IEC 60255-26

Edition 2.0 2008-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Withdrawn

Measuring relays and protection equipment – Part 26: Electromagnetic compatibility requirements

Relais de mesure et dispositifs de protection – Partie 26: Exigences de compatibilité électromagnétique

IEC 60255-26:2008

Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2008 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 Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

Withdrawn

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 It also gives information on projects, withdrawn and replaced publications.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

Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

IEC 60255-26

Edition 2.0 2008-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

withdrawn

Measuring relays and protection equipment – Part 26: Electromagnetic compatibility requirements

Relais de mesure et dispositifs de protection – Partie 26: Exigences de compatibilité électromagnétique

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX

N

ICS 29.120.70; 33.100.10; 33.100.20

ISBN 2-8318-9853-6

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

CONTENTS

FOREWORD 3
INTRODUCTION 5
1 Scope and object 6
1.1 Emission 6
1.2 Immunity 6
2 Normative references 7
3 Terms and definitions 8
4 Test requirements and procedures 9
4.1 Emission tests 9
4.2 Immunity tests 9
5 Criteria for acceptance 9
5.1 Emission tests 9
5.2 Immunity tests 9
6 Test report 9

Figure 1 – Ports for measuring relays and protection equipment 9

Table 1 – Emission tests – Enclosure port 9
Table 2 – Emission tests – Auxiliary power supply port 10
Table 3 – Immunity tests – Enclosure port 10
Table 4 – Immunity tests – Auxiliary power supply port 11
Table 5 – Immunity tests – Communication port 12
Table 6 – Immunity tests – Input and output ports 13
Table 7 – Immunity tests – Functional earth port 14

Withdrawn

Documents
Document Sharing Hub
Full document details: IEC 60255-26 2008

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MEASURING RELAYS AND PROTECTION EQUIPMENT –

Part 26: Electromagnetic compatibility 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 60255-26 has been prepared by IEC technical committee 95: Measuring relays and protection equipment.

This second edition cancels and replaces the first edition published in 2004. This edition constitutes a technical revision.

The main difference with respect to the previous edition concerns the reference to IEC 61000-4 series and to CISPR 22.

The text of this standard is based on the following documents:

FDIS	Report on voting
95/230/FDIS	95/234/RVD

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

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

Withdrawn

AVA Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

A list of all parts of IEC 60255 series under the general title *Measuring relays and protection equipment*, can be found on the IEC website.

The committee has decided that the contents of this publication 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.

withdrawn

Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

INTRODUCTION

This part of IEC 60255 specifies all of the requirements for electromagnetic compatibility in a single document. As such, it is considered as an overview document for measuring relays and protection equipment. The detailed test procedures are given in other referenced standards.

withdrawn

Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

MEASURING RELAYS AND PROTECTION EQUIPMENT –

Part 26: Electromagnetic compatibility requirements

Withdrawn

1 Scope and object

This part of IEC 60255 is applicable to measuring relays and protection equipment for power system protection, including the control, monitoring and process interface equipment used with those systems.

This standard specifies the essential requirements for electromagnetic compatibility for measuring relays and protection equipment intended to be used at industrial locations.

Measuring relays and protection equipment used in substations and power plants may require higher immunity test levels.

For equipment not incorporating electronic circuits, for example electromechanical relays, tests according to this standard are not required.

The requirements specified in this standard are applicable to measuring relays and protection equipment in a new condition and all tests specified are type tests only.

1.1 Emission

The object of this standard is to specify limits and test methods, for measuring relays and protection equipment in relation to electromagnetic emissions which may cause interference in other equipment.

These emission limits represent electromagnetic compatibility essential requirements and have been selected to ensure that the disturbances generated by measuring relays and protection equipment, operated normally in substations and power plants, do not exceed a level which could prevent other equipment from operating as intended.

Test requirements are specified for the enclosure and power supply ports.

1.2 Immunity

The object of this standard is to specify the essential immunity test requirements for measuring relays and protection equipment in relation to continuous and transient, conducted and radiated disturbances, including electrostatic discharges.

These test requirements represent the essential electromagnetic compatibility immunity requirements selected to ensure an adequate level of immunity for measuring relays and protection equipment.

NOTE 1 Safety considerations are not covered in this standard.

NOTE 2 In special cases, situations will arise where the levels of disturbance may exceed the levels specified in this standard, for example where a hand-held transmitter is used in close proximity to measuring relays and protection equipment. In these instances, special precautions may have to be employed.

AVA Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

2 Normative references

The following referenced documents are indispensable for the application 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 60255-11:1979, *Electrical relays – Part 11: Interruptions to and alternating component (ripple) in d.c. auxiliary energizing quantity of measuring relays*

IEC 60255-22-1:2007, *Measuring relays and protection equipment – Part 22-1: Electrical disturbance tests – 1 MHz burst immunity tests*

IEC 60255-22-2:1996, *Electrical relays – Part 22: Electrical disturbance tests for measuring relays and protection equipment – Section 2: Electrostatic discharge tests*

IEC 60255-22-3:2007, *Measuring relays and protection equipment – Part 22-3: Electrical disturbance tests – Radiated electromagnetic field immunity*

IEC 60255-22-4:2002, *Electrical relays – Part 22-4: Electrical disturbance tests for measuring relays and protection equipment – Electrical fast transient/burst immunity test*

IEC 60255-22-5:2002, *Electrical relays – Part 22-5: Electrical disturbance tests for measuring relays and protection equipment – Surge immunity test*

IEC 60255-22-6:2001, *Electrical relays – Part 22-6: Electrical disturbance tests for measuring relays and protection equipment – Immunity to conducted disturbances induced by radio frequency fields*

IEC 60255-22-7:2003, *Electrical relays – Part 22-7: Electrical disturbance tests for measuring relays and protection equipment – Power frequency immunity tests*

IEC 60255-25:2000, *Electrical relays – Part 25: Electromagnetic emission tests for measuring relays and protection equipment*

CISPR 22:2006, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

IEC 61000-4-2:2001, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2006, *Electromagnetic compatibility (EMC) – Part 4-3 : Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4:2004, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6:2006, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8:2001, *Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test*

Withdrawn

AVA Documents
Document Sharing Hub

Full document details: IEC 60255-26 2008

IEC 61000-4-16:2002, *Electromagnetic compatibility (EMC) – Part 4-16: Testing and measurement techniques – Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz*

IEC 61000-4-18:2006, *Electromagnetic compatibility (EMC) – Part 4-18: Testing and measurement techniques – Damped oscillatory wave immunity test*

IEC 61000-4-29:2000, *Electromagnetic compatibility (EMC) – Part 4-29: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations on d.c. input power port immunity tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
auxiliary power supply port
a.c or d.c auxiliary energising input of the Equipment Under Test (EUT)

3.2
communication port
interface with a communication and/or control system, using low energy signals, permanently connected to the EUT

3.3
enclosure port
physical boundary of the EUT through which electromagnetic fields may radiate or impinge

3.4
Equipment Under Test
EUT
equipment which may be either a measuring relay or a protection equipment

3.5
functional earth port
port on the EUT which is connected to earth for purposes other than electrical safety

3.6
input port
port through which the EUT is energised or controlled in order to perform its function(s), for example current and voltage transformer, binary (status), etc.

3.7
output port
port through which the EUT produces predetermined changes, for example contacts, optocouplers, analogue output, etc.

3.8
port
particular interface of the specified EUT with the external electromagnetic environment (see Figure 1).

Withdrawn

Documents
Document Sharing Hub
Full document details: IEC 60255-26 2008