
**Izmenjevanje podatkov za odbiranje stanja števecov - Sestav DLMS/COSEM - 6-1.
del: Sistem za prepoznavanje objektov (OBIS) (IEC 62056-6-1:2023)**

Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: Object Identification System (OBIS) (IEC 62056-6-1:2023)

Datenkommunikation der elektrischen Energiemessung - DLMS/COSEM - Teil 6-1: COSEM Object Identification System (OBIS) (IEC 62056-6-1:2023)

Echange des données de comptage de l'électricité - La suite DLMS/COSEM - Partie 6-1: Système d'identification des objets (OBIS) (IEC 62056-6-1:2023)

Ta slovenski standard je istoveten z: EN IEC 62056-6-1:2024

[SIST EN IEC 62056-6-1:2024](https://standards.sist.net/sist/en/iec/62056-6-1:2024)

ICS:

17.220	Elektrika. Magnetizem. Električne in magnetne meritve	Electricity. Magnetism. Electrical and magnetic measurements
35.110	Omreževanje	Networking
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN IEC 62056-6-1:2024**en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 62056-6-1

January 2024

ICS 17.220; 35.110; 91.140.50

Supersedes EN 62056-6-1:2017

English Version

Electricity metering data exchange -
The DLMS®/COSEM suite -
Part 6-1: Object Identification System (OBIS)
(IEC 62056-6-1:2023)

Echange des données de comptage de l'électricité -
La suite DLMS®/COSEM -
Partie 6-1: Système d'identification des objets (OBIS)
(IEC 62056-6-1:2023)

Datenkommunikation der elektrischen Energiemessung -
DLMS®/COSEM -
Teil 6-1: COSEM Object Identification System (OBIS)
(IEC 62056-6-1:2023)

This European Standard was approved by CENELEC on 2024-01-15. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024>



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

EN IEC 62056-6-1:2024 (E)

European foreword

The text of document 13/1852/CDV, future edition 4 of IEC 62056-6-1, 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 62056-6-1:2024.

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) 2024-10-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2027-01-15

This document supersedes EN 62056-6-1:2017 and all of its amendments and corrigenda (if any).

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.

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

iTeh Standards

(<https://standards.iteh.ai>)

Document Preview

The text of the International Standard IEC 62056-6-1:2023 was approved by CENELEC as a European Standard without any modification.

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024>

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62056-6-2	2023	Electricity metering data exchange - The DLMS®/COSEM suite - Part 6-2: COSEM interface classes	EN IEC 62056-6-2	2023
IEC 62056-21	2002	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange	EN 62056-21	2002
IEC/TR 62051	1999	Electricity metering - Glossary of terms	-	-
IEC/TR 62051-1	2004	Electricity metering - Data exchange for meter reading, tariff and load control - Glossary of terms - Part 1: Terms related to data exchange with metering equipment using DLMS®/COSEM	-	-

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ae7/sist-en-iec-62056-6-1-2024>



IEC 62056-6-1

Edition 4.0 2023-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Electricity metering data exchange – The DLMS®/COSEM suite –
Part 6-1: Object Identification System (OBIS)**

**Echange des données de comptage de l'électricité – La suite DLMS®/COSEM –
Partie 6-1: Système d'identification des objets (OBIS)**

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 17.220, 35.110, 91.140.50

ISBN 978-2-8322-7872-7

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms, definitions and abbreviated terms	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	9
4 OBIS code structure	9
4.1 Value groups and their use	9
4.2 Manufacturer specific codes.....	10
4.3 Reserved ranges.....	10
4.4 Summary of rules for manufacturer, utility, consortia and country specific codes.....	10
4.5 Standard object codes	11
5 Value group definitions – overview	11
5.1 Value group A.....	11
5.2 Value group B.....	12
5.3 Value group C.....	12
5.3.1 General	12
5.3.2 Abstract objects.....	13
5.4 Value group D.....	13
5.4.1 General.....	13
5.4.2 Consortia specific identifiers.....	13
5.4.3 Country specific identifiers.....	14
5.4.4 Identification of general and service entry objects.....	15
5.5 Value group E.....	15
5.6 Value group F.....	15
5.6.1 General	15
5.6.2 Identification of billing periods	15
6 Abstract objects (Value group A = 0)	16
6.1 General and service entry objects – Abstract	16
6.2 Error registers, alarm registers / filters / descriptor objects – Abstract.....	21
6.3 List objects – Abstract.....	21
6.4 Register table objects – Abstract.....	21
6.5 Data profile objects – Abstract	21
7 Electricity (Value group A = 1)	22
7.1 Value group C codes – Electricity	22
7.2 Value group D codes – Electricity	24
7.2.1 Processing of measurement values	24
7.2.2 Use of value group D for identification of other objects	27
7.3 Value group E codes – Electricity.....	27
7.3.1 General	27
7.3.2 Tariff rates.....	27
7.3.3 Harmonics	27
7.3.4 Phase angles.....	28
7.3.5 Transformer and line loss quantities	28

