National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 12098-4:2005

ICS 97.100.10
97.120

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CONTROLS FOR HEATING SYSTEMS - PART 4: OPTIMUM START-STOP CONTROL EQUIPMENT FOR ELECTRICAL SYSTEMS

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

November 25, 2005

Price Code K

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12098-4

September 2005

ICS 97.100.10; 97.120

English Version

Controls for heating systems - Part 4: Optimum start-stop control equipment for electrical systems

Régulation pour les systèmes de chauffage - Partie 4: Optimiseurs d'intermittences pour les systèmes de chauffage électrique

Mess-, Steuer- und Regeleinrichtungen für Heizungen - Teil 4: Ein-/Ausschalt-Optimierer für Elektroheizungen

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.

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

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Ref. No. EN 12098-4:2005: E

Contents

Foreword

This European Standard (EN 12098-4:2005) 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 electrical heating controls with optimum start or optimum 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;

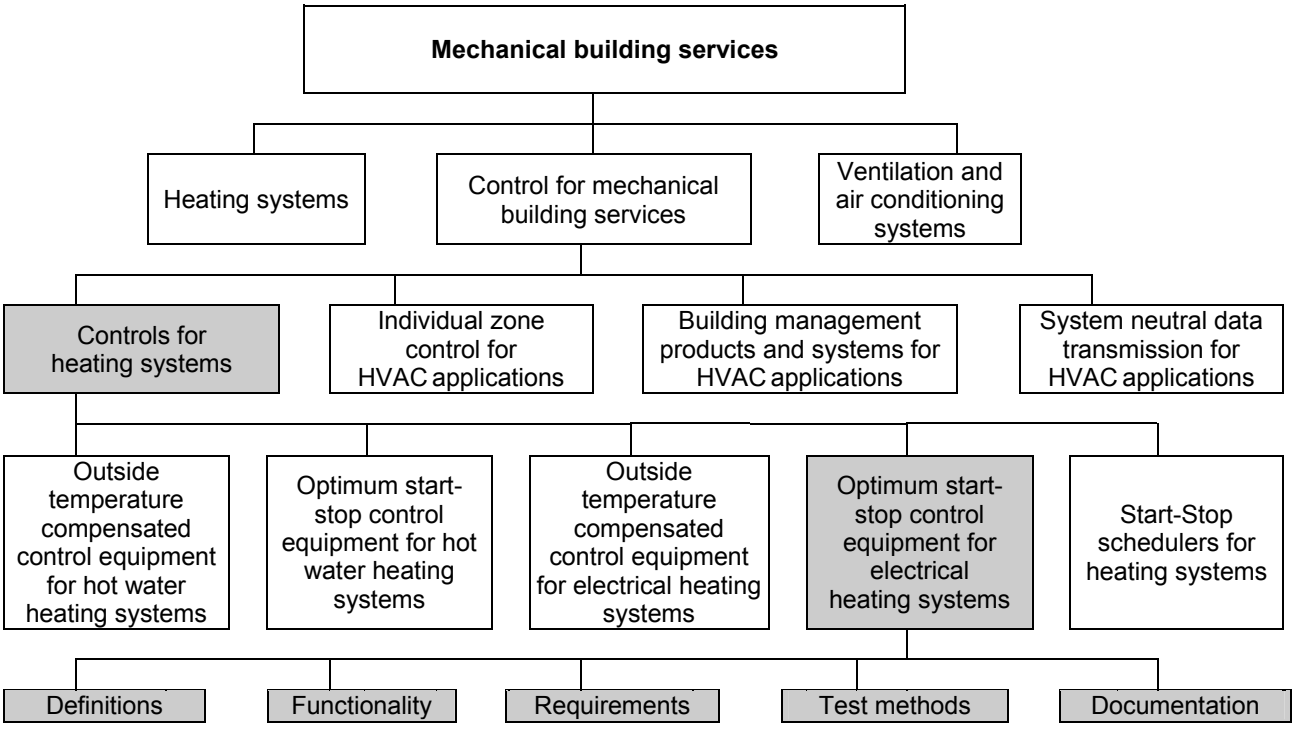
Part 3: Outside temperature compensated control equipment for electrical heating systems;

Part 4: 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 Standard 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 the heating supply in buildings according to outside and/or room temperature is necessary to reduce the energy consumption and minimise energy cost of heating plants and maintain comfort level.

