

# **SLOVENSKI STANDARD**

## **SIST EN 62053-22:2004**

**01-januar-2004**

**Nadomešča:**  
**SIST EN 60687:1995**

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**Oprema za merjenje električne energije (izmenični tok) - Posebne zahteve - 22. del:  
Statični števcji delovne energije (razreda 0,2 in 0,5S) (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)

Wechselstrom-Elektrizitätszähler - Besondere Anforderungen - Teil 22: Elektronische Wirkverbrauchsähler der Genauigkeitsklassen 0,2 S und 0,5 S

Equipement de comptage de l'électricité (c.a.) - Prescriptions particulières - Partie 22: Compteurs statiques d'énergie active (classes 0,2 S et 0,5 S)

**Ta slovenski standard je istoveten z: EN 62053-22:2003**

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**ICS:**

91.140.50      Sistemi za oskrbo z elektriko    Electricity supply systems

**SIST EN 62053-22:2004**

**en**

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EUROPEAN STANDARD

**EN 62053-22**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2003

ICS 17.220.20

Supersedes EN 60687:1992

English version

**Electricity metering equipment (a.c.) –  
Particular requirements  
Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)  
(IEC 62053-22:2003)**

Equipement de comptage  
de l'électricité (c.a.) –  
Prescriptions particulières  
Partie 22: Compteurs statiques d'énergie  
active (classes 0,2 S et 0,5 S)  
(CEI 62053-22:2003)

Wechselstrom-Elektrizitätszähler -  
Besondere Anforderungen  
Teil 22: Elektronische  
Wirkverbrauchszähler der  
Genauigkeitsklassen 0,2 S und 0,5 S  
(IEC 62053-22:2003)

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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 13/1283/FDIS, future edition 1 of IEC 62053-22, 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 62053-22 on 2003-03-01.

This European Standard supersedes EN 60687:1992 + corrigendum March 1993.

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.  
In this standard, annexes A, B and ZA are normative.  
Annex ZA has been added by CENELEC.

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The text of the International Standard IEC 62053-22:2003 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 60044-1 (mod)	1996	Instrument transformers Part 1: Current transformers	EN 60044-1	1999
IEC 60736	1982	Testing equipment for electrical energy meters	-	-
IEC 62052-11	2003	Electricity metering equipment (AC) - General requirements, tests and test conditions Part 11: Metering equipment	EN 62052-11	2003
IEC 62053-61	1998	Electricity metering equipment (a.c.) - Particular requirements - Part 61: Power consumption and voltage requirements	EN 62053-61	1998

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# INTERNATIONAL STANDARD

# IEC 62053-22

First edition  
2003-01

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## Electricity metering equipment (a.c.) – Particular requirements –

### Part 22: Static meters for active energy

(classes 0,2 S and 0,5 S)  
**PREVIEW**  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING EQUIPMENT (AC) –  
PARTICULAR REQUIREMENTS –****Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)**

## 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. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62053-22 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

This standard together with IEC 62052-11 cancels and replaces IEC 60687 second edition 1992 and constitutes a technical revision.

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

FDIS	Report on voting
13/1283/FDIS	13/1290/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 62053 is to be used with the following relevant parts of the IEC 62052, IEC 62053 and IEC 62059 series, Electricity metering equipment:

- IEC 62052-11:2003, *Electricity metering equipment (a.c.) – General requirements, tests and test conditions – Part 11: 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 (2<sup>nd</sup> 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 (2<sup>nd</sup> 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 (2<sup>nd</sup> 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*

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This part is a standard for type testing electricity meters. It covers the particular requirements for meters, being used indoors. 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 IEC 62052-11. When any requirement in this standard concerns an item already covered in IEC 62052-11, the requirements of this standard take precedence over the requirements of IEC 62052-11.

This standard distinguishes:

- between accuracy class index 0,2 S and accuracy class index 0,5 S meters;
- between protective class I and protective class II meters;
- between meters for use in networks equipped with or without earth fault neutralizers.

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

## ELECTRICITY METERING EQUIPMENT (AC) – PARTICULAR REQUIREMENTS –

### Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)

#### 1 Scope

This part of IEC 62053 applies only to newly manufactured static watt-hour meters of accuracy classes 0,2 S and 0,5 S, for the measurement of alternating current electrical active energy in 50 Hz or 60 Hz networks and it applies to their type tests only.

It applies only to transformer-operated static watt-hour meters for indoor 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, like 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 also apply.

NOTE IEC 60044-1 describes transformers having a measuring range of  $0,01 I_n$  to  $1,2 I_n$ , or of  $0,05 I_n$  to  $1,5 I_n$ , or of  $0,05 I_n$  to  $2 I_n$  and transformers having a measuring range of  $0,01 I_n$  to  $1,2 I_n$  for accuracy classes 0,2 S and 0,5 S. As the measuring ranges of a meter and its associated transformers have to be matched and as only transformers of classes 0,2 S and 0,5 S have the accuracy required to operate the meters of this standard, the measuring range of the meter will be  $0,01 I_n$  to  $1,2 I_n$ .

It does not apply to:

- watt-hour meters, where the voltage across the connection terminals exceeds 600 V (line-to-line voltage for meters for polyphase systems);
- portable meters and meters for outdoor use;
- data interfaces to the register of the meter;
- reference meters.

The dependability aspect is covered by the documents of the IEC 62059 series.

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

IEC 60736:1982, *Testing equipment for electrical energy meters*

IEC 62052-11:2002, *Electricity metering equipment (a.c.) – General requirements, tests and test conditions – Part 11: Metering equipment*

IEC 62053-61:1998, *Electricity metering equipment (a.c.) - Particular requirements - Part 61: Power consumption and voltage requirements*