



SLOVENSKI STANDARD

SIST EN 62052-11:2004

01-januar-2004

Nadomešča:

SIST EN 61036:1998/A1:2001

Oprema za merjenje električne energije (izmenični tok) - Splošne zahteve, preskusi in preskuševalni pogoji - 11. del: Merilna oprema (IEC 62052-11:2003) (IEC 62052-11:2003)

Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 11: Metering equipment

Wechselstrom-Elektrizitätszähler - Allgemeine Anforderungen, Prüfungen und Prüfbedingungen - Teil 11: Messeinrichtungen

Équipement de comptage de l'électricité (CA) - Prescriptions générales, essais et conditions d'essai - Partie 11: Equipement de comptage

Ta slovenski standard je istoveten z: EN 62052-11:2003

ICS:

91.140.50 Sistemi za oskrbo z elektriko Electricity supply systems

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en

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EUROPEAN STANDARD

EN 62052-11

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2003

ICS 17.220.20

English version

**Electricity metering equipment (AC) -
General requirements, tests and test conditions
Part 11: Metering equipment
(IEC 62052-11:2003)**

Equipement de comptage
de l'électricité (CA) -
Prescriptions générales, essais
et conditions d'essai
Partie 11: Equipement de comptage
(CEI 62052-11:2003)

Wechselstrom-Elektrizitätszähler -
Allgemeine Anforderungen, Prüfungen
und Prüfbedingungen
Teil 11: Messeinrichtungen
(IEC 62052-11:2003)

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This European Standard was approved by CENELEC on 2003-03-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 document 13/1285/FDIS, future edition 1 of IEC 62052-11, prepared by IEC TC 13, Equipment for electrical energy measurement and load control, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62052-11 on 2003-03-01.

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) 2003-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-03-01

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

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C, D and ZA are normative and annexes E and F are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62052-11:2003 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038 (mod)	1983	IEC standard voltages ¹⁾	HD 472 S1 + corr. February	1989 2002
A1	1994		-	-
A2	1997		-	-
IEC 60044-1 (mod)	1996	Instrument transformers Part 1: Current transformers	EN 60044-1	1999
IEC 60044-2 (mod)	1997	Part 2: Inductive voltage transformers	EN 60044-2	1999
IEC 60050-300	2001	International Electrotechnical Vocabulary - Electrical and electronic measurements and measuring instruments Part 311: General terms relating to measurements - Part 312: General terms relating to electrical measurements - Part 313: Types of electrical measuring instruments - Part 314: Specific terms according to the type of instrument	-	-
IEC 60060-1 + corr. March	1989 1990	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991
IEC 60068-2-1	1990	Environmental testing Part 2: Tests - Tests A: Cold	EN 60068-2-1	1993
A1	1993		A1	1993
A2	1994		A2	1994
IEC 60068-2-2	1974	Part 2: Tests - Test B: Dry heat	EN 60068-2-2 ²⁾	1993
A1	1993		A1	1993
A2	1994		A2	1994

1) The title of HD 472 S1 is: Nominal voltages for low-voltage public electricity supply systems.

2) EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-5	1975	Part 2: Tests - Test Sa: Simulated solar radiation at ground level	EN 60068-2-5	1999
IEC 60068-2-6 + corr. March	1995 1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-11	1981	Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	1999
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)	EN 60068-2-30 ³⁾	1999
IEC 60068-2-75	1997	Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60085	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
IEC 60359	2001	Electrical and electronic measurement equipment - Expression of performance	EN 60359	2002
IEC 60387	1992	Symbols for alternating-current electricity meters	EN 60387	1992
IEC 60417-2	1998	Graphical symbols for use on equipment Part 2: Symbol originals	EN 60417-2	1999
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
A1	1999		+ corr. May A1	1993 2000
IEC 60695-2-11	2000	Fire hazard testing Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60721-3-3	1994	Classification of environmental conditions Part 3: Classification of groups of environmental parameters and their severities - Section 3: Stationary use at weatherprotected locations	EN 60721-3-3	1995
A1	1995		-	-
A2	1996		A2	1997
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995

³⁾ EN 60068-2-30 includes A1:1985 to IEC 60068-2-30.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-3	2002	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
IEC 61000-4-12	1995	Part 4-12: Testing and measurement techniques - Oscillatory waves immunity test	EN 61000-4-12	1995
IEC 62053-31	1998	Electricity metering equipment (a.c.) Particular requirements - Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)	EN 62053-31	1998
CISPR 22 (mod)	1997	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + corr. July	1998 2001
A1	2000		A1	2000
ISO 75-2	1993	Plastics - Determination of temperature of deflection under load - Part 2: Plastics and ebonite	EN ISO 75-2	1996

