

Controls for heating systems —

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

The European Standard EN 12098-3:2002 has the status of a British Standard

ICS 91.140.10; 97.120

National foreword

This British Standard is the official English language version of EN 12098-3:2002.

The UK participation in its preparation was entrusted to Technical Committee RHE/16, Performance requirements for control systems, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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This British Standard, having been prepared under the direction of the Engineering Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 7 January 2003

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Régulation pour les systèmes de chauffage - Partie 3:
Equipements de régulation en fonction de la température
extérieure pour les systèmes de chauffage électrique

Mess-, Steuer- und Regeleinrichtungen für Heizungen - Teil
3: Witterungsgeführte Regeleinrichtungen für
Elektroheizungen

This European Standard was approved by CEN on 7 November 2002.

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Foreword

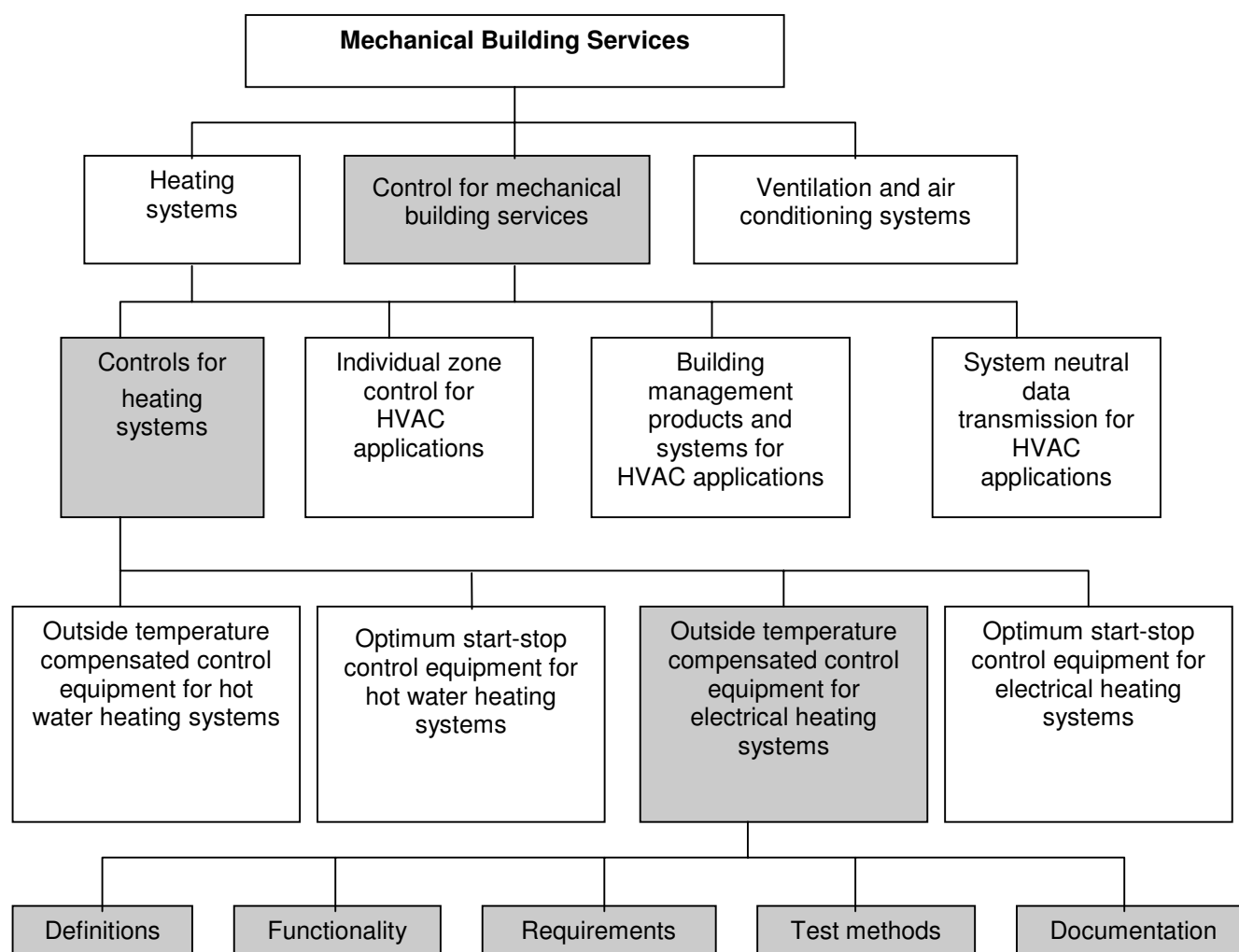
This document (EN 12098-3:2002) has been prepared by Technical Committee CEN/TC 247, "Building Automation, Controls and Building Management", the secretariat of which is held by SNV.

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of an identical text or by endorsement, at the latest by June 2003, and conflicting national standards shall be withdrawn at the latest by June 2003.

