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EXTENDED VERSION

Automatiska elektriska styr- och reglerdon – Del 2-13: Särskilda fordringar på fuktkännande reglerdon

Automatic electrical controls –

Part 2-13: Particular requirements for humidity sensing controls

En så kallad ”Extended Version” (EXV) innehåller både standarden som fastställts som SS och den utökade IEC-standard (EXV) på engelska. Den utökade versionen av IEC-standard innehåller även refererad text från en annan standard och ger användaren ett mer komplett innehåll. SEK Svensk Elstandard kan bara ge ut EXV i de fall den finns tillgänglig från IEC.

INTERNATIONAL STANDARD

EXTENDED VERSION

This full version of IEC 60730-2-13:2025 includes the content of the references made to IEC 60730-1:2022

**Automatic electrical controls -
Part 2-13: Particular requirements for humidity sensing controls**

CONTENTS

FOREWORD	9
1 Scope	12
2 Normative references	13
3 Terms and definitions	17
3.1 Definitions relating to ratings, voltages, currents, frequencies, and wattages	17
 3.2 Definitions of types of control according to purpose	19
 3.3 Definitions relating to the function of controls	22
3.4 Definitions relating to disconnection and interruption	25
3.5 Definitions of types of control according to construction	26
3.6 Definitions of type of automatic action of a control	28
3.7 Definitions relating to protection against electric shock and type of insulation	28
3.8 Definitions relating to component parts of controls	32
3.9 Definitions of types of terminals and terminations of controls	33
3.10 Definitions relating to the connections to controls	35
3.11 Definitions relating to the performance of type 2 actions	36
3.12 Definitions relating to the requirements for creepage distances and clearances	36
3.13 Miscellaneous definitions	37
3.14 Definitions relating to manufacturer and user	39
3.15 Definitions pertaining to thermistors	39
3.16 Definitions relating to the structure of controls using software	39
3.17 Definitions relating to error avoidance in controls using software	39
3.18 Definitions relating to fault/error control techniques for controls using software	39
3.19 Definitions relating to memory tests for controls using software	39
3.20 Definitions of software terminology – General	39
3.21 Definitions relating to classes of control functions	40
3.22 Definitions relating to functional safety	40
3.23 Definitions related to access to data exchange	40
3.24 Definitions related to EMC performance	40
4 General	42
4.1 General structure of the document	42
4.2 General requirements	43
4.3 General notes on tests	43
5 Required technical information	47
5.1 General requirements	47
5.2 Methods of providing technical information	47
5.3 Class II symbol	55
5.4 Additional requirements for marking	55
5.5 Warning or cautionary markings	57
6 Protection against electric shock	57
6.1 General requirements	57
6.2 Actuating members and actuating means	59
6.3 Capacitors	60
6.4 Covers and uninsulated live or hazardous parts	60
6.5 Battery operated controls provided with a user accessible mains supply input connector	60

7	Provision for protective earthing	61
7.1	Class 0I and Class I controls.....	61
7.2	Class II and class III controls	61
7.3	Adequacy of earth connections	61
7.4	Corrosion resistance	62
7.5	Other requirements	63
7.6	Protective equipotential bonding	63
8	Terminals and terminations.....	63
8.1	Terminals and terminations for external copper conductors.....	63
8.2	Terminals and terminations for internal conductors	68
8.3	Terminals and terminations for integrated conductors	70
9	Constructional requirements	70
9.1	Materials.....	70
9.2	Protection against electric shock.....	70
9.3	Actuation and operation	73
9.4	Actions	76
9.5	Openings in enclosures.....	78
9.6	Mounting of controls	78
9.7	Attachment of cords	80
9.8	Size of cords – non-detachable	81
9.9	Inlet openings	81
9.10	Equipment inlets and socket-outlets.....	82
9.11	Requirements during mounting, use, maintenance and servicing	83
9.12	Controls using software	85
9.13	Protective controls and components of protective control systems	88
10	Threaded parts and connections.....	90
10.1	Threaded parts moved during mounting or servicing	90
10.2	Current-carrying connections and connections providing protective earthing continuity	92
11	Creepage distances, clearances and distances through solid insulation.....	93
11.1	General.....	93
11.2	Clearances	94
11.3	Creepage distances	98
11.4	Solid insulation	102
12	Components	103
12.1	Transformers	103
12.2	Switch mode power supplies and converters.....	103
12.3	Capacitors	104
12.4	Fuses	104
12.5	Varistors	104
12.6	Thermistors.....	104
12.7	Relays	105
12.8	Other components	105
13	Fault assessment on electronic circuits	105
13.1	Fault assessment for inherent safety.....	105
13.2	Fault assessment to ensure functional safety.....	111
14	Moisture and dust resistance	111
14.1	Protection against ingress of water and dust.....	111

