

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Automatic electrical controls for household and similar use –
Part 2-17: Particular requirements for electrically operated gas valves, including
mechanical requirements**

**Dispositifs de commande électrique automatiques à usage domestique et
analogue –
Partie 2-17: Règles particulières pour les électrovannes de gaz, y compris
les prescriptions mécaniques**



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2007 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de la CEI ou du Comité national de la CEI du pays du demandeur.

Si vous avez des questions sur le copyright de la CEI ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de la CEI de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

A propos de la CEI

La Commission Electrotechnique Internationale (CEI) est la première organisation mondiale qui élabore et publie des normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications CEI

Le contenu technique des publications de la CEI est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

- Catalogue des publications de la CEI: www.iec.ch/searchpub/cur_fut-f.htm

Le Catalogue en-ligne de la CEI vous permet d'effectuer des recherches en utilisant différents critères (numéro de référence, texte, comité d'études,...). Il donne aussi des informations sur les projets et les publications retirées ou remplacées.

- Just Published CEI: www.iec.ch/online_news/justpub

Restez informé sur les nouvelles publications de la CEI. Just Published détaille deux fois par mois les nouvelles publications parues. Disponible en-ligne et aussi par email.

- Electropedia: www.electropedia.org

Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International en ligne.

- Service Clients: www.iec.ch/webstore/custserv/custserv_entry-f.htm

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions, visitez le FAQ du Service clients ou contactez-nous:

Email: csc@iec.ch
Tél.: +41 22 919 02 11
Fax: +41 22 919 03 00

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Automatic electrical controls for household and similar use –
Part 2-17: Particular requirements for electrically operated gas valves, including
mechanical requirements**

**Dispositifs de commande électrique automatiques à usage domestique et
analogue –
Partie 2-17: Règles particulières pour les électrovannes de gaz, y compris
les prescriptions mécaniques**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

CG

CONTENTS

FOREWORD.....	3
1 Scope and normative references.....	5
2 Definitions	7
3 General requirements	9
4 General notes on tests.....	9
5 Rating.....	10
6 Classification	10
7 Information	12
8 Protection against electric shock.....	14
9 Provision for protective earthing.....	14
10 Terminals and terminations.....	14
11 Constructional requirements	14
12 Moisture and dust resistance	20
13 Electric strength and insulation resistance.....	20
14 Heating.....	21
15 Manufacturing deviation and drift	21
16 Environmental stress	22
17 Endurance	22
18 Mechanical strength.....	24
19 Threaded parts and connections	24
20 Creepage distances, clearances and distances through solid insulation.....	25
21 Resistance to heat, fire and tracking	25
22 Resistance to corrosion	25
23 Electromagnetic compatibility (EMC) requirements – emission	25
24 Components	25
25 Normal operation	25
26 Electromagnetic compatibility (EMC) requirements – immunity	25
27 Abnormal operation.....	25
28 Guidance on the use of electronic disconnection	27
Annexes.....	29
Annex H (normative) Requirements for electronic controls.....	29
Figures	28
Table 27.2.101 – Maximum winding temperature (for test of blocked output conditions and valves declared under table 7.2, item 110).....	26

INTERNATIONAL ELECTROTECHNICAL COMMISSION

AUTOMATIC ELECTRICAL CONTROLS FOR HOUSEHOLD AND SIMILAR USE –

Part 2-17: Particular requirements for electrically operated gas 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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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 60730-2-17 has been prepared by IEC technical committee 72: Automatic controls for household use.

This consolidated version of IEC 60730-2-17 consists of the first edition (1997) [documents 72/348/FDIS and 72/371/RVD], its amendment 1 (2000) [documents 72/466/FDIS and 72/490/RVD] and its amendment 2 (2007) [documents 72/744/FDIS and 72/749/RVD].

The technical content is therefore identical to the base edition and its amendments and has been prepared for user convenience.

It bears the edition number 1.2.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2.

This Part 2-17 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.

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:

- 6.11.101
- 6.103
- 6.104
- Table 7.2, requirements 117 and 118
- Table 7.2, notes 103 and 104
- 11.102
- 11.103
- 11.104.3
- 11.104.5
- 11.104.11
- 11.104.14
- 11.105.1
- 11.105.2
- 11.105.3
- 11.105.6
- 11.106.1
- 11.115
- 17.16.101
- 18.102
- 18.103
- 27.2.101.1

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 requirements 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 the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. 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 2-17: Particular requirements for electrically operated gas valves, including mechanical requirements

1 Scope and normative references

This clause of part 1 is replaced as follows:

Replacement:

1.1 This part 2 of IEC 60730 applies to electrically operated gas valves for use in, on or in association with, equipment for household and similar use that use electricity, in combination with fuel in the gaseous state such as manufactured gas, natural gas or liquefied petroleum gas intended to be used for gas burning equipment.

Additional considerations may be necessary for gas with corrosive properties.

This part 2 also applies to electrically operated gas 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 gas valves used in, or in association with, household or similar equipment, but also extended to industrial purposes when 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 gas valves designed exclusively for industrial applications.

Electrically operated gas 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.

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 gas 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 gas valves.

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