
Irish Standard
I.S. EN 16340:2014

# Safety and control devices for burners and appliances burning gaseous or liquid fuels - Combustion product sensing devices

**I.S. EN 16340:2014**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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EUROPEAN STANDARD **EN 16340**

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English Version

# Safety and control devices for burners and appliances burning gaseous or liquid fuels - Combustion product sensing devices

Dispositifs de commande et de sécurité pour brûleurs et appareils utilisant des combustibles gazeux ou liquides - Dispositifs de détection des produits de combustion

Sicherheits- und Regeleinrichtungen für Brenner und Brennstoffgeräte für gasförmige oder flüssige Brennstoffe - Abgasfühler

This European Standard was approved by CEN on 14 May 2014.

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-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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# Foreword

This document (EN 16340:2014) has been prepared by Technical Committee CEN/TC 58 “Safety and control devices for burners and appliances burning gaseous or liquid fuels”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by December 2014, and conflicting national standards shall be withdrawn at the latest by December 2014.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2009/142/EC.

For relationship with EU Directive 2009/142/EC, see informative Annex ZA, which is an integral part of this document.

This document is intended to be used in conjunction with EN 13611:2007+A2:2011. This document refers to clauses of EN 13611:2007+A2:2011 or adapts clauses by stating “with the following modification”, “with the following addition”, “is replaced by the following” or “is not applicable” in the corresponding clause. This European Standard adds clauses or subclauses to the structure of EN 13611:2007+A2:2011 which are particular to this standard. These clauses and subclauses are not indicated as an addition. i.e. subclauses or annexes which are additional to those in EN 13611:2007+A2:2011 are numbered starting from 101 or are designated as Annex AA, BB, CC etc. When referring to EN 13611:2007+A2:2011 the word “control” is understood as “combustion product sensing device”.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

# 1 Scope

This European Standard specifies the safety, construction and performance requirements for combustion product sensing devices intended to be used in combustion control systems, hereinafter referred to as CPSD.

This European Standard applies to sensing devices for the measurement of combustion products from burners and appliances for domestic, commercial and industrial use burning:

— gaseous fuels according to EN 437; or

— liquid fuels having a viscosity at the burner inlet of 1,6 $mm^2/s$ (cSt) up to 6 $mm^2/s$ (cSt) at 20 °C, higher boiling petroleum based first raffinates (viscosity greater than 6 $mm^2/s$), that require preheating for proper atomisation.

This European Standard applies to all types of stationary sensing devices measuring flue gas components $O_2$, CO, $CO_2$, $H_2$, $C_xH_y$, $NO_X$, $SO_2$ or for a combination of them (multiple gasses).

This European Standard applies also to sensing devices for extractive systems.

This European Standard does not cover sensor requirements for combustible gas, combustible gas mixture and oil quality.

# 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1856-1:2009, *Chimneys - Requirements for metal chimneys - Part 1: System chimney products*

EN 10088-1:2005, *Stainless steels - Part 1: List of stainless steels*

EN 13611:2007+A2:2011, *Safety and control devices for gas burners and gas burning appliances - General requirements*

EN 14241-1, *Chimneys - Elastomeric seals and elastomeric sealants - Material requirements and test methods - Part 1: Seals in flue liners*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

# 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13611:2007+A2:2011 and the following apply.

**3.101**
**Combustion Product Sensing Device (CPSD)**
Combustion Product Sensing Element (CPSE) combined with control unit and a signal conditioner

Note 1 to entry: The combustion product sensing element is hereafter referred to as CPSE.

Note 2 to entry: The CPSE control unit and/or the signal conditioner can be integrated in the combustion control system (see Figure 1).

Note 3 to entry: Additional components (e.g. heater, flame arrester) used or necessary for operation are considered as parts of the CPSD.