14.2	Protection against humid conditions	112
14.3	Touch current test for in-line cord controls and free-standing controls	113
15	Electric strength and insulation resistance	114
15.1	Insulation resistance	114
15.2	Electric strength	114
15.3	Additional tests for in-line cord and free-standing controls	116
16	Heating	117
17	Manufacturing deviation and drift	122
18	Environmental stress	122
18.1	Transportation and storage	122
18.2	Environmental stress of temperature	122
19	Endurance	123
19.1	General requirements	123
19.2	Electrical conditions for the tests	124
19.3	Thermal conditions for the tests	130
19.4	Manual and mechanical conditions for the tests	130
19.5	Dielectric strength requirements	131
19.6	Ageing test	131
19.7	Overvoltage test or overload test in all countries using an overload test of automatic action at accelerated rate	131
19.8	Test of automatic action at accelerated rate	132
19.9	Test of automatic action at slow rate	132
19.10	Overvoltage test or overload test in all countries that use the overload test of manual action at accelerated speed	133
19.11	Test of manual action at slow speed	133
19.12	Test of manual action at high speed which has multiple poles, and where polarity reversal occurs during the action	133
19.13	Test of manual action at accelerated speed	133
19.14	Evaluation of compliance	134
19.15	Test for particular purpose controls	134
20	Mechanical strength	135
20.1	General requirements	135
20.2	Impact resistance	135
20.3	Free-standing controls	136
20.4	In-line cord controls	136
20.5	Pull-cord actuated controls	137
20.6	Foot actuated controls	137
20.7	Actuating member and actuating means	137
20.8	Flexing – test	138
20.9	Cord anchorages – test	138
21	Resistance to heat, fire and tracking	139
21.1	General requirements	139
21.2	Integrated, incorporated and in-line cord controls	139
21.3	Independently mounted, free-standing controls	141
22	Resistance to corrosion	141
22.1	Resistance to rusting	141
23	Electromagnetic compatibility (EMC) requirements – Emission	141
23.1	General requirement	141

23.2	High frequency emission	142
23.3	Low frequency emission	145
24	Normal operation	145
25	Electromagnetic compatibility (EMC) requirements – Immunity	145
25.1	General.....	145
25.2	EMC test plan and report	146
25.3	Immunity requirements.....	148
25.4	Performance criteria	151
25.5	Surge immunity test	152
25.6	Electrical fast transient immunity test.....	152
25.7	Radio-frequency electromagnetic field immunity	153
25.8	Electrostatic discharge.....	153
25.9	Immunity to power-frequency magnetic fields.....	153
25.10	Test of the influence of voltage dips and voltage interruption in the power supply network.....	153
26	Abnormal operation tests.....	154
26.1	Abnormal temperature test.....	154
26.2	Overload tests	155
26.3	Battery short-circuit test.....	156
Annex A (normative)	Indelibility of markings	173
Annex B (normative)	Measurement of creepage distances and clearances in air.....	175
Annex C (informative)	Nominal voltages of supply systems for different modes of overvoltage control	179
Annex D (normative)	Overvoltage categories	181
Annex E (informative)	Typical usage of controls and related overvoltage categories	182
Annex F (normative)	Pollution degrees	183
F.1	Pollution	183
F.2	Degrees of pollution in the micro-environment	183
Annex G (normative)	Resistance to heat, fire and tracking tests	184
G.1	Glow-wire test.....	184
G.2	Proof tracking test.....	184
G.3	Ball pressure test.....	184
Annex H (normative)	Requirements related to functional safety	186
H.3	Terms and definitions.....	186
H.5	Information	197
H.9	Constructional requirements	199
H.13	Fault assessment on electronic circuits.....	215
H.17	Manufacturing deviation and drift	219
H.19	Endurance	221
H.25	Electromagnetic compatibility (EMC) requirements – Immunity.....	222
Annex I (normative)	Requirements for certain types of DC supplied controls.....	239
I.1	Scope	239
Annex J (normative)	Requirements for thermistor elements and controls using thermistors	241
J.1	Scope	241
Annex K (normative)	Circuit for measuring touch current	258
Annex L (normative)	Printed circuit board coating performance test.....	259
Annex M (normative)	Printed circuit board protection	261

