Monitoring and measuring systems used for data collection, gathering and analysis - Part 1: Device requirements

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 62974-1:2017 sisaldab Euroopa standardi EN 62974-1:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 62974-1:2017 consists of the English text of the European standard EN 62974-1:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.07.2017.	Date of Availability of the European standard is 21.07.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Monitoring and measuring systems used for data collection, gathering and analysis - Part 1: Device requirements (IEC 62974-1:2017)

Systèmes de surveillance et de mesure utilisés pour la collecte et l'analyse de données - Partie 1: Exigences relatives aux dispositifs
(IEC 62974-1:2017)

Erfassungs- und Messsysteme zur Datenerfassung, -Übertragung und -Analyse - Teil 1: Anforderungen an die Geräte
(IEC 62974-1:2017)

This European Standard was approved by CENELEC on 2017-06-26. 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

The text of document 85/587/FDIS, future edition 1 of IEC 62974-1, prepared by IEC/TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62974-1:2017.

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)	2018-03-26
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-06-26

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

Endorsement notice

The text of the International Standard IEC 62974-1:2017 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 60068-1	NOTE	Harmonized as EN 60068-1.
IEC 60068-2-30	NOTE	Harmonized as EN 60068-2-30.
IEC 60364-8-1	NOTE	Harmonized as HD 60364-8-1.
IEC 60950 (Series)	NOTE	Harmonized as EN 60950 (Series).
IEC 61557-12	NOTE	Harmonized as EN 61557-12.
CISPR 24:2010	NOTE	Harmonized as EN 55024:2010.
ISO 50001	NOTE	Harmonized as EN ISO 50001.

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.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-1	-	Environmental testing -- Part 2-1: Tests - Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing -- Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-14	-	Environmental testing -- Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	-
IEC 60068-2-78	-	Environmental testing -- Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	-	-
IEC 60721-3-1	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities -- Section 1: Storage	EN 60721-3-1	-
IEC 60721-3-2	-	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities -- Section 2: Transportation	EN 60721-3-2	-
IEC 60721-3-3	-	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	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) -- Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) -- Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	-
IEC 61010	series	Safety requirements for electrical equipment for measurement, control and laboratory use	EN 61010	series

IEC 61131-2	2003	Programmable controllers -- Part 2:- Equipment requirements and tests		-
IEC 61326-1	-	Electrical equipment for measurement, control and laboratory use - EMC requirements -- Part 1: General requirements	EN 61326-1	-
IEC 62053-31	-	Electricity metering equipment (a.c.) -- Particular requirements -- Part 31: Pulse output devices for electromechanical and electronic meters (two wires only)	EN 62053-31	-
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-

CONTENTS

INTRODUCTION

The use of electrical energy needs to be optimised worldwide to ensure more efficient use of available energy sources, for enhanced competitiveness, and for reducing greenhouse gas emissions and other related environmental impacts.

It implies better energy management leading to a necessary improvement of energy performance, particularly in terms of efficiency, use and consumption. This can be summarized by the lifecycle shown in Figure 1:

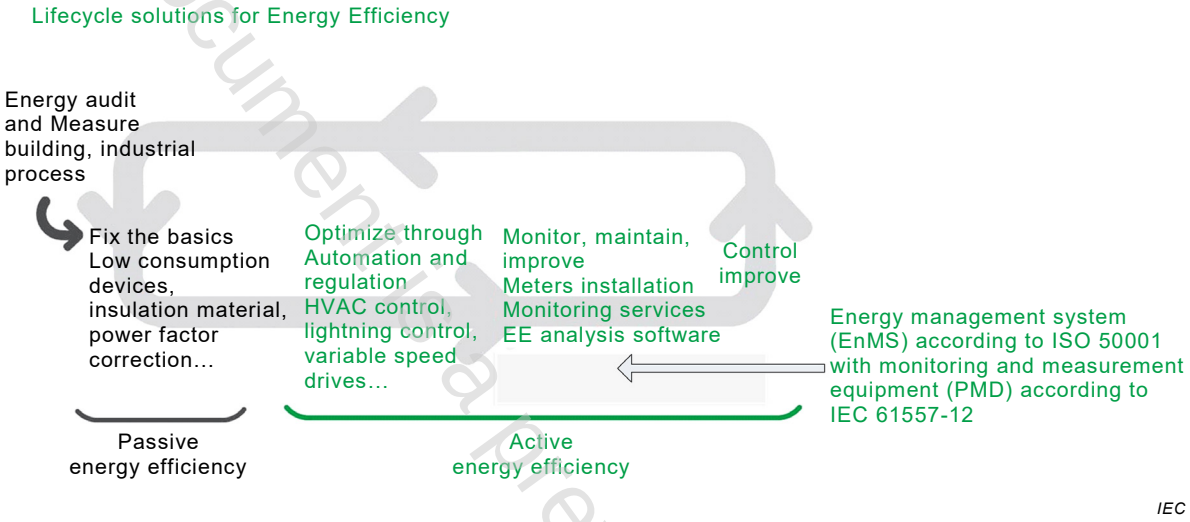

Figure 1 – Lifecycle solutions for energy efficiency

Standards such as ISO 50001, ISO 50002, ISO 50006 and IEC 60364-8-1 are providing information related to this topic.

What is not known cannot be changed, and what is not measured is not known. Consequently, there is an increasing need to measure energy within the installations in order to:

- monitor performance indicators or to monitor energy baselines, or
- compare energy performance between baseline period and reporting period as described in ISO 50006.

Measurements can be collected by employees at a defined frequency, provided absences are accounted for (vacation, off sick, etc.), provided the measurements are relevant (number of measurement points to collect) and provided measurements can be relatively coherent (synchronism).

This is why more and more devices are used for collection, gathering and sometimes analysis of measured data. Some typical architectures are given in Annex A.