

Automatic electrical controls for household and similar use —

**Part 2-19: Particular requirements for
electrically operated oil valves,
including mechanical requirements**

ICS 97.120

National foreword

This British Standard is the UK implementation of EN 60730-2-19:2002+A2:2008, incorporating A11:2005. It is derived from IEC 60730-2-19:1997, incorporating amendments 1:2000 and 2:2007. It supersedes BS EN 60730-2-19:2002 (which incorporated IEC amendment 1:2000), which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by A1 A1.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags C C. Where a common modification has been introduced by amendment, the tags carry the number of the amendment. For example, the common modifications introduced by CENELEC amendment A11 are indicated by C11 C11.

The UK participation in its preparation was entrusted to Technical Committee CPL/72, Electrical control devices for household equipment and appliances.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 6 May 2002

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Amendments/corrigenda issued since publication

Amd. No.	Date	Comments
15742	20 January 2006	See national foreword
	30 September 2008	Implementation of IEC amendment 2:2007 with CENELEC endorsement A2:2008

ISBN 978 0 580 62850 4

Automatic electrical controls for household and similar use
Part 2-19: Particular requirements for electrically operated oil valves,
including mechanical requirements
(IEC 60730-2-19:1997, modified)

Dispositifs de commande électrique
automatiques à usage domestique
et analogue
Partie 2-19: Règles particulières pour
électrovannes de combustible liquide, y
compris les prescriptions mécaniques
(CEI 60730-2-19:1997, modifiée)

Automatische elektrische Regel- und
Steuergeräte für den Hausgebrauch
und ähnliche Anwendungen
Teil 2-19: Besondere Anforderungen
an elektrisch betriebene Ölventile
(IEC 60730-2-19:1997, modifiziert)

This European Standard was approved by CENELEC on 2001-10-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 60730-2-19:1997 and its amendment 1:2000, prepared by IEC TC 72, Automatic controls for household use, together with the common modifications prepared by the Technical Committee CENELEC TC 72, Automatic controls for household use, was submitted to the formal vote and was approved by CENELEC as EN 60730-2-19 on 2001-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2002-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2008-10-01

This Part 2-19 is to be used in conjunction with EN 60730-1:2000, Automatic electrical controls for household and similar use - Part 1: General requirements, and its amendments. Consideration may be given to future editions of EN 60730-1.

This Part 2-19 supplements or modifies the corresponding clauses of EN 60730-1 so as to convert it into the European Standard: Particular requirements for electrically operated oil valves, including mechanical requirements.

Where a particular clause or subclause of Part 1 is not mentioned in this Part 2-19, that clause or subclause applies as far as is reasonable. Where this Part 2-19 states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

Where reference is made to other international or harmonized standards, the edition of that standard quoted in annex ZA (normative) is applicable.

There are no special national conditions (snc) causing a deviation from this European Standard other than those listed in annex ZB of EN 60730-1.

There are no national deviations from this European Standard other than those listed in Annex ZC of EN 60730-1.

In this standard:

- 1) The following print types are used:
 - Requirements proper: in roman type;
 - *Test specifications: in italic type;*
 - Explanatory matter: in small roman type.
- 2) Subclauses, notes, tables and figures which are additional to those in Part 1 are numbered starting from 101.

Annexes designated "normative" are part of the body of the standard.

In this standard, annexes H and ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60730-2-19:1997 and its amendment 1:2000 was approved by CENELEC as a European Standard with agreed common modifications as given below.

Foreword to amendment A11

This amendment to the European Standard EN 60730-2-19:2002 was prepared by the Technical Committee CENELEC TC 72, Automatic controls for household use.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A11 to EN 60730-2-19:2002 on 2004-12-01.

This amendment was prepared in order to make EN 60730-2-1 not applicable for controls covered by this standard. EN 60730-2-1:1997 will be withdrawn at the latest date of withdrawal of the last Part 2 for which it is applicable (i.e. 2009-03-01 applicable to EN 60730-2-2:2002).

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-12-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2008-10-01

Foreword to amendment A2

The text of amendment 2:2007 to the International Standard IEC 60730-2-19:1997, prepared by IEC TC 72, Automatic controls for household use, was submitted to the formal vote and was approved by CENELEC as amendment A2 to EN 60730-2-19:2002 on 2008-02-01 without any modification.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-02-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2011-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 2:2007 to the International Standard IEC 60730-2-19:1997 was approved by CENELEC as an amendment to the European Standard without any modification.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD
AND SIMILAR USE –****Part 2-19: Particular requirements for electrically operated oil valves,
including mechanical requirements**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60730-2-19 has been prepared by IEC technical committee 72: Automatic controls for household use.

This consolidated version of IEC 60730-2-19 is based on the first edition (1997) [documents 72/350/FDIS/ and 72/373/RVD] and its amendment 1 (2000) [documents 72/467/FDIS and 72/491/RVD].

It bears the edition number 1.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

 This Part 2-19 is intended to be used in conjunction with IEC 60730-1. It was established on the basis of the third edition of that standard (1999) and its amendment 1 (2003). Consideration may be given to future editions of, or amendments to IEC 60730-1. 

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Where this part 2 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 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 practice are contained in the following subclauses:

- Table 7.2, requirement 120
- Table 7.2, note 102
- 11.103
- 11.105.1
- 11.105.2
- 11.113
- 18.102
- 27.2.101.1
- H.26.10 

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.