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INTERNATIONAL STANDARD

IEC 62052-11

First edition
2003-02

**Electricity metering equipment (AC) –
General requirements, tests and test conditions –**

**Part 11:
Metering equipment**

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*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 62052-11:2003(E)

CONTENTS

FOREWORD	4
INTRODUCTION	9
1 Scope	11
2 Normative references.....	11
3 Terms and definitions	15
3.1 General definitions.....	15
3.2 Definitions related to the functional elements.....	19
3.3 Definitions of mechanical elements.....	23
3.4 Definitions related to insulation.....	25
3.5 Definitions of meter quantities	27
3.6 Definitions of influence quantities	29
3.7 Definition of tests.....	31
3.8 Definitions related to electromechanical meters	31
4 Standard electrical values.....	33
4.1 Standard reference voltages	33
4.2 Standard currents	35
4.3 Standard reference frequencies	35
5 Mechanical requirements and tests.....	35
5.1 General mechanical requirements.....	35
5.2 Case.....	35
5.3 Window.....	37
5.4 Terminals – Terminal block(s) – Protective earth terminal.....	39
5.5 Terminal cover(s).....	39
5.6 Clearance and creepage distances	41
5.7 Insulating encased meter of protective class II.....	43
5.8 Resistance to heat and fire	43
5.9 Protection against penetration of dust and water	43
5.10 Display of measured values	45
5.11 Output device	45
5.12 Marking of meter.....	47
6 Climatic conditions.....	51
6.1 Temperature range	51
6.2 Relative humidity	51
6.3 Tests of the effect of the climatic environments	51
7 Electrical requirements	55
7.1 Influence of supply voltage	55
7.2 Heating.....	57
7.3 Insulation.....	57
7.4 Immunity to earth fault.....	61
7.5 Electromagnetic compatibility (EMC).....	63
8 Type test	71
8.1 Test conditions	71

Annex A (normative) Relationship between ambient air temperature and relative humidity	73
Annex B (normative) Voltage wave-form for the tests of the effect of voltage dips and short interruptions	75
Annex C (normative) Test circuit diagram for the test of immunity to earth fault.....	77
Annex D (normative) Optical test output	79
Annex E (informative) Test set-up for EMC tests	81
Annex F (informative) Test schedule – Recommended test sequences	85
Figure A.1 – Relationship between ambient air temperature and relative humidity.....	73
Figure B.1 – Voltage interruptions of $\Delta U = 100\%$, 1 s	75
Figure B.2 – Voltage interruptions of $\Delta U = 100\%$, one cycle at rated frequency.....	75
Figure B.3 – Voltage dips of $\Delta U = 50\%$	75
Figure C.1 – Circuit to simulate earth fault condition in phase 1	77
Figure C.2 – Voltages at the meter under test	77
Figure D.1 – Test arrangement for the test output	79
Figure D.2 – Waveform of the optical test output	79
Figure E.1 – Test set-up for the test of immunity to electromagnetic RF fields.....	81
Figure E.2 – Test set-up for the fast transient burst test: Voltage circuits	81
Figure E.3 – Test set-up for the fast transient burst test: Current circuits	83
Table 1 – Standard reference voltages	33
Table 2 – Standard reference currents	35
Table 3a – Clearances and creepage distances for insulating encased meter of protective class I	41
Table 3b – Clearances and creepage distances for insulating encased meter of protective class II	41
Table 4 – Voltage marking.....	49
Table 5 – Temperature range	51
Table 6 – Relative humidity	51
Table 7 – Voltage range	55
Table 8 – Change of error due to earth fault.....	63

STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 62052-11:2004

<https://standards.iteh.ai/catalog/standards/sist/347e218-45c0-44a2-854d-601910d5110d/sist-en-62052-11-2004>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING EQUIPMENT (AC) –
GENERAL REQUIREMENTS, TESTS AND TEST CONDITIONS –**

Part 11: Metering equipment

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 62052-11 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

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

FDIS	Report on voting
13/1285/FDIS	13/1292/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.