Annex N (informative) Explanatory notes for surge immunity test	264
N.1 Different source impedances	264
N.2 Application of the tests	264
N.3 Installation classification	265
Annex O (informative) Guidance for applying Clause 11	268
Annex P (normative) Requirements for SELV and PELV	271
P.1 Overview of the requirements for SELV and PELV	271
P.2 Protection against electric shock by SELV system or PELV system	271
P.3 Protective measures for SELV system and PELV system	272
Annex Q (informative) Regional differences relevant for the member countries of Cenelec	274
Q.2 Normative references	274
Annex R (informative) National differences relevant in the United States of America	278
R.2 Normative references	278
Annex S (informative) National differences relevant in Japan	279
S.2 Normative references	279
Annex T (informative) National differences relevant in Canada	280
T.2 Normative references	280
Annex AA (normative) Independently mounted and in-line cord controls	281
Bibliography	282
Figure 1 – Example of ports	40
Figure 2 – Structure of the document with respect to inherent safety and functional safety	43
Figure 3 – Example of an electronic circuit with low power points	106
Figure 4 – Test pin probe 13 of IEC 61032:1997	156
Figure 5 – Test finger probe B of IEC 61032:1997	157
Figure 6 – Test fingernail	158
Figure 7 – Impact test for free-standing controls	159
Figure 8 – Tumbling barrel	159
Figure 9 – Apparatus for testing durability of markings on rating labels	160
Figure 10 – Apparatus for flexing test	160
Figure 11 – Screw terminals and stud terminals	161
Figure 12 – Pillar terminals	162
Figure 13 – Mantle terminals	163
Figure 14 – Saddle and lug terminals	164
Figure 15 – Tabs	165
Figure 16 – Tabs for non-reversible connectors	166
Figure 17 – Receptacles	167
Figure 18 – Measurement of creepage distance and clearance	168
Figure 19 – Diagram for touch current measurement at operating temperature for single-phase connection of class II controls	169
Figure 20 – Diagram for touch current measurement at operating temperature for single-phase connection of controls other than class II	169
Figure 21 – Diagram for touch current measurement at operating temperature for three-phase connection of class II controls	170

Figure 22 – Diagram for touch current measurement at operating temperature for three-phase connection of controls other than class II	171
Figure 23 – Diagram for touch current measurement at operating temperature for single-phase connection of controls to three-wire, ground neutral supply other than class II	171
Figure 24 – Diagram for touch current measurement at operating temperature for two-phase connection of controls to three-wire, ground neutral supply other than class II	172
Figure B.1 – Narrow groove	176
Figure B.2 – Wide groove	176
Figure B.3 – V-shaped groove	176
Figure B.4 – Rib	176
Figure B.5 – Uncemented joint with narrow groove	177
Figure B.6 – Uncemented joint with wide groove	177
Figure B.7 – Uncemented joint with narrow and wide grooves	177
Figure B.8 – Diverging side walls	178
Figure B.9 – Narrow recess	178
Figure B.10 – Wide recess	178
Figure B.11 – Conductive floating part	178
Figure H.1 – V-Model for the software life cycle	207
Figure H.2 – Voltage variation test	226
Figure J.1 – Generic test circuit for inrush-current limiting thermistor endurance test	257
Figure K.1 – Circuit for measuring touch currents	258
Figure L.1 – Test sample	260
Figure M.1 – Example of type 1 protection	262
Figure M.2 – Example of type 2 protection	263
Figure N.1 – Example of surge protection by shielding in buildings with common earth reference systems	266
Figure N.2 – Example of secondary surge protection in buildings with separate common earth reference systems	267
Figure N.3 – Example of primary and secondary surge protection of indoor/outdoor equipment	267
Figure O.1 – Guidance flowchart for application of requirements of Clause 11	269
Table 1 – Required technical information and methods of providing these information	50
Table 2 – Cross-sectional area of conductors	64
Table 3 – Terminal conductors	66
Table 4 – Conductor pull test values	66
Table 5 – Nominal cross-sectional areas of conductors	68
Table 6 – Axial force values for tab insertion and withdrawal	69
Table 7 – Minimum cord conductor sizes	81
Table 8 – Data exchange	86
Table 9 – Threaded parts torque test values	92
Table 10 – Rated impulse voltage for equipment energized directly from the supply mains (from IEC 60664-1:2007, Table F.1)	95
Table 11 – Clearances for insulation co-ordination (from IEC 60664-1:2007, Table F.2)	96

