

---

**Avtomatske električne krmilne naprave - 2-5. del: Posebne zahteve za avtomatske električne krmilne sisteme gorilnikov**

Automatic electrical controls - Part 2-5: Particular requirements for automatic electrical burner control systems

Automatische elektrische Regel- und Steuergeräte für den Hausgebrauch und ähnliche Anwendungen - Teil 2-5: Besondere Anforderungen an automatische elektrische Brenner-Steuerungs- und Überwachungssysteme

(standards.iteh.ai)

Dispositifs de commande électrique automatiques - Partie 2-5: Exigences particulières pour les systèmes de commande électrique automatiques des brûleurs

<https://standards.iteh.ai/catalog/standards/sist/3d6f43c-1b18-4483-9c94-c992efcaa2ac/sist-en-60730-2-5-2015-a2-2021>

**Ta slovenski standard je istoveten z: EN 60730-2-5:2015/A2:2021**

---

**ICS:**

97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use
--------	-----------------------------------	--------------------------------------

**SIST EN 60730-2-5:2015/A2:2021****en,fr,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60730-2-5:2015/A2:2021](https://standards.iteh.ai/catalog/standards/sist/3d6f4f3c-1bf8-4483-9c94-c992efeaa2ac/sist-en-60730-2-5-2015-a2-2021)

<https://standards.iteh.ai/catalog/standards/sist/3d6f4f3c-1bf8-4483-9c94-c992efeaa2ac/sist-en-60730-2-5-2015-a2-2021>

EUROPEAN STANDARD

EN 60730-2-5:2015/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2021

ICS 97.120

English Version

Automatic electrical controls - Part 2-5: Particular requirements  
for automatic electrical burner control systems  
(IEC 60730-2-5:2013/A2:2021)

Commandes électriques automatiques - Partie 2-5:  
Exigences particulières pour les systèmes de commande  
électrique automatique des brûleurs  
(IEC 60730-2-5:2013/A2:2021)

Automatische elektrische Regel- und Steuergeräte –  
Teil 2-5: Besondere Anforderungen an automatische  
elektrische Brenner-Steuerungs- und  
Überwachungssysteme  
(IEC 60730-2-5:2013/A2:2021)

This amendment A2 modifies the European Standard EN 60730-2-5:2015; it was approved by CENELEC on 2021-03-04. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

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 CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

<https://standards.iteh.ai/catalog/standards/sist/3d6f4f3c-1bf8-4483-9c94-c992efea2ac/sist-en-60730-2-5-2015-a2-2021>

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**EN 60730-2-5:2015/A2:2021 (E)****European foreword**

The text of document 72/1259/FDIS, future IEC 60730-2-5/A2, prepared by IEC/TC 72 "Automatic electrical controls" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60730-2-5:2015/A2:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-12-04 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-03-04 document have to be withdrawn

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

**Endorsement notice****iTeh STANDARD PREVIEW**

The text of the International Standard IEC 60730-2-5:2013/A2:2021 was approved by CENELEC as a European Standard without any modification. (standards.iteh.ai)

In the official version, for Bibliography, the following note has to be added for the standard indicated:

<https://standards.iteh.ai/catalog/standards/sist/3d6f43c-1bf8-4483-9c94-246efcaaf14c/en-60730-2-5:2013/A2:2021>  
 IEC 60730-2-6 NOTE Harmonized as EN 60730-2-6



IEC 60730-2-5

Edition 4.0 2021-01

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

AMENDMENT 2  
AMENDEMENT 2

**Automatic electrical controls –**  
**Part 2-5: Particular requirements for automatic electrical burner control systems**

**Commandes électriques automatiques –**  
**Partie 2-5: Exigences particulières pour les systèmes de commande électrique**  
**automatique des brûleurs**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 97.120

ISBN 978-2-8322-9282-2

**Warning! Make sure that you obtained this publication from an authorized distributor.**  
**Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

## FOREWORD

This amendment has been prepared by IEC technical committee 72: Automatic electrical controls.

The text of this amendment is based on the following documents:

FDIS	Report on voting
72/1259/FDIS	72/1262/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

**IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

## FOREWORD

*Replace the 2<sup>nd</sup> sentence in the 3<sup>rd</sup> paragraph with the following:*

It was established on the basis of the fifth edition:2013, including Amendment 1:2015 and Amendment 2:2020 of that publication.

