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Automatic burner control systems for oil burners

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 230:2005 sisaldab Euroopa standardi EN 230:2005 ingliskeelset teksti. Käesolev dokument on jõustatud 29.08.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 230:2005 consists of the English text of the European standard EN 230:2005. This document is endorsed on 29.08.2005 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This document specifies the requirements, operating conditions and test methods for burner control systems for automatic and semi-automatic oil burners with or without fans.	**Scope:** This document specifies the requirements, operating conditions and test methods for burner control systems for automatic and semi-automatic oil burners with or without fans.

ICS 27.060

Võtmesõnad: atomizing burners, atomizing oil burners, automatic, design, installations

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Eesti Standardikeskusele kuulub standardite reprodutseerimis- ja levitamisõigus

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English version

Automatic burner control systems for oil burners

Systèmes automatiques de commande et de sècurité pour brûleurs à fioul

Feuerungsautomaten für Ölbrenner

This European Standard was approved by CEN on 14 February 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.

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Foreword

This document (EN 230:2005) has been prepared by Technical Committee CEN/TC 47 “Atomizing oil burners and their components-Function-safety-testing”, the secretariat of which is held by DIN.

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 December 2005, and conflicting national standards shall be withdrawn at the latest by June 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 230:1990.

According to edition 1990 the following fundamental changes are carried out:

— protection against environmental influences;

— additional requirements for complex electronics.

— the structure and wherever possible the definitions and requirements are taken over from EN 298:2003-09.

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 the United Kingdom.

Introduction

Whilst this document is written primarily for Automatic Oil Burner Control Systems used on or in appliance for cooking, heating, hot water production, refrigeration, lighting or washing and having, where applicable, a normal water temperature not exceeding 105 °C, it may be usefully quoted, as a whole or in part, by standards for other equipment.

The functional characteristics of the automatic burner control systems, programming units, and their associated flame detector devices, in so far as they are not laid down in this document, are given by the standards for the appliances for which the automatic burner control systems are intended.

This document deals with immunity aspects of Electromagnetic Compatibility (EMC) only. Since automatic burner control systems are intended for use as an integrated or incorporated part of an appliance, further EMC tests (both immunity and emission) may be required for the intended use.

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1 Scope

This document specifies the requirements, operating conditions and test methods for burner control systems for automatic and semi-automatic oil burners with or without fans.

It also applies to dual fuel burners, for use with either oil or gaseous fuels, when operating on oil.

This document covers type testing only.

This document also applies to automatic burner control systems, programming units or flame detector devices that include additional functions.

Automatic burner control systems utilising thermo-electric flame supervision devices are not covered by this document.

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 267:1999, *Forced draught oil burners – Definitions, requirements, testing, marking*

EN 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal) (IEC 60068-2 6:1995 + Corrigendum 1995)*

EN 60127-1:1991, *Miniature fuses – Part 1: Definitions for miniature fuses and general requirements for miniature fuse-links (IEC 60127-1:1988)*

EN 60335-1:2002, *Household and similar electrical appliances – Safety – Part 1: General requirements (IEC 60335-1:2001, modified)*

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

EN 60730-1:2000, *Automatic electrical controls for household and similar use – Part 1: General requirements (IEC 60730-1:1999, modified)*

EN 60730-2-5:2002, *Automatic electrical controls for household and similar use – Part 2-5: Particular requirements for automatic electrical burner control systems (IEC 60730-2-5:2000, modified)*

EN 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4: Testing and measuring techniques – Section 2: Electrostatic discharge immunity test – Basic EMC publication (IEC 61000-4-2:1995)*

EN 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test (IEC 61000-4-3:2002)*

EN 61000-4-4, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test (IEC 61000-4-4:1995)*

EN 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 5: Surge immunity test (IEC 61000-4-5:1995)*

EN 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 6: Immunity to conducted disturbances, induced by radio-frequency fields (IEC 61000-4-6:1996)*

EN 61000-4-11, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 11: Voltage dips, short interruptions and voltage variations immunity tests (IEC 61000-4-11:2004).*

EN 61558-2-6:1997, *Safety of power transformers, power supply units and similar – Part 2-6: Particular requirements for safety isolating transformers for general use (IEC 61558-2-6:1997)*

EN 61558-2-17:1997, *Safety of power transformers, power supply units and similar — Part 2-17: Particular requirements for transformers for switch mode power supplies (IEC 61558-2-17:1997)*

IEC 60384-14, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60384-16, *Fixed capacitors for use in electronic equipment – Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d. c. capacitors*

ISO 7637-1:2002, *Road vehicles – Electrical disturbances from conduction and coupling – Part 1: Definitions and general considerations*

ISO 7637-2:1990, *Road vehicles – Electrical disturbance by conduction and coupling – Part 2: Electrical transient conduction along supply lines only*

3 Terms and definitions

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

3.1
flame detector device
device by which the presence of a flame is detected and signalled;

it can consist of a flame sensor, an amplifier and a relay for signal transmission. These parts, with the possible exception of the actual flame sensor, can be assembled in a single housing for use in conjunction with a programming unit

[EN 298:2003, term 3.1]

3.2
flame sensor
actual flame-sensing element, the output signal or value of which is used as the input for the flame detector amplifier

[EN 298:2003, term 3.2]

3.3
sensed flame and flame signal

3.3.1
sensed flame
physical value monitored by the flame sensor

[EN 298:2003, term 3.3.1]

3.3.2
flame signal
signal given by the flame detector device in case of sensed flame

[EN 298:2003, term 3.3.2]

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