



SLOVENSKI STANDARD

SIST EN 62056-62:2007

01-september-2007

Nadomešča:

SIST EN 62056-62:2004

Merjenje električne energije – Izmenjevanje podatkov za odbiranja stanja števec, tarife in obremenitve – 62. del: Razredi vmesnikov (IEC 62056-62:2006)

Electricity metering - Data exchange for meter reading, tariff and load control -- Part 62: Interface classes

Messung der elektrischen Energie - Zählerstandsübertragung, Tarif- und Laststeuerung - Teil 62: Interface-Klassen

Equipements de mesure de l'énergie électrique - Échange des données pour la lecture des compteurs, le contrôle des tarifs et de la charge -- Partie 62: Classes d'interface

Ta slovenski standard je istoveten z: EN 62056-62:2007

ICS:

17.220.20	Merjenje električnih in magnetnih veličin	Measurement of electrical and magnetic quantities
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN 62056-62:2007

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62056-62

February 2007

ICS 91.140.50; 35.200

Supersedes EN 62056-62:2002

English version

**Electricity metering -
Data exchange for meter reading, tariff and load control -
Part 62: Interface classes
(IEC 62056-62:2006)**

Equipements de mesure
de l'énergie électrique -
Echange des données
pour la lecture des compteurs,
le contrôle des tarifs et de la charge -
Partie 62: Classes d'interface
(CEI 62056-62:2006)

Messung der elektrischen Energie -
Zählerstandsübertragung,
Tarif- und Laststeuerung -
Teil 62: Interface-Klassen
(IEC 62056-62:2006)

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This European Standard was approved by CENELEC on 2006-12-01. 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 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 13/1389/FDIS, future edition 2 of IEC 62056-62, 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 62056-62 on 2006-12-01.

This European Standard supersedes EN 62056-62:2002.

It includes the following significant technical changes with respect to EN 62056-62:2002:

- the list of common data types has been amended, some new types have been added;
- formatting for floating point numbers has been added;
- new HLS mechanisms have been added;
- instance specific data types have been replaced with a well-defined set of applicable data types;
- new units have been added;
- encoding of application_context_name and authentication_mechanism_name attributes of the Association LN class has been clarified;
- new interface classes “Register table” and “Status mapping” have been added;
- a new version of the “IEC local port setup”, “Modem configuration”, “Auto connect” and “HDLC setup” interface classes have been added;
- new interface classes for setting up a TCP/IP based communication profile have been added. References to related IETF RFCs and standards, as well as related definitions have been added;
- several amendments in Annex D “Relation to OBIS” have been made.

The following dates were fixed: <https://standards.iteh.ai/catalog/standards/sist/8b866900-ec61-440f-a432-c39351e3f288/sist-en-62056-62-2007>

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2007-09-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2009-12-01

The International Electrotechnical Commission (IEC) and CENELEC draw attention to the fact that it is claimed that compliance with this International Standard / European Standard may involve the use of a maintenance service concerning the stack of protocols on which the present standard IEC 62056-62 / EN 62056-62 is based.

The IEC and CENELEC take no position concerning the evidence, validity and scope of this maintenance service.

The provider of the maintenance service has assured the IEC that he is willing to provide services under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the provider of the maintenance service is registered with the IEC. Information (see also 4.6.2 and Annex E) may be obtained from:

DLMS ¹⁾ User Association
Geneva / Switzerland
www.dlms.ch

¹⁾ Device Language Message Specification

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62056-62:2006 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61334-6 NOTE Harmonized as EN 61334-6:2000 (not modified).

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 60050-300	2001	International Electrotechnical Vocabulary - Electrical and electronic measurements and measuring instruments - Part 311: General terms relating to measurements - Part 312: General terms relating to electrical measurements - Part 313: Types of electrical measuring instruments - Part 314: Specific terms according to the type of instrument	-	-
IEC 60559	1989	Binary floating-point arithmetic for microprocessor systems	HD 592 S1	1991
IEC 61334-4-41	1996	Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 41: Application protocols - Distribution line message specification	EN 61334-4-41	1996
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 using DLMS/COSEM	-	-
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 62056-31	1999	Electricity metering - Data exchange for meter reading, tariff and load control - Part 31: Use of local area networks on twisted pair with carrier signalling	EN 62056-31	2000
IEC 62056-46 A1	2002 2006	Electricity metering - Data exchange for meter reading, tariff and load control - Part 46: Data link layer using HDLC protocol	EN 62056-46 A1	2002 2007
IEC 62056-47	2006	Electricity metering - Data exchange for meter reading, tariff and load control - Part 47: COSEM transport layers for IPv4 networks	EN 62056-47	2007

