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NSAI Standards

Irish Standard
I.S. EN 13611:2019

Safety and control devices for burners and appliances burning gaseous and/or liquid fuels - General requirements

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13611

March 2019

ICS 23.060.40

Supersedes EN 13611:2015

English Version

Safety and control devices for burners and appliances burning gaseous and/or liquid fuels - General requirements

Équipements auxiliaires pour brûleurs et appareils utilisant des combustibles gazeux ou liquides - Exigences générales

Sicherheits- und Regeleinrichtungen für Brenner und Brennstoffgeräte für gasförmige und/oder flüssige Brennstoffe - Allgemeine Anforderungen

This European Standard was approved by CEN on 17 June 2018.

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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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European foreword

This document (EN 13611:2019) 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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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

This document supersedes EN 13611:2015.

It should be noted that the following significant changes compared to the previous edition have been incorporated in this European Standard:

a) Clause 2 "Normative references" has been updated;

b) In Clause 3 "Terms and definitions" the definition for "instructions" was added;

c) In the whole standard the term "installation and operating instructions" was replaced by "instructions";

d) Annex ZA has been updated with respect to Directive 2009/142/EC relating to appliances burning gaseous fuels (GAD);

e) Annex ZB has been added with respect to Regulation (EU) 2016/426 on appliances burning gaseous fuels (GAR);

f) The Bibliography has been updated.

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 Directives.

For relationship with EU Directives, see informative Annex ZA, ZB and ZC, which are an integral part of this document.

Product specific control standards of CEN/TC 58 make use of this standard by adapting this standard and stating "addition", "modification" or "replacement" in their corresponding clauses.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Introduction

This standard recognizes the safety level specified by CEN/TC 58 and is regarded as a horizontal standard dealing with the safety, construction and performance of controls for burners and appliances burning gaseous and/or liquid fuels and to their testing.

The general requirements for controls are given in this document, and methods for classification and assessment for new controls and control functions are given in EN 14459:2015 (see Figure 1). EN 126 (see Figure 1) specifies multifunctional controls combining two or more controls and Application Control Functions, one of which is a mechanical control function. The requirements for controls and Application Control Functions are given in the specific control standard (see Figure 1, control functions).