The committee has decided that the contents of this publication will remain unchanged until 2012. At this date, the publication will be

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

INTRODUCTION

This part of IEC 62052 is to be used with relevant parts of the IEC 62052, IEC 62053 and IEC 62059 series, Electricity metering equipment:

- IEC 62053-11:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 11: Electromechanical meters for active energy (classes 0,5, 1 and 2)*
Replaces particular requirements of IEC 60521:1988 (2nd edition)
- IEC 62053-21: 2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 21: Static meters for active energy (classes 1 and 2)*
Replaces particular requirements of IEC 61036: 2000 (2nd edition)
- IEC 62053-22:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)*
Replaces particular requirements of IEC 60687:1992 (2nd edition)
- IEC 62053-23:2003, *Electricity metering equipment (a.c.) – Particular requirements – Part 23: Static meters for reactive energy (classes 2 and 3)*
Replaces particular requirements of IEC 61268:1995 (1st edition)
- IEC 62053-31:1998, *Electricity metering equipment (a.c.) – Particular requirements – Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)*
- IEC 62053-61:1998, *Electricity metering equipment (a.c.) – Particular requirements – Part 61: Power consumption and voltage requirements*
- IEC 62059-11:2002, *Electricity metering equipment (a.c.) – Dependability – Part 11: General concepts*
- IEC 62059-21:2002, *Electricity metering equipment (a.c.) – Dependability – Part 21: Collection of meter dependability data from the field*

This part is a standard for type testing electricity meters. It covers the general requirements for “normal meters”, being used indoors and outdoors in large quantities worldwide. It does not deal with special implementations (such as metering-part and/or displays in separate housings).

This standard is intended to be used in conjunction with the appropriate part of IEC 62053 for the type of equipment under consideration.

This standard distinguishes between

- meters intended to be used indoors and outdoors; and
- protective class I and protective class II meters.

The test levels are regarded as minimum values to guarantee the proper functioning of the meter under normal working conditions. For special application, other test levels might be necessary and should be agreed upon between the user and the manufacturer.

ELECTRICITY METERING EQUIPMENT (AC) – GENERAL REQUIREMENTS, TESTS AND TEST CONDITIONS –

Part 11: Metering equipment

1 Scope

This part of IEC 62052 covers type tests for electricity metering equipment for indoor and outdoor application and applies to newly manufactured equipment designed to measure the electrical energy on 50 Hz or 60 Hz networks, with a voltage up to 600 V.

It applies to electromechanical or static meters for indoor and outdoor application consisting of a measuring element and register(s) enclosed together in a meter case. It also applies to operation indicator(s) and test output(s). If the meter has a measuring element for more than one type of energy (multi-energy meters), or when other functional elements, such as maximum demand indicators, electronic tariff registers, time switches, ripple control receivers, data communication interfaces, etc. are enclosed in the meter case, then the relevant standards for these elements apply.

It does not apply to:

- a) portable meters;
- b) data interfaces to the register of the meter;
- c) reference meters.

For rack-mounted meters, the mechanical properties are not covered in this standard.

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 60038:1983, *IEC standard voltages*
Amendment 1:1994,
Amendment 2:1997

IEC 60044-1:1996, *Instrument transformers – Part 1: Current transformers*

IEC 60044-2:1997, *Instrument transformers – Part 2: Inductive voltage transformers*

IEC 60050-300:2001, *International Electrotechnical Vocabulary – Electrical and electronic measurements and measuring instruments – Part 311: General terms relating to measurements – Part 312: General terms relating to electrical measurements – Part 313: Types of electrical measuring instruments – Part 314: Specific terms according to the type of instrument*

IEC 60060-1:1989, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*
Amendment 1:1993,
Amendment 2:1994

IEC 60068-2-2:1974, *Basic environmental testing procedures – Part 2: Tests – Tests B: Dry heat*
Amendment 1:1993,
Amendment 2:1994

IEC 60068-2-5:1975, *Basic environmental testing procedures – Part 2: Tests – Test Sa: Simulated solar radiation at ground level*

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-11:1981, *Basic environmental testing procedures – Part 2: Tests – Test Ka: Salt mist*

IEC 60068-2-27:1987, *Basic environmental testing procedures – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-30:1980, *Basic environmental testing procedures – Part 2: Tests – Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60085:1984, *Thermal evaluation and classification of electrical insulation*

IEC 60359:2001, *Electrical and electronic measurement equipment – Expression of performance*

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IEC 60387:1992, *Symbols for alternating-current electricity meters*

IEC 60417-2:1998, *Graphical symbols for use on equipment – Part 2: Symbols originals*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*
Amendment 1:1999

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60721-3-3:1994, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 3: Stationary use at weatherprotected locations*
Amendment 1:1995,
Amendment 2:1996

IEC 61000-4-2:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 2: Electrostatic discharge immunity test. Basic EMC publication*

IEC 61000-4-3:2002, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*