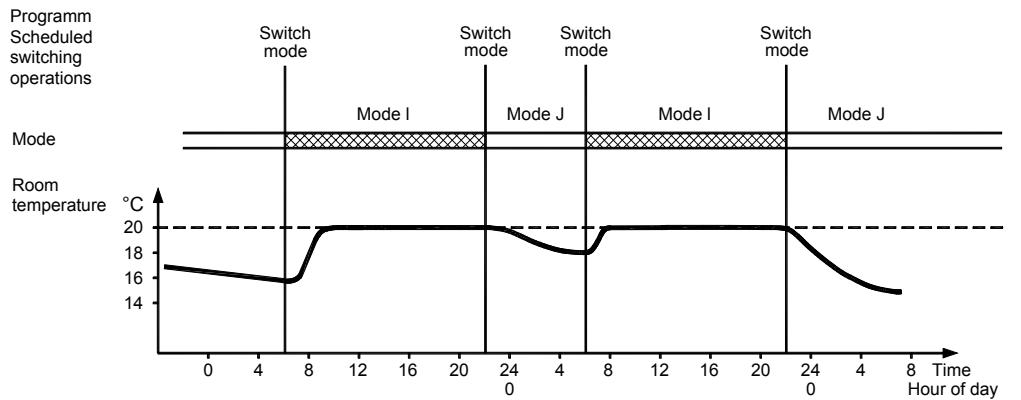

Figure 1 - Relation between occupation, heating modes and room temperature, example

Included in this European Standard are the main equipment characteristics reaching these energy saving and comfort objectives.

NOTE 2   This European Standard, therefore, conforms to the requirements and objectives of the interpretative document n° 6 "Energy Economy and Heat Retention" relating to the Construction Product Directive (89/106/EEC).

1 Scope

This European Standard applies to equipment which controls scheduling heating systems. The signals can be processed by using either analogue or digital techniques, or both. The particular equipment to which this document applies covers both:

- stand-alone fixed start-stop schedulers;

- controllers which contain fixed start-stop scheduling function.

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

NOTE   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.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529: 1989)*

EN 60730-1, *Automatic electrical controls for household and similar use – Part 1: General requirements (IEC 60730-1:1999, modified)*

EN 60730-2-7, *Automatic electrical controls for household and similar use – Part 2: Particular requirements for timers and time switches (IEC 60730-2-7:1990, modified)*

IEC 60038, IEC standard voltages

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
start-stop scheduler
device which switches heating modes affecting the heating control system (see Figure 2) according to a program