SLOVENSKI STANDARD
oSIST prEN IEC 60730-2-15:2024

01-september-2024

Avtomatske električne krmilne naprave - 2-15. del: Posebne zahteve za avtomatska električna tipala, ki zaznavajo pretok zraka, pretok vode in vodni nivo

Automatic electrical controls - Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing controls

Automatische elektrische Regel- und Steuergeräte - Teil 2-15: Besondere Anforderungen an automatische elektrische luftstrom-, wasserstrom- und wasserstandsabhängige Regel- und Steuergeräte

Dispositifs de commande électrique automatiques - Partie 2-15: Exigences particulières pour les dispositifs de commande électrique automatiques détecteurs de débit d'air, de débit d'eau et de niveau d'eau

Ta slovenski standard je istoveten z: **prEN IEC 60730-2-15:2024**

ICS:

97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

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COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 60730-2-15 ED4**	
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IEC TC 72 : AUTOMATIC ELECTRICAL CONTROLS	
SECRETARIAT: United States of America	SECRETARY: Ms Grace Roh
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	
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TITLE:

Automatic electrical controls - Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing controls

PROPOSED STABILITY DATE: 2028

NOTE FROM TC/SC OFFICERS:

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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AUTOMATIC ELECTRICAL CONTROLS –

Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing controls

FOREWORD

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IEC 60730-2-15 has been prepared by IEC technical committee 72: AUTOMATIC ELECTRICAL CONTROLS. It is an International Standard.

This 4.0 edition cancels and replaces the 3.0 edition published in 2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) adoption to IEC 60730-1 Ed.6.0 with all of its significant changes to IEC 60730-1 Ed.5.0

The text of this International Standard is based on the following documents:

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of the IEC 60730 series, under the general title: AUTOMATIC ELECTRICAL CONTROL, can be found on the IEC website.

This part 2-15 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the sixth edition of that standard (2022). Consideration may be given to future editions of, or amendments to, IEC 60730-1.

This part 2-15 supplements or modifies the corresponding clauses in IEC 60730-1, so as to convert that publication into the IEC standard: Particular requirements for electric actuators.

Where this part 2-15 states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in part 1 should be adapted accordingly.

Where no change is necessary part 2-15 indicates that the relevant clause or subclause applies.

In the development of a fully international standard it has been necessary to take into consideration the differing requirements resulting from practical experience in various parts of the world and to recognize the variation in national electrical systems and wiring rules.

The reader's attention is drawn to the fact that Annex Q, Annex R, Annex S, and Annex T list all of the "in-some-country" clauses on differing practices of a less permanent nature relating to the subject of this document.

In this publication:

1) The following print types are used:
   - requirements proper: in roman type;
   - *test specifications: in italic type;*
   - explanatory matter: in smaller roman type.
   - Defined terms: **bold type**.
2) Subclauses, notes or items which are additional to those in Part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication 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.

AUTOMATIC ELECTRICAL CONTROLS –

Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing contros

1 Scope

This clause of Part 1 is replaced by the following:

This document applies to automatic electrical air flow, water flow and water level sensing controls

- for use in, on, or in association with boilers with a maximum pressure rating of 2 000 kPA (20 bar) and equipment for general household and similar use including controls for heating, air-conditioning and similar applications;

NOTE 1 Throughout this document, the word "equipment" means "appliance and equipment" and „controls“ means „automatic electrical air flow, water flow and water level sensing controls“.

EXAMPLE 1 Water flow and water level sensing controls of the float or electrode-sensor type used in boiler applications and air flow, water flow and water level sensing controls for swimming pool pumps, water tank pumps, cooling towers, dishwashers, washing machines, air conditioning chillers and ventilation applications.

- for building automation within the scope of ISO 16484 series and IEC 63044 series (HBES/BACS);

EXAMPLE 2 Independently mounted air flow, water flow and water level sensing controls in smart grid systems and controls for building automation systems within the scope of ISO 16484-2.

- for equipment that is used by the public, such as equipment intended to be used in shops, offices, hospitals, farms and commercial and industrial applications;

EXAMPLE 3 Controls for commercial boilers, heating and air-conditioning equipment.

- that are **smart enabled controls**;

EXAMPLE 4 Smart grid control, remote interfaces/control of energy-consuming equipment including computer or smart phone.