2) Subclauses, notes or items which are additional to those in part 1 are numbered starting from 101.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2002-06. At this date, the publication will be

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

AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE –

Part 2-19: Particular requirements for electrically operated oil valves, including mechanical requirements

1 Scope and normative references

This clause of part 1 is not applicable.

Replacement:

1.1 This part 2 of IEC 60730 applies to electrically operated oil valves for use in, on or in association with equipment for household and similar use that use electricity, in combination with fuel in the liquid state such as distillates, residual fuels, etc.  The requirements of EN 264 also apply. Where there is an overlap between the mechanical (including endurance) requirements of EN 264 and those of this Part 2-19 the requirements of EN 264 apply .

This part 2 also applies to electrically operated oil valves using NTC or PTC thermistors, requirements for which are contained in annex J.

 **1.1.1** This standard 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 electrically operated oil valves used in, or in association with, household or similar equipment, but also extended to industrial purposes where no dedicated product standard exists, such as that for central heating, air conditioning, process heating, etc. .

This part 2 is also applicable to controls for appliances within the scope of IEC 60335-1.

Throughout this part 2 the word "equipment" means "appliance and equipment".

This part 2 does not apply to electrically operated oil valves designed exclusively for industrial applications.

Electrically operated oil valves for equipment not intended for normal household use, but which nevertheless may be used by the public, such as equipment intended to be used by laymen in shops, in light industry and on farms, are within the scope of this part 2.

 EN 60730-2-1 is not applicable to electrically operated oil valves. .

This part 2 identifies a number of mechanical features as "under consideration". Until these mechanical requirements are incorporated in this part 2, each country using this part 2 will have to quantify these requirements.

Compliance of an electrically operated oil valve with this part 2 does not imply that the valve is acceptable without further tests for these mechanical features.

1.1.2 This part 2 applies to manual controls when such are electrically and/or mechanically integral with electrically operated oil valves.

Requirements for manual switches not forming part of an electrically operated oil valve are contained in IEC 61058-1.

This part 2 does not apply to electrically operated oil valves of nominal connection size above DN 150.

Hereinafter, the term "valve" is used to denote an electrically operated oil valve (including prime mover and valve body).

 **1.1.3** An electric actuator that is submitted to the testing laboratory in combination with an oil valve will be evaluated under this part 2. A separate electric actuator is evaluated under IEC 60730-2-14, which provides particular requirements for electric actuators. .

1.1.4 This part 2 also applies to valves utilized as part of a system, or valves mechanically integral with multifunctional controls.

 Text deleted 

1.5 Normative references

This clause of part 1 is applicable except as follows:

Addition:

 Text deleted

IEC 60730-2-14:2001, *Automatic electrical controls for household and similar use – Part 2: Particular requirements for electric actuators*

ISO 228-1:2000

Text deleted 

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads – Part 1: Dimensions, tolerances and designation*

ISO 228-1:1994, *Pipe threads where pressure-tight joints are not made on the threads – Part 1: Dimensions, tolerances and designation*

ISO 274:1975, *Copper tubes of circular section – Dimensions*

ISO 301:1981, *Zinc alloy ingots intended for casting*

ISO 4400:1994, *Fluid power systems and components – Three-pin electrical plug connectors with earth contact – Characteristics and requirements*

ISO 6952:1994, *Fluid power systems and components – Two-pin electrical plug connectors with earth contact – Characteristics and requirements*

ISO 7005-1:1992, *Metallic flanges – Part 1: Steel flanges*

ISO 7005-2:1988, *Metallic flanges – Part 2: Cast iron flanges*

2 Definitions

This clause of part 1 is applicable except as follows:

2.2 Definitions of types of control according to purpose

Additional definitions:

2.2.17.101

electrically operated oil valve

an automatic valve in which the transmission is effected by an electrical prime mover and in which the operation controls the flow of oil

A semi-automatic valve that is opened manually and closes automatically, or vice versa, is also covered by this definition.

2.2.17.102

valve body

that part which is the main pressure boundary and which provides the oil flow passageways with end connections

2.2.17.103

end connection

valve body configuration provided to make a pressure-tight joint to the fluid-connecting system

2.2.17.104**nominal size**

a numerical designation of size which is common to all components in a fluid conducting system other than components designated by outside diameter or by thread size

It may be designated by DN followed by a convenient round number, for reference purposes only.

Some older international standards refer to nominal size as nominal diameter but, for the purpose of this part 2, the two terms are synonymous.

2.3 Definitions relating to the function of controls

Additional definitions:

2.3.101**on-off valve**

a valve which is open or closed, without any intermediate positions

2.3.102**normally closed valve**

a valve which is closed when not electrically energized

2.3.103**normally open valve**

a valve which is open when not electrically energized

Ⓐ 2.3.103.1**semi-automatic normally open valve with latch**

a valve which is closed when energized. When power is removed the valve will not open automatically and must be manually reset

2.3.103.2**normally open valve, automatic**

a valve which is open when not electrically energized and when power is removed the valve will open automatically Ⓐ

2.3.104**modulating valve**

a valve which has a variable flow rate between predetermined flow rates

2.3.104.1**multi-stage valve**

a valve which permits operation at rated flow rate or at various predetermined flow rates below rated flow rate

2.3.105**closure member**

a movable part of the valve which is positioned in the flow path to modify the rate of flow through the valve

2.3.106**closed position**

position of the closure member when there is no intended oil flow from the outlet of the valve

2.3.107**open position**

position of the closure member when there is intended oil flow from the outlet of the valve

2.3.107.1**fully open position**

position of the closure member so that the amount of oil flowing through the valve is in accordance with the rated flow rate