Table 12 – Minimum creepage distances for basic insulation	100
Table 13 – Minimum creepage distances for functional insulation	101
Table 14 – Electrical/electronic component fault modes	107
Table 15 – Minimum insulation resistance.....	114
Table 16 – Insulation or disconnection test voltages	115
Table 17 – Maximum heating temperatures.....	120
Table 18 – Electrical conditions for the overvoltage and endurance tests.....	126
Table 19 – Electrical conditions for the overload tests of 19.7 and 19.10	128
Table 20 – Electrical conditions for the endurance tests of 19.8, 19.9, 19.11, 19.12 and 19.13	129
Table 21 – Pull-cord force test values	137
Table 22 – Pull and torque values.....	138
Table 23 – Emission limit for residential electromagnetic environment.....	143
Table 24 – Emission limit for industrial electromagnetic environment.....	144
Table 25 – The applicable EMC test in relation to the class of control function and type of Action	146
Table 26 – Immunity test requirements for residential electromagnetic environments.....	148
Table 27 – Immunity test requirements for industrial electromagnetic environment	150
Table 28 – Performance criteria	152
Table 29 – Maximum winding temperature (for test of mechanical blocked output conditions).....	155
Table B.1 – Value of X	175
Table C.1 – Inherent control or equivalent protective control.....	179
Table C.2 – Cases where protective control is necessary and control is provided by surge arresters having a ratio of clamping voltage to rated voltage not smaller than that specified by IEC 60099-1	180
Table E.1 – Typical usage.....	182
Table H.1 – Additional items to Table 1.....	197
Table H.2 – Acceptable measures to address fault/errors ^a	200
Table H.3 – Examples of techniques/measures for semi-formal methods	207
Table H.4 – Examples of techniques/measures for software architecture specification	208
Table H.5 – Examples of techniques/measures for module design specification.....	209
Table H.6 – Examples of techniques/measures for design and coding standards	209
Table H.7 – Examples of techniques/measures for software module testing.....	210
Table H.8 – Examples of techniques/measures for software integration testing.....	211
Table H.9 – Examples of techniques/measures for software safety validation	211
Table H.10 – Combinations of analytical measures during hardware development	212
Table H.11 – Examples of defences against unauthorised access and transmission failure modes.....	214
Table H.12 – Applicable test levels in addition to Clause 25.....	222
Table H.13 – Voltage dips, short interruptions and voltage variations.....	224
Table H.14 – Test values for voltage variations.....	225
Table H.15 – Test voltages for test level 2 (depending on the installation class conditions).....	228
Table H.16 – Test level for electrical fast transient burst test	230