This document includes a Bibliography.

This document is part of series of standards relating to controllers for heating systems. It considers definitions, functionality, requirements, test methods, marking and documentation for outside temperature compensated controls for electrical heating systems.

The position of this document in the whole field of standards for mechanical building services is illustrated below.



HVAC = Heating, Ventilation, Air conditioning

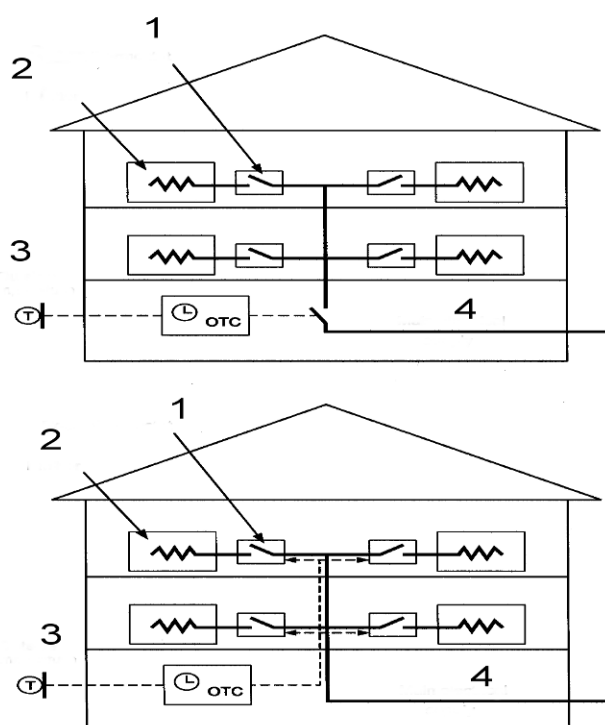
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Introduction

This European Standard covers outside temperature compensated controllers for electrical heating systems; it does not take into account charge rate and/or thermal optimisation functions.

The equipment which regulates and programs the electrical heating in a building is intended to reduce the energy consumption of the heating installations and improve comfort. It saves energy by preventing overheating.

For this purpose, a central controller, like an outside temperature compensated controller is necessary, although in some cases this may not be sufficient.



Key

- 1 Room thermostat
- 2 Emitter
- 3 Outside temperature
- 4 Main electrical supply

Figure 1 — Example of central control electrical heating system. OTC controller is generally completed by room heating control. It can control main electrical supply or send an information to room controllers

Included in this standard are the main equipment characteristics which assist in reaching these energy saving and comfort objectives.

The characteristics which are tested directly are :

- accuracy of sensors,
- part load characteristics.

The characteristics which are to be indicated by the manufacturer are :

- time constants.

NOTE This standard complies with the requirements and objectives of the interpretative document no. 6 "Energy Economy and Heat Retention" relating to the Construction Products Directive (89/106/EEC).

1 Scope

This standard applies to control function which controls and regulates the electrical energy in relation to the outside temperature and other reference variables (e.g.: room temperature, emitter temperature).

This standard does not cover heat emitters.

Input and output signals can be processed by analogue or digital techniques.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 50090-2-2	<i>Home and building electronic systems (HBES) – Part 2-2: System overview – General technical requirements.</i>
EN 60529	<i>Degrees of protection provided by enclosures (IP code) (IEC 60529:1989).</i>
EN 60730-1:2000	<i>Automatic electrical controls for household and similar use – Part 1 : General requirements (IEC 60430-1: 1999, modified)</i>
EN 60730-2-1	<i>Automatic electrical controls for household and similar use – Part 2-1 : Particular requirements for electrical controls for electrical household appliances (IEC 60730-2-1:1989, modified).</i>
EN 60730-2-7	<i>Automatic electrical controls for household and similar use – Part 2-7 : Particular requirements for timers and time switches (IEC 60730-2-7:1990, modified).</i>
EN 60730-2-9	<i>Automatic electrical controls for household and similar use – Part 2-9 : Particular requirements for temperature sensing controls (IEC 60730-2-9:1992, modified).</i>
EN 60730-2-11	<i>Automatic electrical controls for household and similar use – Part 2-11: Particular requirements for energy regulators (IEC 60730-2-11:1993).</i>
EN 61000-3-2	<i>Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase) (IEC 61000-3-2:2000, modified).</i>
EN 61000-3-3	<i>Electromagnetic compatibility (EMC) - Part 3-3: Limits; Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <kleiner => 16 A per phase and not subject to conditional connection; Amendment A1 (IEC 61000-3-3:1994/A1:2001)</i>
IEC/TR2 61000-3-4	<i>Electromagnetic compatibility (EMC) – Part 3-4: Limits – Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A.</i>
IEC/TR2 61000-3-5	<i>Electromagnetic compatibility (EMC) – Part 3: Limits - Section 5 : Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A.</i>