

## SLOVENSKI STANDARD SIST EN IEC 60230:2018

01-junij-2018

Nadomešča:

SIST EN 60230:2002 (HD 48 S1)

### Impulzno preskušanje kablov in njihovega pribora (IEC 60230:2018)

Impulse tests on cables and their accessories (IEC 60230:2018)

Stoßspannungsprüfungen an Kabeln und deren Garnituren (IEC 60230:2018)

Essais de choc des câbles et de leurs accessoires (IEC 60230:2018) (standards.iteh.ai)

Ta slovenski standard je istoveten zr en ijENIJEC 60230:2018

https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-

f39a859d1a29/sist en jee 60230-2018

ICS:

29.060.20 Kabli Cables

SIST EN IEC 60230:2018 en

**SIST EN IEC 60230:2018** 

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN IEC 60230:2018

https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-f39a859d1a29/sist-en-iec-60230-2018

EUROPEAN STANDARD NORME EUROPÉENNE **EN IEC 60230** 

**EUROPÄISCHE NORM** 

March 2018

ICS 29.060.20

Supersedes EN 60230:2002

#### **English Version**

## Impulse tests on cables and their accessories (IEC 60230:2018)

Essais de choc des câbles et de leurs accessoires (IEC 60230:2018)

Stoßspannungsprüfungen an Kabeln und deren Garnituren (IEC 60230:2018)

This European Standard was approved by CENELEC on 2018-02-14. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67bf39a859d1a29/sist-en-iec-60230-2018



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

#### EN IEC 60230:2018 (E)

### **European foreword**

The text of document 20/1769A/FDIS, future edition 2 of IEC 60230, prepared by IEC/TC 20 "Electric cables" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60230:2018.

The following dates are fixed:

•	latest date by which the document has to be	(dop)	2018-11-14
	implemented at national level by		
	publication of an identical national		
	standard or by endorsement		

 latest date by which the national standards conflicting with the document have to be withdrawn

This document supersedes EN 60230:2002.

### **Endorsement notice**

The text of the International Standard IEC 60230:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60060-2 i North ST Harmonized as EN 60060-2 EVIEW (standards.iteh.ai)

SIST EN IEC 60230:2018 https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-f39a859d1a29/sist-en-iec-60230-2018

EN IEC 60230:2018 (E)

## 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60060-1	2010	High-voltage test techniques Part 1: General definitions and test requirements	EN 60060-1	2010

## iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN IEC 60230:2018 https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-f39a859d1a29/sist-en-iec-60230-2018 **SIST EN IEC 60230:2018** 

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN IEC 60230:2018

https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-f39a859d1a29/sist-en-iec-60230-2018



IEC 60230

Edition 2.0 2018-01

## INTERNATIONAL STANDARD

## Impulse tests on dables and their accessories REVIEW (standards.iteh.ai)

SIST EN IEC 60230:2018 https://standards.iteh.ai/catalog/standards/sist/1718c1ae-32eb-4508-b67b-f39a859d1a29/sist-en-iec-60230-2018

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 29.060.20 ISBN 978-2-8322-5236-9

Warning! Make sure that you obtained this publication from an authorized distributor.

## CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Characteristics of the test object to be subjected to the tests	5
5 State of the test object to be subjected to the test	6
6 Lightning impulse voltage	6
7 Switching impulse voltage	6
8 Superimposed impulse voltage test	6
8.1 General	6
8.2 Test setup	6
8.3 Time parameters	
8.4 Application of the DC voltage	
9 Measuring system	
10 Application of the impulses	
Annex A (informative) Tests above the withstand level	
A.1 General  A.2 Procedure for tests above the withstand level REVEW	8
A.2.1 General sequence of lightning-impulse tests  A.2.2 Tests beyond withstand level	8
A.2.3 Re-calibration of the generators. 602302018	
Annex B (normative)pCalibration of impulse agenerator 7.18c1ac-32cb-4508-b67b	
B.1 General <u>f39a859d1a29/sist-en-iec-60230-2018</u>	
B.2 Calibration of impulse generator	9
B.3 Application of the impulses at the level specified	
Annex C (normative) Test circuits for superimposed impulse voltage test	
C.1 General	
Bibliography	12
Figure C.1 – Spark gap setup using calibrated composite measuring system capable of	4.0
measuring HVDC and impulse	10
Figure C.2 – Blocking capacitor setup using calibrated composite measuring system capable of measuring HVDC and impulse	11

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### IMPULSE TESTS ON CABLES AND THEIR ACCESSORIES

#### **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 laces to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies s/sist/1718c1ae-32eb-4508-b67b-
- 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 60230 has been prepared by IEC technical committee 20: Electric cables.

This second edition cancels and replaces the first edition published in 1966. This edition constitutes a technical revision.

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

- a) the structure of the standard takes into account the current style of IEC standards;
- b) this document is no longer a "Recommendation" but an "International Standard";
- c) the test installation is no longer related to gas-pressure and oil-filled cables only;
- d) switching-impulse voltage and superimposed impulse voltage tests have been included;
- e) for the measuring system the reference to IEC 60060-2 has been added. The reference to the sphere gap method has been moved to Annex B.