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62056-53	2006	Electricity metering - Data exchange for meter reading, tariff and load control - Part 53: COSEM application layer	EN 62056-53	2007
IEC 62056-61	2006	Electricity metering - Data exchange for meter reading, tariff and load control - Part 61: Object identification system (OBIS)	EN 62056-61	2007
ANSI C12.19:1997/ IEEE 1377	1997	Utility Industry End Device Data Tables	-	-
STD 0005	1981	Internet Protocol	-	-
STD 0051	1994	The Point-to-Point Protocol (PPP)	-	-

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INTERNATIONAL STANDARD

IEC
62056-62

Second edition
2006-11

**Electricity metering –
Data exchange for meter
reading, tariff and load control –**

Part 62:

Interface classes
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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICITY METERING – DATA EXCHANGE
FOR METER READING, TARIFF AND LOAD CONTROL –**
Part 62: Interface classes

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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The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this International Standard may involve the use of a maintenance service concerning the stack of protocols on which the present standard IEC 62056-62 is based.

The IEC takes no position concerning the evidence, validity and scope of this maintenance service.

The provider of the maintenance service has assured the IEC that he is willing to provide services under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the provider of the maintenance service is registered with the IEC. Information (see also 4.6.2 and Annex E) may be obtained from:

DLMS¹ User Association
Geneva / Switzerland
www.dlms.ch

¹ Device Language Message Specification.

International Standard IEC 62056-62 Ed. 2 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

This second edition cancels and replaces the first edition published in 2002 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- the list of common data types has been amended, some new types have been added;
- formatting for floating point numbers has been added;
- new HLS mechanisms have been added;
- instance specific data types have been replaced with a well-defined set of applicable data types;
- new units have been added;
- encoding of application_context_name and authentication_mechanism_name attributes of the Association LN class has been clarified;
- new interface classes “Register table” and “Status mapping” have been added;
- a new version of the “IEC local port setup”, “Modem configuration”, “Auto connect” and “HDLC setup” interface classes have been added;
- new interface classes for setting up a TCP/IP based communication profile have been added. References to related IETF RFCs and standards, as well as related definitions have been added;
- several amendments in Annex D “Relation to OBIS” have been made.

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

FDIS	Report on voting
13/1389/FDIS	13/1400/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 the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

A bilingual version of the publication may be issued at a later date.

INTRODUCTION

Driven by the need of the utilities to optimize their business processes, the meter becomes more and more part of an integrated metering and billing system. Whereas in the past the commercial value of a meter was mainly generated by its data acquisition and processing capabilities, nowadays the critical issues are system integration and interoperability.

The Companion Specification for Energy Metering (COSEM) addresses these challenges by looking at the meter as an integrated part of a commercial process, which starts with the measurement of the delivered product (energy) and ends with the revenue collection.

The meter is specified by its “behaviour” as seen from the utility's business processes. The formal specification of the behaviour is based on object modelling techniques (interface classes and objects). The specification of these objects forms a major part of COSEM.

The COSEM server model (see 4.5) represents only the externally visible elements of the meter. The client applications that support the business processes of the utilities, customers and meter manufacturers make use of this server model. The meter offers means to retrieve its structural model (the list of objects visible through the interface), and provides access to the attributes and specific methods of these objects.

The set of different interface classes form a standardized library from which the manufacturer can assemble (model) its individual products. The elements are designed so that with them the entire range of products (from residential to commercial and industrial applications) can be covered. The choice of the subset of interface classes used to build a meter, their instantiation, and their implementation are part of the product design and therefore left to the manufacturer. The concept of the standardized metering interface class library provides the different users and manufacturers with a maximum of diversity without having to sacrifice interoperability.

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ELECTRICITY METERING – DATA EXCHANGE FOR METER READING, TARIFF AND LOAD CONTROL –

Part 62: Interface classes

1 Scope

This part of IEC 62056 specifies a model of a meter as it is seen through its communication interface(s). Generic building blocks are defined using object-oriented methods, in the form of interface classes to model meters from simple up to very complex functionality.

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 60050-300:2001, *International Electrotechnical Vocabulary – Electrical and electronic measurements and measuring instruments – Chapter 311: General terms relating to measurements – Chapter 312: General terms relating to electrical measurements – Chapter 313: Types of electrical measuring instruments – Chapter 314: Specific terms according to the type of instrument*

IEC 60559:1989, *Binary floating-point arithmetic for microprocessor systems*

<https://standards.iteh.ai/catalog/standards/sist/8b866900-ec61-440f-a432->

IEC 61334-4-41:1996, *Distribution automation using distribution line carrier systems – Part 4: Data communication protocols – Section 41: Application protocols – Distribution line message specification*

IEC 62051:1999, *Electricity metering – Glossary of terms*

IEC 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*

IEC 62056-21:2002, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 21: Direct local data exchange*

IEC 62056-31:1999, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 31: Using local area networks on twisted pair with carrier signalling*

IEC 62056-46:2002, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 46: Data link layer using HDLC-protocol*
Amendment 1²

IEC 62056-47:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 47: COSEM transport layers for IPv4 networks*

IEC 62056-53:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 53: COSEM Application layer*

² To be published.