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English version

Electricity metering equipment (a.c.) – Particular requirements Part 21: Static meters for active energy (classes 1 and 2)

(IEC 62053-21:2003)

Equipement de comptage de l'électricité (c.a.) – Prescriptions particulières Partie 21: Compteurs statiques d'énergie active (classes 1 et 2) (CEI 62053-21:2003)

Wechselstrom-Elektrizitätszähler - Besondere Anforderungen Teil 21: Elektronische Wirkverbrauchszähler der Genauigkeitsklassen 1 und 2 (IEC 62053-21:2003)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 13/1282/FDIS, future edition 1 of IEC 62053-21, 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 62053-21 on 2003-03-01.

This European Standard supersedes EN 61036:1996 + A1:2000.

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– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow) 2006-03-01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

The text of the International Standard IEC 62053-21:2003 was approved by CENELEC as a European Standard without any modification.

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Foreword to amendment A1

The text of document 13/1699/FDIS, future IEC 62053-21:2003/A1, prepared by IEC/TC 13 "Electrical energy measurement, tariff- and load control" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62053-21:2003/A1:2017.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-09-23
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-12-23

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62053-21:2003/A1:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62058-11:2008	NOTE	Harmonized as EN 62058-11:2010.
IEC 62058-31:2008	NOTE	Harmonized as EN 62058-31:2010.

Annex ZA
(normative)
Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

Delete:

Publication	Year	Title	EN/HD	Year
IEC 60736	1982	Testing equipment for electrical energy meters	-	-
IEC 61358	1996	Acceptance inspection for direct connected alternating current static watt-hour meters for active energy (classes 1 and 2)	-	-

Addition:

IEC 62052-11	2003	Electricity metering equipment (AC) - General requirements, tests and test conditions -- Part 11: Metering equipment	EN 62052-11	2003
+ A1	2016		+ A1	2017
IEC 62052-31	2015	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 31: Product safety requirements and tests	EN 62052-31	2016

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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 62052-11:2002, *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 (2nd edition)

〈A1〉 IEC 62052-11:2003, *Electricity metering equipment (AC) – General requirements, tests and test conditions – Part 11: Metering equipment*

Amendment 1 (2016) 〈A1〉

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)

〈A1〉 IEC 62053-23:2003, *Electricity metering equipment (AC) – Particular requirements – Part 23: Static meters for reactive energy (classes 2 and 3)*

IEC 62053-24:2014, *Electricity metering equipment (a.c.) – Particular requirements – Part 24: Static meters for reactive energy at fundamental frequency (classes 0,5 S, 1S and 1)* 〈A1〉

IEC 62053-31:1998, *Electricity metering equipment (a.c.) – Particular requirements – Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)*

〈A1〉 IEC 62052-31:2015, *Electricity metering equipment (AC) – General requirements, tests and test conditions – Part 31: Product safety requirements and tests* 〈A1〉

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 particular requirements for 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 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 1 and accuracy class index 2 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 21: Static meters for active energy (classes 1 and 2)

1 Scope

This part of IEC 62053 applies only to newly manufactured static watt-hour meters of accuracy classes 1 and 2, 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 static watt-hour 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, 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.

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;
– data interfaces to the register of the meter;
– reference meters.

[A1] The safety aspect is covered by IEC 62052-31:2015.

Regarding acceptance tests, see IEC 62058-11:2008 and IEC 62058-31:2008. [A1]

The dependability aspect is covered by the standards 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.

[A1] Text deleted [A1]

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

[A1] IEC 62052-11:2003, *Electricity metering equipment (AC) – General requirements, tests and test conditions – Part 11: Metering equipment*
Amendment 1 (2016)

IEC 62052-31:2015, *Electricity metering equipment (AC) – General requirements, tests and test conditions – Part 31: Product safety requirements and tests* [A1]

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