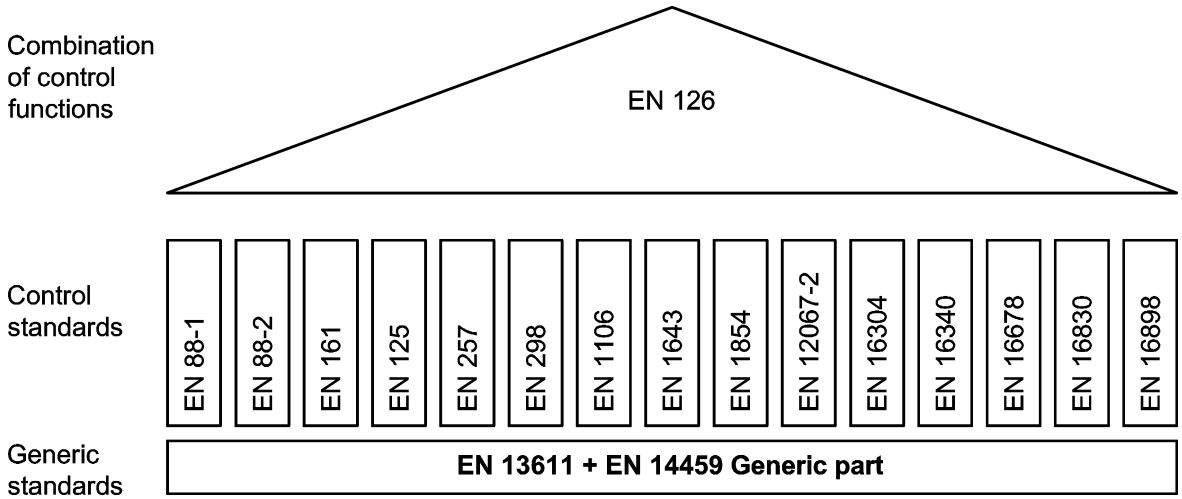

Figure 1 — Interrelation of control standards

This European Standard should be used in conjunction with the specific standard for a specific type of control, (e.g. EN 88-1:2011, EN 88-2:2007, EN 125:2010, EN 126:2012, EN 161:2011+A3:2013, EN 257:2010, EN 298:2012, EN 1106:2010, EN 1643:2014, EN 1854:2010, EN 12067-2:2004, EN 16304:2013 and EN 16340:2014), or for controls for specific applications. This standard can also be applied, so far as reasonable, to controls not mentioned in a specific standard and to controls designed on new principles, in which case additional requirements can be necessary. EN 14459:2015 provides methods for classification and assessment of new control principles.

Primarily in industrial applications it is common practice to rate the safety of a plant based on values describing the likelihood of a dangerous failure. These values are being used to determine Safety Integrity Levels or Performance Levels when the system is being assessed in its entirety.

CEN/TC 58 standards for safety relevant controls do go beyond this approach, because for a certain life time for which the product is specified, designed and tested a dangerous failure is not allowed at all. Failure modes are described and assessed in greater detail.

Measures to prevent from dangerous situations are defined. Field experience over many decades is reflected in the CEN/TC 58 standards. Requirements of these standards can be considered as proven in practice.

To be able to provide values for the parameters that are needed for the determination of a Safety Integrity Level (SIL) or of a Performance Level (PL), Annex J and Annex K of this document specify a possible methodology to derive values for the relevant parameters from the requirements of this

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European Standard. Only controls that conform to the relevant CEN/TC 58 control standard can be assessed for SIL or PL classification according to these Annexes.

It cannot be presumed that any Safety Integrity Level or Performance Level assessment alone would imply that requirements of a CEN/TC 58 standard have been met.

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1 Scope

This European Standard specifies the general safety, design, construction, and performance requirements and testing of safety, control or regulating devices (hereafter referred to as controls) for burners and appliances burning one or more gaseous fuels or liquid fuels. This European Standard is applicable to controls with declared maximum inlet pressure up to and including 500 kPa and of nominal connection sizes up to and including DN 250.

This European standard specifies general product requirements for the following controls:

— automatic shut-off valves;

— automatic burner control systems;

— flame supervision devices;

— gas/air ratio controls;

— pressure regulators;

— manual taps;

— mechanical thermostats;

— multifunctional controls;

— pressure sensing devices;

— valve proving systems;

— automatic vent valves.

This European standard applies for control functions that are not covered by a specific control standard for burners and appliances burning one or more gaseous fuels or liquid fuels.

This European Standard applies also for safety accessories and pressure accessories with a product of the maximum allowable pressure PS and the volume V of less than 600 000 kPa · dm^3 (6 000 bar · L) or with a product of PS and DN of less than 300 000 kPa (3 000 bar).

This European Standard applies for *AC* and *DC* supplied controls (for controls supplied by stand-alone battery system, battery systems for mobile applications or systems which are intended to be connected to *DC* supply networks controls see Annex I).

This European Standard is applicable to reset functions used for reset from lockout, e.g. due to ignition failure or temperature cut-out in burners and appliances (see Annex M).

This European Standard establishes methodologies for the determination of a Safety Integrity Level (SIL) and the determination of a Performance Level (PL) (see Annex J, Annex K and Annex L).

This European Standard gives guidelines for environmental aspects (see Annex N).

This European Standard does not apply to mechanical controls for use with liquid fuels.

The protection against environmental impact in open air (i.e. capable of withstanding UV radiation, wind, rain, snow, dirt deposits, condensation, ice and hoar frost (see IEV 441-11-05:2005), earthquake and external fire) is not covered by this standard.

This European Standard should be used in conjunction with the specific control standard (see Bibliography).

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