

# SVENSK STANDARD

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### Styr- och regelutrustning för värme och ventilation, inklusive luftbehandling – Elektronisk individuell zonreglerutrustning

### Control for heating, ventilating and air-conditioning applications – Electronic individual zone control equipment

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 15500**

July 2008

ICS 97.120

English Version

## Control for heating, ventilating and air-conditioning applications - Electronic individual zone control equipment

Régulation pour les applications CVC - Régulateurs  
électroniques de zone pour le chauffage

Automation von HLK-Anwendungen - Elektronische Regel-  
und Steuereinrichtungen für einzelne Räume oder Zonen

This European Standard was approved by CEN on 3 November 2007.

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 CEN Management Centre or to any CEN member.

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**SS-EN 15500:2008 (E)**

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## SS-EN 15500:2008 (E)

### Foreword

This document (EN 15500:2007) 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of an identical text or by endorsement, at the latest by January 2009, and conflicting national standards shall be withdrawn at the latest by January 2009.

This standard is for products for electronic individual zone control equipment applications for mechanical building services and covers electronic individual zone control equipment for heating, ventilation and air conditioning applications in residential and non residential buildings.

This standard is part of a series of European Standards for Control for HVAC Applications.

This standard, therefore, contributes to the general European policy for energy saving, particularly in the fields of the Construction Products Directive (89/106/EEC) Essential Requirements n°6 «Energy economy and heat retention» (and its interpretative document) and of the Energy Performance of Building Directive (2002/91/CE).

No existing European Standard is superseded.

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



## **Introduction**

Equipment to control the heating, ventilation and air-conditioning (HVAC) in a building according to the actual room or zone energy demand, is necessary in order to reduce the consumption of energy and improve the quality of the air. HVAC installations should, for the purpose of energy conservation and guaranteeing indoor environmental comfort, be equipped with automatic zone control equipment acting as function of measured inside variables in buildings. Under the term “automatic zone control equipment” is understood the functional unit comprising controller, actuator and sensor.

The zone control equipment controls the comfort of the environment by controlling physical variables such as temperature, humidity, air-quality or air-flow in accordance with occupancy and user requirements.

This standard, which is valid for applications in all domestic and non-domestic buildings, conforms to the requirements and objectives of the interpretative documents “Energy Economy and Heat Retention” and “Hygiene, Health and the Environment” relating to the Construction Products Directive (89/106/EEC) and the preparations for a standardisation mandate from the European Commission are on-going.

## SS-EN 15500:2008 (E)

### 1 Scope

The purpose of this standard is to specify the applications, functionality set and application performance for electronic individual zone control equipment. The applications are for cooling and hot water or electrical heating as described in Annex B.

This standard applies specifically to individual zone control equipment for maintaining temperature, humidity and air flow as a function of occupancy and demand operated with auxiliary electrical energy.

Information required for the operation of the equipment may be processed using either analogue or digital techniques or a combination of both. Safety requirements remain unaffected by this standard.

This standard refers to the input and output requirements of the controller and not of the input and output devices as e. g. sensors and actuators.

This standard covers fixed-function, configurable and programmable controllers.

The control equipment may or may not be connected to a data-network however communications aspects are not covered by this standard.

These devices could be applied for any kind of building, intermittent or non-intermittent occupation, residential or non residential (see Annex B).

## 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 12098-2, *Controls for heating systems — Part 2: Optimum start-stop control equipment for hot water heating systems*

EN 12098-5, *Controls for heating systems — Part 5: Start-stop schedulers for heating systems*

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

EN 60730 (all parts), *Automatic electrical controls for household and similar use*

IEC 60038, *IEC standard voltages*

## 3 Terms and definitions

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

### 3.1

#### **electronic individual zone control equipment**

equipment performing closed loop control functions of physical measured variable(s) (e.g. temperature, humidity, pressure) in a single room or in an area of a building

#### 3.1.1

##### **Fixed-function controller**

application-specific controller where the manufacturer supplies one or more fixed control strategies for specific applications

NOTE see also EN ISO 16484-2

#### 3.1.2

##### **Configurable controller**

Controller where the manufacturer supplies one or more configurable control strategies for specific applications

NOTE see also EN ISO 16484-2

#### 3.1.3

##### **Programmable controller**

Controller where the control strategies can be programmed

NOTE 1 Programmable controllers also are named automation station.

NOTE 2 see also EN ISO 16484-2

### 3.2

#### **operating mode**

mode that applies either to control equipment or to control functions

NOTE Operating modes can be switched over by a scheduler program or manual.

#### 3.2.1

##### **manual**

mode of operation of equipment when significant control functions is overridden by the user