Table H.17 – Test levels for conducted disturbances on mains and I/O lines.....	232
Table H.18 – Test level for immunity to radiated electromagnetic fields	233
Table H.19 – Increased test level for radiated immunity	234
Table H.20 – Test level for supply frequency variations	235
Table H.21 – Test level for continuous fields.....	236
Table I.1 – Electrical transient conduction immunity in accordance with ISO 7637-2	239
Table I.2 – Electrical transient conduction immunity in accordance with ISO 7637-3	240
Table J.1 – Maximum current.....	243
Table J.2 – Normal operating conditions	244
Table J.3 – Samples for the test (clause reference)	245
Table J.4 – Electrical and thermal ratings of a thermistor	246
Table J.5 – Additional items to Table 1	247
Table J.6 – Sequence of calibration and conditioning tests for PTC thermistors	249
Table J.7 – Classes for PTC sensing thermistors	250
Table J.8 – Sequence of calibration and conditioning tests for NTC thermistors.....	251
Table J.9 – Classes for NTC sensing thermistors	251
Table J.10 – Number of cycles for endurance test.....	255
Table J.11 – Ageing test temperature	255
Table J.12 – Number of cycles for endurance test.....	256
Table L.1 – Environmental cycling conditions.....	259
Table M.1 – IEC 60664-3 test levels or conditions	261
Table O.1 – Example A – Using Annex O guidance for applying Clause 11	270
Table O.2 – Example B – Using Annex O guidance for applying Clause 11	270
Table Q.1 – Additional aging parameters for windings.....	275
Table AA.1 – Number of cycles.....	281

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Automatic electrical controls -
Part 2-13: Particular requirements for humidity sensing controls**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This extended version (EXV) of the official IEC Standard provides the user with the full content of the Standard.

IEC 60730-2-13:2025 EXV includes the content of IEC 60730-2-13:2025, and the references made to IEC 60730-1:2022.

The specific content of IEC 60730-2-13:2025 is displayed on a **blue background**.

IEC 60730-2-13 has been prepared by IEC technical committee 72: Automatic electrical controls. It is an International Standard.

This fourth edition cancels and replaces the third 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 60730-1:2022 with all of its significant changes to IEC 60730-1:2013, IEC 60730-1:2013/AMD1:2015 and IEC 60730-1:2013/AMD2:2020.

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

Draft	Report on voting
72/1487/FDIS	72/1503/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 controls*, can be found on the IEC website.

This part 2-13 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 2-13 supplements or modifies the corresponding clauses in IEC 60730-1, so as to convert that publication into the IEC standard: Particular requirements for humidity sensing controls.

Where this part 2-13 states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in Part 1 should be adapted accordingly.

When a particular subclause of Part 1 is not mentioned in this Part 2, that 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, or
- revised.

1 Scope

This document applies to automatic **electrical humidity sensing controls**

- 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 "**humidity sensing control**".

- for building automation within the scope of ISO 16484 series and IEC 63044 series (HBES/BACS);
- 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 **Humidity sensing controls** for commercial catering, heating and air-conditioning equipment.

- that are **smart enabled controls**;

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;
- 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 automatic **electrical humidity sensing controls**, and
- functional safety of automatic **electrical humidity sensing controls** and safety related systems,
- **humidity sensing 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 **humidity sensing controls** used in, on, or in association with an equipment.

This document does not

- apply to automatic **electrical humidity 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 **humidity sensing controls** intended specifically for industrial applications in cases where no relevant safety standard exists;
- take into account the response value of an automatic action of a **humidity sensing control**, if such a response value is dependent upon the method of mounting the **humidity sensing control** 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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60038, *IEC standard voltages*

IEC 60065:2014, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60085, *Electrical insulation – Thermal evaluation and designation*

IEC 60099-1:1991, *Surge arresters – Part 1: Non-linear resistor type gapped surge arresters for a.c. systems*¹

IEC 60112:2020, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60127 (all parts), *Miniature fuses*

IEC 60227-1, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60245-1, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60269 (all parts), *Low-voltage fuses*

IEC 60335-1:2020, *Household and similar electrical appliances – Safety – Part 1: General requirements*

IEC 60384-14, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

¹ Withdrawn.

