ICS 17.220.20, 91.140.50 SLOVENSKÁ TECHNICKÁ NORMA September 2023

STN	**Elektromery Skúšobné zariadenia, techniky a postupy Časť 1: Skúšobné jednotky stacionárnych meračov (MTU)**	**STN EN IEC 62057-1** 35 6134

Electrical energy meters - Test equipment, techniques and procedures - Part 1: Stationary meter test units (MTUs)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/23

Obsahuje: EN IEC 62057-1:2023, IEC 62057-1:2023

137282

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62057-1

May 2023

ICS 17.220.20; 91.140.50

English Version

Electrical energy meters - Test equipment, techniques and procedures - Part 1: Stationary meter test units (MTUs) (IEC 62057-1:2023)

Compteurs d'énergie électrique - Équipements, techniques et procédures d'essai - Partie 1: Bancs d'essai stationnaires des compteurs d'énergie électrique (MTU)
(IEC 62057-1:2023)

Elektrische Energiezähler - Prüfgeräte, Techniken und Verfahren - Teil 1: Stationäre Zählerprüfeinrichtungen (MTU)
(IEC 62057-1:2023)

This European Standard was approved by CENELEC on 2023-05-03. 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.

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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

Ref. No. EN IEC 62057-1:2023 E

European foreword

The text of document 13/1879/FDIS, future edition 1 of IEC 62057-1, prepared by IEC/TC 13 "Electrical energy measurement and control" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62057-1:2023.

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) 2024-02-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-05-03

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Endorsement notice

The text of the International Standard IEC 62057-1:2023 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 standard indicated:

IEC 60375:2018 NOTE Approved as EN IEC 60375:2018 (not modified)

IEC 62052-21:2004 NOTE Approved as EN 62052-21:2004 (not modified)

IEC 62053-11:2003 NOTE Approved as EN 62053-11:2003 (not modified)

IEC 62053-21:2020 NOTE Approved as EN IEC 62053-21:2021 (not modified) +A11:2021

IEC 62053-22:2020 NOTE Approved as EN IEC 62053-22:2021 (not modified) +A11:2021

IEC 62053-23:2020 NOTE Approved as EN IEC 62053-23:2021 (not modified) +A11:2021

IEC 62053-24:2020 NOTE Approved as EN IEC 62053-24:2021 (not modified) +A11:2021

IEC 62055-31:2022 NOTE Approved as EN IEC 62055-31:2022 (not modified)

IEC 62477-1:2022 NOTE Approved as EN IEC 62477-1:— (not modified)[1]

ISO/IEC 17025 NOTE Approved as EN ISO/IEC 17025

[1] To be published. Stage at time of publication: FprEN IEC 62477-1:2023.

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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60417	-	Graphical symbols for use on equipment	-	-
IEC 60617	-	Graphical symbols for diagrams	-	-
IEC 60664-1	2020	Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests	EN IEC 60664-1	2020
IEC 60721-3-2	2018	Classification of environmental conditions - Part 3-2: Classification of groups of environmental parameters and their severities - Transportation and Handling	EN IEC 60721-3-2	2018
IEC 60721-3-3	2019	Classification of environmental conditions - Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weatherprotected locations	EN IEC 60721-3-3	2019
IEC 61010-1	2010	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	EN 61010-1	2010
+ A1 (mod)	2016		+ A1	2019
IEC 61010-031	2015	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test	EN 61010-031	2015
+ A1	2018		+ A1	2021
IEC 61140	2016	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2016

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IEC 61326-1	2020	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN IEC 61326-1	2021
IEC 62052-11	2020	Electricity metering equipment - General requirements, tests and test conditions - Part 11: Metering equipment	EN IEC 62052-11	2021
-	-		/A11	2022
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
IEC 62053	series	Electricity metering equipment	EN IEC 62053	series
CISPR 11 (mod)	2015	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2016
+ A1	2016		+ A1	2017
-	-		+ A11	2020
+ A2	2019		+ A2	2021
-	-	Voltage characteristics of electricity supplied by public electricity networks	EN 50160	-
-	-	Electricity metering equipment (a.c.)	EN 50470	series
ISO 3864-1	2011	Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs and safety markings	-	-
ISO 7000	-	Graphical symbols for use on equipment - Registered symbols	-	-
ISO 13732-1	2006	Ergonomics of the thermal environment - Methods for the assessment of human responses to contact with surfaces - Part 1: Hot surfaces	EN ISO 13732-1	2008

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electrical energy meters – Test equipment, techniques and procedures – Part 1: Stationary meter test units (MTUs)

Compteurs d'énergie électrique – Équipements, techniques et procédures d'essai – Partie 1: Bancs d'essai stationnaires des compteurs d'énergie électrique (MTU)

IEC 62057-1:2023-03(en-fr)

IEC 62057-1

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL ENERGY METERS – TEST EQUIPMENT, TECHNIQUES AND PROCEDURES –

Part 1: Stationary meter test units (MTUs)

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.
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IEC 62057-1 has been prepared by IEC technical committee 13: Electrical energy measurement and control. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
13/1879/FDIS	13/1886/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 62057 series, published under the general title *Electrical energy meters – Test equipment, techniques and procedures*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

ELECTRICAL ENERGY METERS – TEST EQUIPMENT, TECHNIQUES AND PROCEDURES –

Part 1: Stationary meter test units (MTUs)

1 Scope

This part of IEC 62057 applies to stationary meter test units (MTUs) permanently installed in laboratories, used for testing and calibration of electricity meters, in particular for their type test, acceptance test and verification test. It covers the requirements for automatic MTUs for indoor laboratory application and applies to newly manufactured MTUs to test electricity meters on 50 Hz or 60 Hz networks with an AC voltage up to 600 V (phase to neutral).

If meters are intended for system voltages not specified in this document, special requirements are agreed between the manufacturer and the purchaser.

This document also defines the kind of tests to perform as type tests / routine tests / acceptance tests and commissioning tests for MTUs.

It does not apply to:

- portable reference meters and portable sources;
- electricity meters;
- data interfaces to the meter and test procedures of data interface;
- transformer operated MTUs;
- personal computers supplied together with the MTU.

2 Normative references

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.

IEC 60417, *Graphical symbols for use on equipment* (available at http://www.graphical-symbols.info/equipment)

IEC 60617, *Graphical symbols for diagrams* (available at http://std.iec.ch/iec60617)

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60721-3-2:2018, *Classification of environmental conditions – Part 3-2: Classification of groups of environmental parameters and their severities – Transportation and handling*

IEC 60721-3-3:2019, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations*

IEC 61010-031:2015, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test*
IEC 61010-031:2015/AMD1:2018

IEC 61010-1:2010, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*
IEC 61010-1:2010/AMD1:2016

IEC 61140:2016, *Protection against electric shock – Common aspects for installation and equipment*

IEC 61326-1:2020, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements*

IEC 62052-11:2020, *Electricity metering equipment – General requirements, tests and test conditions – Part 11: Metering equipment*

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

IEC 62053 (all parts), *Electricity metering equipment*

CISPR 11:2015, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*
CISPR 11:2015/AMD1:2016
CISPR 11:2015/AMD2:2019

EN 50160, *Voltage characteristics of electricity supplied by public electricity networks*

EN 50470 (all parts), *Electricity metering equipment (a.c.)*

ISO 3864-1:2011, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*

ISO 7000, *Graphical symbols for use on equipment – Registered symbols* (available at http://www.graphical-symbols.info/equipment)

ISO 13732-1:2006, *Ergonomics of the thermal environment – Methods for the assessment of human responses to contact with surfaces – Part 1: Hot surfaces*