SLOVENSKI STANDARD
oSIST prEN IEC 60730-2-11:2024

01-september-2024

Avtomatske električne krmilne naprave - 2-11. del: Posebne zahteve za regulatorje energije

Automatic electrical controls - Part 2-11: Particular requirements for energy regulators

Automatische elektrische Regel- und Steuergeräte - Teil 2-11: Besondere Anforderungen an Energieregler

Dispositifs de commande électrique automatiques - Partie 2-11: Exigences particulières pour les régulateurs d'énergie

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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	
☐ SUBMITTED FOR CENELEC PARALLEL VOTING	☒ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

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TITLE:

Automatic electrical controls - Part 2-11: Particular requirements for energy regulators

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NOTE FROM TC/SC OFFICERS:

CONTENTS

CONTENTS 2
1 Scope 7
2 Normative references 8
3 Terms and definitions 8
3.5 Definitions of types of control according to construction 8
4 General 8
5 Required technical information 8
5.2 Methods of providing technical information 8
6 Protection against electric shock 9
7 Provision for protective earthing 9
8 Terminals and terminations 9
9 Constructional requirements 9
9.3 Actuation and operation 9
9.4 Actions 9
10 Threaded parts and connections 10
11 Creepage distances, clearances and distances through solid insulation 10
12 Components 10
13 Fault assessment on electronic circuits 10
13.1 Fault assessment for inherent safety 10
14 Moisture and dust resistance 10
15 Electric strength and insulation resistance 10
16 Heating 10
16.101 Energy regulators for use in or on cooking appliances 11
17 Manufacturing deviation and drift 11
18 Environmental stress 11
19 Endurance 11
19.7 Overvoltage test or overload test in all countries using an overload test of automatic action at accelerated rate 11
19.8 Test of automatic action at accelerated rate 11
19.9 Test of automatic action at slow rate 11
19.13 Test of manual action at accelerated speed 11
19.15 Test for particular purpose controls 12
20 Mechanical strength 12
20.101 Push-and-turn or pull-and-turn actuation 12
21 Resistance to heat, fire and tracking 13
22 Resistance to corrosion 13
23 Electromagnetic compatibility (EMC) requirements – Emission 13
24 Normal operation 13
25 Electromagnetic compatibility (EMC) requirements – Immunity 13
26 Abnormal operation tests 13
Annex H (normative) Requirements related to functional safety 14
H.5 Information 14
H.9 Constructional requirements 14

H.13 Fault assessment on electronic circuits 14
H.17 Manufacturing deviation and drift 14
H.19 Endurance 15
H.25 Electromagnetic compatibility (EMC) requirements – Immunity 15
Annex R (informative) National differences relevant in the United States of America 17
R.2 Normative references 17
Annex S (informative) National differences relevant in Japan 18
S.2 Normative references 18
Annex T (normative) National differences relevant in Canada 19
Replacement: 19
NOTE This annex is informative in this document, but in CSA C22.2 No. 60730-2-11, this annex is normative. Refer to CSA C22.2 No. 60730-2-11, National differences for Canada specific requirements. 19
T.1 Normative references 19
T.5 Required technical information 19

Table 1 – Required technical information and methods of providing these information 9
Table H.1 – Additional items to Table 1 14
Table 1 – Required technical information and methods of providing these information 19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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AUTOMATIC ELECTRICAL CONTROLS –

Part 2-11: Particular requirements for energy regulators

FOREWORD

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IEC 60730-2-11 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 2019. 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.5.1

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 2-11 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 2-11 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 2-11 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 2-11 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.

157

158

AUTOMATIC ELECTRICAL CONTROLS –

Part 2-11: Particular requirements for energy regulators

1 Scope

Replacement:

This document applies to **energy regulators**

- for use in, on, or in association with equipment for household appliance and similar use;

NOTE 1 Throughout this document, the word "equipment" means "appliance and equipment" and “controls“ means “energy regulators“.

- 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 1 **Energy regulator** for commercial catering, heating and air-conditioning equipment.

- that are **smart enabled energy regulator**;

EXAMPLE 2 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 such characteristics as temperature, pressure, passage of time, humidity, light, electrostatic effects, flow, or liquid level, current, voltage, acceleration, or combinations thereof;
- 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 **energy regulator**, and

– **functional safety** of **energy regulator** of **low complexity safety related systems and controls**,

– 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.

– manual energy regulators which are electrically and/or mechanically integral with automatic controls.

– energy regulators incorporating electronic devices, requirements for which are contained in Annex H.

– the electrical and **functional safety** of controls capable of receiving and responding to communications signals, including signals for power billing rate and demand response.

The signals may be transmitted to or received from external units being part of the **control** (wired), or to and from external units which are not part of the **control** (wireless) under test.

This document specifies the requirements for construction, operation and testing of automatic **energy regulator** used in, on, or in association with an equipment.

This document does not

- apply to automatic **energy regulator** 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 automatic **energy regulator** intended specifically for industrial applications in cases where no relevant safety standard exists.
- take into account the **response value** of an **automatic action** of an **energy regulator**, if such a **response value** is dependent upon the method of mounting the **energy regulator** in the equipment. Where a **response value** is of significant purpose for the protection of the user, or surroundings, the value defined in the appropriate equipment standard or as determined by the manufacturer will apply.
- 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**.

2 Normative references

This clause of Part 1 is applicable.

3 Terms and definitions

3.5 Definitions of types of control according to construction

Add the following new definitions

3.5.101
push-and-turn actuation
two-step actuation accomplished by first pushing, and then turning, the actuating member of the control

3.5.102
pull-and-turn actuation
two-step actuation accomplished by first pulling, and then rotating, the actuating member of the control

4 General

This clause of Part 1 is applicable.

5 Required technical information

This clause of Part 1 is applicable except as follows:

5.2 Methods of providing technical information

This clause of Part 1 is applicable except as follows: