NSAI
Standards

Irish Standard
I.S. EN IEC 60730-2-8:2020

# Automatic electrical controls for household and similar use - Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

**I.S. EN IEC 60730-2-8:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

| *This document is based on:* | *Published:* |
|---|---|
| EN IEC 60730-2-8:2020 | 2020-05-01 |

| *This document was published* under the authority of the NSAI and comes into effect on: | ICS number: |
|---|---|
| 2020-05-18 | 97.120 |
| | NOTE: If blank see CEN/CENELEC cover page |


| | | |
|---|---|---|
| NSAI | T +353 1 807 3800 | Sales: |
| 1 Swift Square, | F +353 1 807 3838 | T +353 1 857 6730 |
| Northwood, Santry | E standards@nsai.ie | F +353 1 857 6729 |
| Dublin 9 | W NSAI.ie | W standards.ie |

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN IEC 60730-2-8:2020 is the adopted Irish version of the European Document EN IEC 60730-2-8:2020, Automatic electrical controls for household and similar use - Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN IEC 60730-2-8

May 2020

ICS 97.120

Supersedes EN 60730-2-8:2002 and all of its amendments and corrigenda (if any)

English Version

# Automatic electrical controls for household and similar use - Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements (IEC 60730-2-8:2018)

Dispositifs de commande électrique automatiques à usage domestique et analogue - Partie 2-8: Règles particulières pour les électrovannes hydrauliques, y compris les prescriptions mécaniques (IEC 60730-2-8:2018)

Automatische elektrische Regel- und Steuergeräte - Teil 2-8: Besondere Anforderungen an elektrisch betriebene Wasserventile, einschließlich mechanischer Anforderungen (IEC 60730-2-8:2018)

This European Standard was approved by CENELEC on 2018-10-02. 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, 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**

## European foreword

The text of document 72/1077/CDV, future edition 3 of IEC 60730-2-8, prepared by IEC/TC 72 "Automatic electrical controls" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60730-2-8:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-11-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-05-01

This document supersedes EN 60730-2-8:2002 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 mandate given to CENELEC by the European Commission and the European Free Trade Association.

## Endorsement notice

The text of the International Standard IEC 60730-2-8:2018 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.cenelec.eu.

*Annex ZA of EN 60730-1 is applicable with the following additions:*

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| ISO 7-1 | 1994 | Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation | - | - |
| ISO 65 | 1981 | Carbon steel tubes suitable for screwing in accordance with ISO 7/1 | - | - |
| ISO 228-1 | - | Pipe threads where pressure-tight joints are not made on the threads -- Part 1: Dimensions, tolerances and designation | EN ISO 228-1 | - |
| ISO 630 | - | Structural steels - Plates, wide flats, bars, sections and profiles | - | - |
| ISO 1179-1 | - | Connections for general use and fluid power – Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing – Part 1: Threaded ports | EN ISO 1179-1 | - |
| ISO 4144 | - | Pipework - Stainless steel fittings threaded in accordance with ISO_7-1 | - | - |

This page is intentionally left blank

IEC 60730-2-8

Edition 3.0 2018-08

# INTERNATIONAL STANDARD

## Automatic electrical controls –
## Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

IEC 60730-2-8:2018-08(en)

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

# IEC 60730-2-8

Edition 3.0 2018-08

# INTERNATIONAL STANDARD

## Automatic electrical controls –
## Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 97.120

ISBN 978-2-8322-5917-7

# CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

# AUTOMATIC ELECTRICAL CONTROLS –

# Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

## 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.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60730-2-8 has been prepared by IEC technical committee 72: Automatic electrical controls.

This third edition cancels and replaces the second edition published in 2000, Amendment 1:2002 and its Amendment 2:2015. This edition constitutes a technical revision.

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

- alignment of the text with IEC 60730-1 fifth edition (2013) including Amendment 1:2015;
- introduction of specific requirements for thermoplastic bodied valves for the control of water for tap and shower outlets (18.101.4.3 and Annex CC);
- removal of Subclause 18.102 Wetted material specifications.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

| CDV | Report on voting |
|---|---|
| 72/1077/CDV | 72/1120/RVC |

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part 2-8 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the fifth edition (2013) including Amendment 1 (2015) of that publication.

This part 2-8 supplements or modifies the corresponding clauses in IEC 60730-1 so as to convert that publication into the IEC standard: *Safety requirements for electrically operated water valves, including mechanical requirements.*

Where this part 2-8 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 2-8 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 "in some countries" notes regarding differing national practices are contained in the following elements:

– Table 1, footnotes ab and ac
– Table 13, footnote aa
– 1.1.4
– 16.2.1
– 18.101.3
– 27.2.3.1
– 27.101
– Table DD. 1, footnote a
– Table DD.2, footnote a

In this publication:

1) The following print types are used:
   – Requirements proper: in roman type.
   – *Test specifications: in italic type.*
   – Notes: in smaller roman type.
   – Defined terms: **in bold type**
2) Subclauses, notes, tables or figures 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 "http://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.

A bilingual version of this publication may be issued at a later date.

# AUTOMATIC ELECTRICAL CONTROLS –

# Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements

## 1 Scope and normative references

This clause of Part 1 is applicable except as follows:

### 1.1 Scope

*Replacement:*

This part of IEC 60730 applies to electrically operated water valves for use in, on or in association with equipment for household and similar use, including heating, air-conditioning and similar applications. The equipment can use electricity, gas, oil, solid fuel, solar thermal energy, etc., or a combination thereof.

NOTE 1 Throughout this document, the word "equipment" means "appliances and equipment."

This document is applicable to electrically operated water valves for building automation within the scope of ISO 16484.

This document also applies to automatic electrically operated water valves for equipment that can be used by the public, such as equipment intended to be used in shops, offices, hospitals, farms and commercial and industrial applications.

EXAMPLE 1: Electrically operated water valves for commercial catering, heating and air-conditioning equipment.

This document does not apply to electrically operated water valves intended exclusively for industrial process applications unless explicitly mentioned in the relevant equipment standard.

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

This document does not cover the prevention of contamination of drinking water as a result of contact with materials.

**1.1.1** This document applies to the inherent safety, to the operating values, operating times and operating sequences where such are associated with equipment safety, and to the testing of automatic electrical control devices used in, on or in association with, household and similar equipment.

This document contains requirements for electrical features of water valves and requirements for mechanical features of valves that affect their intended operation.

This document is also applicable to electrically operated water valves for appliances within the scope of the IEC 60335 series of standards.

This document does not apply to:

– electrically operated water valves of nominal connection size above DN 50;
– electrically operated water valves for admissible nominal pressure rating above 1,6 MPa;