- that are AC or DC powered controls with a rated voltage not exceeding 690 V AC or 600 V DC where the DC source is provided by primary or secondary batteries;
- used in, on, or in association with equipment that use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof;
- utilized as part of a control system or controls which are mechanically integral with multifunctional controls having non-electrical outputs;
- using NTC or **PTC thermistors** and to discrete **thermistors**, requirements for which are contained in Annex J;
- that are mechanically or electrically operated, responsive to or controlling air flow, water flow and water level;
- as well as manual controls when such are electrically and/or mechanically integral with automatic controls.

NOTE 2 Requirements for manually actuated mechanical switches not forming part of an automatic control are contained in IEC 61058-1-1.

This document applies to

– the inherent safety of automatic electrical air flow, water flow and water level sensing controls, and

– functional safety of automatic air flow, water flow and water level sensing electrical controls and safety related systems,

– controls where the performance (for example the effect of EMC phenomena) of the product can impair the overall safety and performance of the controlled system,

– the operating values, operating times, and operating sequences where such are associated with equipment safety.

This document specifies the requirements for construction, operation and testing of automatic electrical air flow, water flow and water level sensing controls used in, on, or in association with an equipment.

This document takes into account the response value of an automatic action of a control where such a response value is dependent upon the method of mounting the control. Where a response value is of significant purpose for the protection of the user, or surroundings, the value defined in the appropriate household equipment standard or as determined by the manufacturer shall apply.

This document does not

- apply to air flow, water flow and water level sensing **controls** intended exclusively for industrial process applications unless explicitly mentioned in the relevant part 2 or the equipment standard. However, this document can be applied to evaluate air flow, water flow and water level sensing **controls** intended specifically for industrial applications in cases where no relevant safety standard exists.
- 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.
- apply to pressure sensing controls, the requirements for which are contained in IEC 60730-2-6.

2 Normative references

This clause of part 1 is applicable.

3 Terms and definitions

3.2 Definitions of types of control according to purpose

Add the following definitions

3.2.101

boiler water level cut-out
water level **sensing control** of the float or electrode-sensor type for boiler applications intended to respond to a low water level during abnormal operating conditions and which has no provision for **setting by the user**

Note 1 to entry: A water level cut-out may be of the automatic or of the manual reset type. A boiler water level cutout has a type 2 action, it is a type of water level protective control (see 3.2.105).

3.2.102
boiler water level limiter
water level **sensing control** of the float or electrode-sensor type for boiler applications which is intended to keep a water level below or above one particular value during normal operating conditions and which may have provision for **setting by the user**

Note 1 to entry: A **boiler water level limiter** has a type 2 action and is normally of the automatic reset type.

3.2.103
boiler water feed control
water level **sensing control** of the float or electrode-sensor type for boiler applications which is intended to keep the water level in a boiler above one particular value during normal operating conditions and which may have provision for **setting by the user**

Note 1 to entry: A **boiler water feed control** is of the automatic reset type and has a type 1 action. A **boiler water feed control** is used on a boiler to cycle a feeder pump or feeder water valve. For the purposes of this document, a type 2 **boiler water feed control** is considered to be a **boiler water level limiter**.

3.2.104
water level operating control
control which is intended to keep the water level below or above one particular value during normal operating conditions and which may have provision for **setting by the user**

Note 1 to entry: A **water level operating control** is of the automatic reset type.

3.2.105
water level protective control
control which is intended to prevent a hazardous situation during abnormal **operation** of the equipment either by

a) keeping the water level below or above one or more particular values, or by
b) energizing or de-energizing the associated equipment at one or more particular values of water level

3.2.106
water flow operating control
flow **sensing control** intended to sense or maintain the water flow between two particular values during normal operating conditions and which may have provision for **setting by the user**

Note 1 to entry: A **water flow operating control** is of the automatic reset type.

3.2.107
air flow operating control
flow **sensing control** intended to sense or maintain the air flow between two particular values during normal operating conditions and which may have provision for **setting by the user**

Note 1 to entry: An **air flow operating control** is of the automatic reset type.

3.2.108
water flow cut-out
flow **sensing control** intended to respond to a lack of water flow during abnormal operating conditions and which has no provision for **setting by the user**

Note 1 to entry: A **water flow cut-out** is of the automatic or manual reset type.

3.2.109
air flow cut-out
flow **sensing control** intended to respond to a lack of air flow during abnormal operating conditions and which has no provision for **setting by the user**

Note 1 to entry: An **air flow cut-out** is of the automatic or manual reset type.