IEC 60384-16, *Fixed capacitors for use in electronic equipment – Part 16: Sectional specification – Fixed metallized polypropylene film dielectric DC capacitors*

IEC 60384-17, *Fixed capacitors for use in electronic equipment – Part 17: Sectional specification – Fixed metallized polypropylene film dielectric AC and pulse capacitors*

IEC 60417, *Graphical symbols for use on equipment*

IEC 60423, *Conduit systems for cable management – Outside diameters of conduits for electrical installations and threads for conduits and fittings*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013

IEC 60539 (all parts), *Directly heated negative temperature coefficient thermistors*

IEC 60664-1:2007², *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC TR 60664-2 (all parts), *Insulation coordination for equipment within low-voltage systems*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60695-2-10, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2021, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

IEC 60695-10-2, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method*

IEC 60738 (all parts), *Thermistors – Directly heated positive temperature coefficient*

IEC 60747-5-5, *Semiconductor devices – Part 5-5: Optoelectronic devices – Photocouplers*

IEC 60884-1, *Plugs and socket-outlets for household and similar purposes – Part 1: General requirements*

IEC 60884-2-5:2017, *Plugs and socket-outlets for household and similar purposes – Part 2-5: Particular requirements for adaptors*

IEC 60998-2-2, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units*

² Withdrawn.

IEC 60998-2-3, *Connecting devices for low-voltage circuits for household and similar purposes – Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units*

IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

IEC 61000-3-2, *Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)*

IEC 61000-3-3, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*

IEC 61000-3-11, *Electromagnetic compatibility (EMC) – Part 3-11: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤ 75 A and subject to conditional connection*

IEC 61000-3-12, *Electromagnetic compatibility (EMC) – Part 3-12: Limits – Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤ 75 A per phase*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2014, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-5:2014/AMD1:2017

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8, *Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test*

IEC 61000-4-11, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with current up to 16 A per phase*

IEC 61000-4-13:2002, *Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests*

IEC 61000-4-13:2002 /AMD1:2009

IEC 61000-4-13:2002 /AMD2:2015

IEC 61000-4-20, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguides*

IEC 61000-4-21, *Electromagnetic compatibility (EMC) – Part 4-21: Testing and measurement techniques – Reverberation chamber test methods*

IEC 61000-4-22, *Electromagnetic compatibility (EMC) – Part 4-22: Testing and measurement techniques – Radiated emissions and immunity measurements in fully anechoic rooms (FARs)*

IEC 61000-4-28, *Electromagnetic compatibility (EMC) – Part 4-28: Testing and measurement techniques – Variation of power frequency, immunity test for equipment with input current not exceeding 16A per phase*

IEC 61000-6-1:2016, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity standard for residential, commercial and light-industrial environments*

IEC 61000-6-2:2016, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity standard for industrial environments*

IEC 61000-6-3:2020, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for equipment in residential environments*

IEC 61000-6-4:2018, *Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments*

IEC 61051-1, *Varistors for use in electronic equipment – Part 1: Generic specification*

IEC 61051-2, *Varistors for use in electronic equipment – Part 2: Sectional specification for surge suppression varistors*

IEC 61051-2-2, *Varistors for use in electronic equipment – Part 2: Blank detail specification for zinc oxide surge suppression varistors. Assessment level E*

IEC 61210, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

IEC 61249 (all parts), *Materials for printed boards and other interconnecting structures*

IEC 61558-2-6, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers for general applications*

IEC 61558-2-16, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units for general applications*

IEC 61810-3, *Electromechanical elementary relays – Part 3: Relays with forcibly guided (mechanically linked) contacts*

IEC 62151, *Safety of equipment electrically connected to a telecommunication network*

IEC 62319 (all parts), *Polymeric thermistors – Directly heated positive step function temperature coefficient*

IEC 62326 (all parts), *Printed boards*

IEC 62368-1, *Audio/video, information and communication technology equipment – Part 1: Safety requirements*

IEC 63044 (all parts), *Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)*

CISPR 11, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

CISPR 14-1:2020, *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission*

CISPR 32:2015, *Electromagnetic compatibility of multimedia equipment – Emission requirements*
CISPR 32:2015/AMD1:2019

ISO 4046-4:2016, *Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

ISO 7637-2:2011, *Road vehicles – Electrical disturbances from conduction and coupling – Part 2: Electrical transient conduction along supply lines only*

ISO 7637-3:2016, *Road vehicles – Electrical disturbances from conduction and coupling – Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

ISO 16484 (all parts), *Building automation and control systems (BACS)*

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Automatiska elektriska styr- och reglerdon – Del 2-13: Särskilda fordringar på fuktkännande reglerdon

Automatic electrical controls –

Part 2-13: Particular requirements for humidity sensing controls

Som svensk standard gäller europastandarden EN IEC 60730-2-13:2025. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60730-2-13:2025.