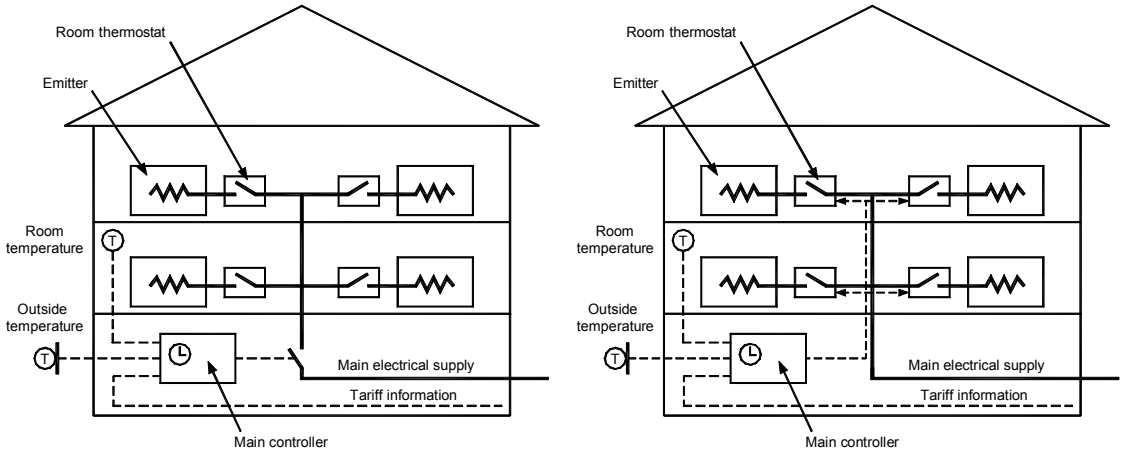


Figure 1 - Example of start-stop optimiser. It can control main electrical supply to the central, zone or room level, it can send data to zone or room controllers

Fixed switching times for intermittent scheduling, may not lead to energy saving, minimum cost and comfort optimisation. A start-stop optimiser schedules switching times in relation with measured variables and tariff (see Figure 1). Its function brings a high level of energy saving without reduction of desired comfort. It can complete a main controller like an outside temperature controller (OTC) according to EN 12098-3.

The optimum start-stop function is easy to programme because the user sets the time at which comfort conditions should apply, rather than the switch-on or switch-off times of the plant.

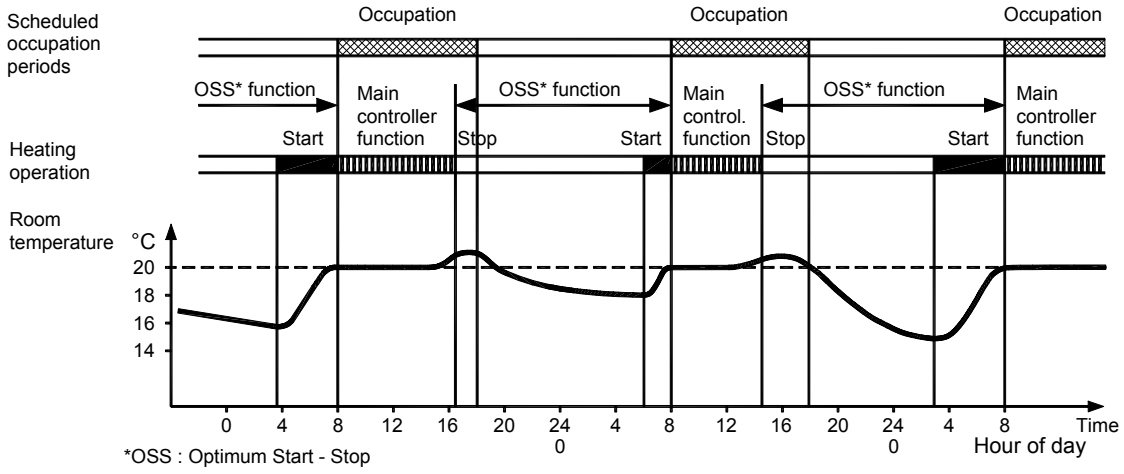


Figure 2 - Example of relation between occupation, heating and room temperature