*Delete the paragraph beginning with "The title of IEC 60730-2-5 Ed. 4 has been ...".*

*Replace the 5<sup>th</sup> dashed entry in paragraph beginning with "The "in some countries" notes regarding..." with:*

– H.26.11.101

*Replace the 6<sup>th</sup> dashed entry in paragraph beginning with "The "in some countries" notes regarding..." with:*

– Table H.24, Note i

## 1 Scope and normative references

### 1.1 Scope

Add "Replacement" below the title of 1.1.

Add the following as a new bullet point before Note 1:

- to a **burner control system** intended to be used in warm air heating appliances (furnaces) where the appliance is equipped with an electromechanical differential pressure control to monitor the difference of the combustion air pressure (Type 2.AL). This pressure control provides a switch as an alternative to one of the two switching elements to directly de-energize the safety relevant terminals.

Add the following new paragraph as the last paragraph of 1.1:

This document applies to controls powered by primary or secondary batteries, requirements for which are contained within the standard, including Annex V.

Add the following new subclauses:

**1.1.7** This document applies to the electrical and functional safety of controls capable of receiving and responding to communications signals. The signals may be transmitted to or received from external units, connected wired or wireless, that may or may not be part of the burner control system.

**1.1.8** This document does not address the integrity of the output signal to the network devices, such as interoperability with other devices, unless it has been evaluated as part of the control system.

[SIST EN 60730-2-5:2015/A2:2021](https://standards.iteh.ai/catalog/standards/sist/3d6f43c-1bf8-4483-9c94-c992efeaa2ac/sist-en-60730-2-5-2015-a2-2021)

<https://standards.iteh.ai/catalog/standards/sist/3d6f43c-1bf8-4483-9c94-c992efeaa2ac/sist-en-60730-2-5-2015-a2-2021>

## 2 Terms and definitions

### 2.2 Definitions of types of control according to purpose

Replace the Note with the following:

**2.2.23** Not applicable.

### 2.3.127

Add to the Note 1 to entry the words "and Canada" after "USA".

Delete definition 2.3.131.

## 6 Classification

### 6.4 According to features of automatic action

Addition:

**6.4.3.110** – electromechanical differential air pressure switch as an alternative to one of the two switching elements to directly de-energize the safety relevant terminals (see 11.3.5.2) for use in warm air heating appliances (furnaces) (Type 2.AL).

NOTE The warm air is the heat transfer media to heat up a space.

## 7 Information

### 7.2.6 Replace the existing text with the following:

#### Replacement:

Except as indicated in 7.4, for integrated systems all information is provided by means of declaration (X). For incorporated systems not declared under item 50, the marking required is as indicated in Table 1 (7.2 of the previous edition). For incorporated systems declared under item 50, the only marking required is the manufacturer's name or trademark and the **unique type reference** if other required marking is provided by documentation (D, E).

NOTE See the explanation of documentation (D, E) contained in 7.2.1.

**Table 1 – Required information and methods of providing information**

Add the following new items to the table:

141	Electromechanical differential pressure control for use with Type 2.AL burner control systems	6.4.3.110, 11.103.3	X
142	(Type 2.AL) burner control systems for use in warm air heating appliances (furnaces)	11.3.5.2, 11.103	X

## iTeh STANDARD PREVIEW (standards.iteh.ai)

## 11 Constructional requirements

### 11.3.5 Contacts – General

Replace the existing Subclause 11.3.5.2 by the following:

#### 11.3.5.2 Replacement:

Systems of **class C control functions** shall include at least two switching elements to directly de-energize the safety relevant terminals.

NOTE 1 A single relay operating two independent contacts is considered to be only one switching element.

Designs where relays are used as switching elements, a non-replaceable fuse (see Table H.24 Note I) in series with two independent relay contacts with  $I_N$  fuse  $< 0,6 * I_e$  relay are considered to comply with the following requirements for prevention of common cause **error**.

NOTE 2  $I_N$ : values for the fuse (see IEC 60127-1:2015, 3.16);

$I_e$ : rated operational current of the contact (see IEC 60947-1:2007; 4.3.2.3).

As an alternative to the two switching elements that directly de-energize the safety relevant terminals, burner control systems (Type 2.AL) are permitted and shall meet all of the following:

- have at least one switching element that directly de-energizes the safety relevant terminals and be connected to an external pressure control in such a manner that both the direct and indirect switching contacts are in series to each other,
- be integrated within the warm air heating appliances (furnaces),
- meet the requirements of 11.103.