Nationellt förord

Europastandarden EN IEC 60730-2-13:2025

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60730-2-13, Fourth edition, 2025 - Automatic electrical controls - Part 2-13: Particular requirements for humidity sensing controls**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN IEC 60730-1+A11, utg 6:2025 och dess separat utgivna tillägg, ändringar och rättelser.

Tidigare fastställd svensk standard SS-EN IEC 60730-2-13, utg 3:2018 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2028-10-31.

ICS 97.120.00

Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

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English Version

**Automatic electrical controls - Part 2-13: Particular requirements
for humidity sensing controls
(IEC 60730-2-13:2025)**

Dispositifs de commande électrique automatiques - Partie
2-13: Exigences particulières pour les dispositifs de
commande sensibles à l'humidité
(IEC 60730-2-13:2025)

Automatische elektrische Regel- und Steuergeräte für den
Hausgebrauch und ähnliche Anwendungen - Teil 2-13:
Besondere Anforderungen an feuchtigkeitsempfindliche
Regel- und Steuergeräte
(IEC 60730-2-13:2025)

This European Standard was approved by CENELEC on 2025-09-23. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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, Türkiye 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

European foreword

The text of document 72/1487/FDIS, future edition 4 of IEC 60730-2-13, prepared by TC 72 "Automatic electrical controls" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60730-2-13:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-10-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-10-31 document have to be withdrawn

This document supersedes EN IEC 60730-2-13:2018 and all of its amendments and corrigenda (if any).

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.

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60730-2-13:2025 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Annex ZA of Part 1 is applicable.



IEC 60730-2-13

Edition 4.0 2025-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Automatic electrical controls -
Part 2-13: Particular requirements for humidity sensing controls**

**Dispositifs de commande électrique automatiques -
Partie 2-13: Exigences particulières pour les dispositifs de commande sensibles
à l'humidité**

INTERNATIONAL ELECTROTECHNICAL COMMISSION

Automatic electrical controls - Part 2-13: Particular requirements for humidity sensing controls

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60730-2-13 has been prepared by IEC technical committee 72: Automatic electrical controls. It is an International Standard.

This fourth edition cancels and replaces the third 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 60730-1:2022 with all of its significant changes to IEC 60730-1:2013, IEC 60730-1:2013/AMD1:2015 and IEC 60730-1:2013/AMD2:2020.

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

Draft	Report on voting
72/1487/FDIS	72/1503/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 controls*, can be found on the IEC website.

This part 2-13 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 2-13 supplements or modifies the corresponding clauses in IEC 60730-1, so as to convert that publication into the IEC standard: Particular requirements for humidity sensing controls.

Where this part 2-13 states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in Part 1 should be adapted accordingly.

When a particular subclause of Part 1 is not mentioned in this Part 2, that 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, or
- revised.

1 Scope

This clause of Part 1 is replaced by the following:

This document applies to automatic **electrical humidity sensing controls**

- 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 "**humidity sensing control**".

- for building automation within the scope of ISO 16484 series and IEC 63044 series (HBES/BACS);
- 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 **Humidity sensing controls** for commercial catering, heating and air-conditioning equipment.

- that are **smart enabled controls**;

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;
- 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 automatic **electrical humidity sensing controls**, and
- functional safety of automatic **electrical humidity sensing controls** and safety related systems,
- **humidity sensing 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 **humidity sensing controls** used in, on, or in association with an equipment.

This document does not

- apply to automatic **electrical humidity 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 **humidity sensing controls** intended specifically for industrial applications in cases where no relevant safety standard exists;
- take into account the response value of an automatic action of a **humidity sensing control**, if such a response value is dependent upon the method of mounting the **humidity sensing control** 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.