

INTERNATIONAL STANDARD

IEC
60364-6

First edition
2006-02

Low-voltage electrical installations –

Part 6: Verification

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*



Reference number
IEC 60364-6:2006(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

Consolidated editions

The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

Further information on IEC publications

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology. Information relating to this publication, including its validity, is available in the IEC Catalogue of publications (see below) in addition to new editions, amendments and corrigenda. Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is also available from the following:

- **IEC Web Site (www.iec.ch)**
- **Catalogue of IEC publications**
The on-line catalogue on the IEC web site (www.iec.ch/searchpub) enables you to search by a variety of criteria including text searches, technical committees and date of publication. On-line information is also available on recently issued publications, withdrawn and replaced publications, as well as corrigenda.
- **IEC Just Published**
This summary of recently issued publications (www.iec.ch/online_news/justpub) is also available by email. Please contact the Customer Service Centre (see below) for further information.
- **Customer Service Centre**
If you have any questions regarding this publication or need further assistance, please contact the Customer Service Centre:

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

INTERNATIONAL STANDARD

IEC
60364-6

First edition
2006-02

Low-voltage electrical installations – Part 6: Verification

© IEC 2006 Copyright - all rights reserved

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 the publisher.

International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

X

For price, see current catalogue

CONTENTS

FOREWORD	7
6.1 Scope	11
6.2 Normative references	11
6.3 Terms and definitions	13
61 Initial verification	13
61.1 General	13
61.2 Inspection	15
61.3 Testing	17
61.3.1 General	17
61.3.2 Continuity of conductors	17
61.3.3 Insulation resistance of the electrical installation	19
61.3.4 Protection by SELV, PELV or by electrical separation	19
61.3.5 Insulation resistance/impedance of floors and walls	21
61.3.6 Protection by automatic disconnection of the supply	21
61.3.7 Additional protection.	25
61.3.8 Polarity test	25
61.3.9 Check of phase sequence	27
61.3.10 Functional tests	27
61.3.11 Verification of voltage drop	27
61.4 Reporting for initial verification	27
62 Periodic verification	29
62.1 General	29
62.2 Frequency of periodic verification	31
62.3 Reporting for periodic verification	31
Annex A (informative) Methods for measuring the insulation resistance/impedance of floors and walls to earth or to the protective conductor	35
A.1 General	35
A.2 Test method for measuring the impedance of floors and walls with a.c.voltage	35
A.3 Test electrode 1	37
A.4 Test electrode 2	39
Annex B (informative) Method B1, B2 and B3	41
B.1 Method B1 – Measurement of earth electrode resistance	41
B.2 Method B2 – Measurement of the fault loop impedance	43
B.3 Method B3 – Measurement of earth loop resistance with current clamps	45
Annex C (informative) Guide on the application of the rules of clause 61: Initial verification	47
Annex D (informative) Example of a diagram suitable for the evaluation of the voltage drop	53
Annex E (informative) Recommendation for electrical equipment, which is being re- used in electrical installations	55
Annex F (informative) Description of the installation for verification	57
Annex G (informative) Form for inspection of electrical installations (see examples in G.2)..	63
Annex I (informative) Correspondence between IEC 60364-6-61:2001 and IEC 60364-6:2006	81

Bibliography.....	83
Figure A.1 – Test electrode 1.....	37
Figure A.2 – Test electrode 2.....	39
Figure B.1 – Measurement of earth electrode resistance.....	41
Figure B.2 – Measurement of fault loop impedance by voltage drop.....	43
Figure B.3 – Measurement of earth loop resistance with current clamps	45
Table 6A – Minimum values of insulation resistance	19
Table H.1 – Model form for circuit details and test results schedule	77

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –**Part 6: Verification****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 60364-6 has been prepared by IEC technical committee 64: Electrical installations and protection against electrical shock.

This first edition of IEC 60364-6 replaces the second edition of IEC 60364-6-61, published in 2001, and constitutes a technical revision.

The main changes with respect to IEC 60364-6-61 are listed below:

- extension of the scope to cover, in addition to initial verification, also periodic verification of electrical installations;
- modification of verification requirements in the case of protection by automatic disconnection of the supply;
- requirements for verification of conditions for additional protection;
- requirements for reporting upon completion of initial and periodic verification;



SAI GLOBAL

This is a free 6 page sample. Access the full version online.

The remainder of this document
is available for purchase online at

www.saiglobal.com/shop

SAI Global also carries a wide range of publications from a wide variety of Standards Publishers:



SAI GLOBAL



STANDARDS
Australia



Click on the logos to search the database online.