NOTE 3 The burner control system is a class C control function.

In Part 1, the term



- “safety related output terminals” is equivalent to “valve terminals”.
- “safety shut-down” shall be used as defined in this document,
- “control” shall be used as “burner control systems”.

#### 11.4.105

Add in the first paragraph after "Type 2.AF" the text "or Type 2.AL".

Replace in the 2<sup>nd</sup> paragraph "positive" with "sufficient".

Add at the end of the clause the following Note:

NOTE Sufficient external air pressure/flow control signal is indicated by closed switching contacts and an insufficient external air pressure/flow control signal is indicated by open switching contacts.

#### 11.102.2 Performance requirements

Replace the existing text with the following:

The **reset from lock-out function** shall be a class B control function according to H.27.1.2.2.

The use of an **automatic action** to perform the **reset from lock-out function** (e.g. **resets** generated by automatic devices, like **timers**, etc.) shall be permitted provided it is accepted by the specific application standards.

Unintended or spontaneous **resets** from lockout which may impact the safe behavior of the appliance shall not occur.

Whenever the **reset from lock-out function** is performed by the use of a mobile device, at least two **manual actions** are required to activate the **reset**.

Any **fault** within the **reset** function shall not cause the appliance to operate outside the applicable requirements. It shall be detected before the next start-up or shall not prevent the appliance from going to shut-down or **lock-out**.

For **reset** functions where the **manual action** is initiated without being within the visible sight of the appliance, the following additional requirements apply:

- actual status and relevant information of the process under control shall be visible to the **user** before, during and after the reset action;
- maximum number of **resets** shall be limited. Where it is not specified in the specific application standard, the number of **resets** shall be limited to five actions or less within a time span of 15 min. Following this, any further remote **resets** shall be denied unless a non-remote **reset** from lock-out.

If the **reset** action is activated by manual switching of a **thermostat** or device with a similar function, this shall be declared by the manufacturer.

For systems where unintended resets do not impact the safe behavior of the controlled appliance, any kind of remote reset device (including class A control function) is used, if a at least **class B control function** of the burner control system is limiting the maximum number of **resets** to five actions or less within a time span of 15 min. Following this, any further remote **resets** shall be denied unless a non-remote **reset** from lock-out.

Add after 11.102, the following new Subclause 11.103:

### 11.103 Application requirements for the use of Type 2.AL burner control systems in warm air heating appliances (furnaces)

#### 11.103.1 General

The design of Type 2.AL burner control systems for warm air heating appliances (furnaces) is intended for appliances that shall have the following construction:

- An operating range of the turn down ratio between 30 % and 100 % combustion air flow.
- The draft inducer motor, the draft inducer motor drive circuit, the differential pressure control in the appliance and the burner control shall all be part of the entire burner control systems and shall comply with the relevant clauses for class C control functions including the conditions that exist due to integration in the appliance.

NOTE The intent of this is to recognize that with this type of burner control systems, all of the external circuits and/or components are considered together in the design of the circuit to meet the requirements of class C control function.

- Heat input does not exceed 120 kW.
- For non-permanent operation.
- For room independent applications, the combustion air inlet and the combustion products outlet on the building shall be in close proximity, see Figure 102.
- The operating voltage to the safety relevant terminals is **SELV** delivered by a **SELV** transformer within the appliance.
- When a short-circuit of the direct switching element is detected, the system shall immediately perform safety shut down, any ventilation and automatic restart shall be prevented.

ITE STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN 60730-2-5:2015/A2:2021

<https://standards.iteh.ai/catalog/standards/sist/3d6f43c-1bf8-4483-9c94-c992efcaa2ac/sist-en-60730-2-5-2015-a2-2021>



IEC

**Figure 102 – Typical installation of the independent combustion air supply for room independent operation**

**11.103.2** The contacts of the electromechanical differential pressure sensing control shall be connected in series with the direct switching element in the burner control that directly de-energizes the safety-relevant terminals of the control.

**11.103.3** The terminals of the burner control intended for the connection of the external pressure sensing control shall be considered safety relevant and comply with the appropriate requirements of Clause 20 for functional insulation, considering that it drives the gas valve.

**11.103.4** To maintain the safety integrity of the burner control system, the manufacturer shall specify the classification of the pressure sensing control used in the appliance by the following parameters:

- operating control with Type 2.B.N action,
- ratings – electrical, thermal and mechanical with the amount of cycles as given in 6.11,