7.3.6	UNIPED voltage dips	31
7.3.7	Use of value group E for the identification of other objects	32
7.4	Value group F codes – Electricity	32
7.4.1	Billing periods	32
7.4.2	Multiple thresholds	32
7.5	OBIS codes – Electricity	33
7.5.1	General and service entry objects – Electricity	33
7.5.2	Error register objects – Electricity	37
7.5.3	List objects – Electricity	37
7.5.4	Data profile objects – Electricity	37
7.5.5	Register table objects – Electricity	38
8	Other media (Value group A = 15)	38
8.1	General	38
8.2	Value group C codes – Other media	38
8.3	Value group D codes – Other media	39
8.4	Value group E codes – Other media	39
8.5	Value group F codes – Other media	39
Annex A	(normative) Code presentation	40
A.1	Reduced ID codes (e.g. for IEC 62056-21)	40
A.2	Display	40
A.3	Special handling of value group F	41
A.4	COSEM	41
Annex B	(informative) Significant technical changes with respect to IEC 62056-6-1:2017	42
Bibliography	43
Figure 1	– Quadrant definitions for active and reactive power	24
Figure 2	– Model of the line and the transformer for calculation of loss quantities	29
Figure A.1	– Reduced ID code presentation	40
Table 1	– OBIS code structure and use of value groups	10
Table 2	– Rules for manufacturer, utility, consortia and country specific codes	11
Table 3	– Value group A codes	12
Table 4	– Value group B codes	12
Table 5	– Value group C codes – Abstract objects	13
Table 6	– Value group D codes – Consortia specific identifiers	13
Table 7	– Value group D codes – Country specific identifiers	14
Table 8	– OBIS codes for general and service entry objects	16
Table 9	– OBIS codes for error registers, alarm registers and alarm filters – Abstract	21
Table 10	– OBIS codes for list objects – Abstract	21
Table 11	– OBIS codes for Register Table objects – Abstract	21
Table 12	– OBIS codes for data profile objects – Abstract	22
Table 13	– Value group C codes – Electricity	22
Table 14	– Value group D codes – Electricity	25
Table 15	– Value group E codes – Electricity – Tariff rates	27
Table 16	– Value group E codes – Electricity – Harmonics	28

Table 17 – Value group E codes – Electricity – Extended phase angle measurement.....	28
Table 18 – Value group E codes – Electricity – Transformer and line losses	29
Table 19 – Value group E codes – Electricity – UNIPEDA voltage dips	32
Table 20 – OBIS codes for general and service entry objects – Electricity	33
Table 21 – OBIS codes for error register objects – Electricity.....	37
Table 22 – OBIS codes for list objects – Electricity	37
Table 23 – OBIS codes for data profile objects – Electricity	38
Table 24 – OBIS codes for register Table objects – Electricity	38
Table 25 – Value group C codes – Other media	39
Table A.1 – Example of display code replacement	40
Table A.2 – Value group F – Billing periods	41

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING DATA EXCHANGE –
THE DLMS®/COSEM SUITE –****Part 6-1: Object Identification System (OBIS)**

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.
- 2) The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62056-6-1 has been prepared by IEC technical committee 13: Electrical energy measurement and control. It is an International Standard.

This fourth edition cancels and replaces the third edition of IEC 62056-6-1, published in 2017. This edition constitutes a technical revision.

The main technical changes with respect to the previous edition are listed in Annex B (informative).

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

Draft	Report on voting
13/1852/CDV	13/1883/RVC

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 the parts in the IEC 62056 series, published under the general title *Electricity metering data exchange – The DLMS®/COSEM suite*, 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, or
- revised.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN IEC 62056-6-1:2024](https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024)

<https://standards.iteh.ai/catalog/standards/sist/f4fd35b3-624a-4356-b1b2-69d0a8aa8ac7/sist-en-iec-62056-6-1-2024>