

### SLOVENSKI STANDARD SIST EN 62056-61:2007

### 01-september-2007

Nadomešča: SIST EN 62056-61:2004

Merjenje električne energije – Izmenjevanje podatkov za odbiranja stanja števcev, tarife in obremenitve – 61. del: Sistem za prepoznavanje objektov (IEC 62056-61:2006)

Electricity metering - Data exchange for meter reading, tariff and load control -- Part 61: Object identification system (OBIS)

### iTeh STANDARD PREVIEW

Messung der elektrischen Energie - Zählerstandsübertragung, Tarif- und Laststeuerung -- Teil 61: Object Identification System (OBIS)

### SIST EN 62056-61:2007

Equipements de mesure de l'énergie électrique - Echange des données pour la lecture des compteurs, le contrôle des tarifs et de la charge - Partie 61: Système d'Identification d'Objet (SIOB)

Ta slovenski standard je istoveten z: EN 62056-61:2007

### <u>ICS:</u>

17.220.20	Merjenje električnih in magnetnih veličin	Measurement of electrical and magnetic quantities
35.040	Nabori znakov in kodiranje informacij	Character sets and information coding
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN 62056-61:2007

en



# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62056-61:2007</u> https://standards.iteh.ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-6802t574009d/sist-en-62056-61-2007

### SIST EN 62056-61:2007

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

# EN 62056-61

February 2007

ICS 91.140.50; 35.100

Supersedes EN 62056-61:2002

English version

### Electricity metering -Data exchange for meter reading, tariff and load control -Part 61: Object identification system (OBIS) (IEC 62056-61:2006)

Equipements de mesureMessung der ede l'énergie électrique -ZählerstandsükEchange des données pour la lectureTarif- und Lastsdes compteurs, le contrôle des tarifsTeil 61: Objectet de la charge -System (OBIS)Partie 61: Système d'Identification(IEC 62056-61d'Objet (SIOB)Teh STANDARD PREVIEW(CEI 62056-61:2006)(standards.iteh.ai)

Messung der elektrischen Energie -Zählerstandsübertragung, Tarif- und Laststeuerung -Teil 61: Object Identification System (OBIS) (IEC 62056-61:2006)

SIST EN 62056-61:2007 https://standards.iteh.ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-This European Standard was approved by CENELEC on 2006-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations the standard

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

© 2007 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

### Foreword

The text of document 13/1388/FDIS, future edition 2 of IEC 62056-61, 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 62056-61 on 2006-12-01.

This European Standard supersedes EN 62056-61:2002.

It includes the following significant technical changes with respect to EN 62056-61:2002:

- some parts of the "Manufacturer specific" ranges have been changed to "Reserved" to open code space for future standard code purposes;
- "Utility specific" ranges have been allocated;
- "Consortia specific" codes similar to "Country specific" codes have been introduced;
- a table explaining the rules for "Manufacturer specific", "Country specific" and "Consortia specific" codes has been added;
- new time integral types of quantities have been added, some definitions have been clarified;
- new OBIS codes to identify transformer and line loss quantities, voltage dips, power failures, statuses, etc. have been added;
- some list objects and profiles may be now abstract or electricity related;
- a second billing period counter mechanism has been added and the description of handling value group F has been amended. (standards.iteh.ai)

The following dates were fixed:

#### SIST EN 62056-61:2007

_	latest date by which the ENahastto be implemented/sist/5a8cb812-a6	62-4b8c-811	be-
	at national level by publication of an identical sist-en-62056-61-2007		
	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)

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 62056-61 / EN 62056-61 is based.

2009-12-01

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 5.1) may be obtained from:

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

Annex ZA has been added by CENELEC.

<sup>1)</sup> Device Language Message Specification

### **Endorsement notice**

The text of the International Standard IEC 62056-61:2006 was approved by CENELEC as a European Standard without any modification.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62056-61:2007</u> https://standards.iteh.ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-6802t574009d/sist-en-62056-61-2007 - 4 -

### 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.

Publication	<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 DARD PREVIE	-	-
IEC/TR 61000-2-8	2002 https://sta	Electromagnetic compatibility (EMC) Part 2-8: Environment - Voltage dips and short interruptions on public electric power supply systems with statistical measurement intesultshai/catalog/standards/sist/5a8cb812-a662-4b8	- c-81be-	-
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	:r -	-
IEC 62053-23	2003	Electricity metering equipment (a.c.) - Particular requirements - Part 23: Static meters for reactive energy (classes 2 and 3)	EN 62053-23	2003
IEC 62056-21	2002	Electricity metering - Data exchange for meter reading, tariff and load control - Part 21: Direct local data exchange	r EN 62056-21	2002
IEC 62056-62	2006	Electricity metering - Data exchange for mete reading, tariff and load control - Part 62: Interface classes	r EN 62056-62	2007

# INTERNATIONAL STANDARD

# IEC 62056-61

Second edition 2006-11

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

### Part 61: i Object identification system (OBIS) (standards.iteh.ai)

<u>SIST EN 62056-61:2007</u> https://standards.iteh.ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-6802f574009d/sist-en-62056-61-2007

© IEC 2006 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

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 Международная Электротехническая Комиссия



W

For price, see current catalogue

### CONTENTS

INTRODUCTION    6      1    Scope    7      2    Normative references    7      3    Terms, definitions and abbreviations    8      4    OBIS structure    8      4.1    General    8      4.2    Value group A    8      4.3    Value group B    8      4.4    Value group C    8      4.5    Value group F    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    11      5.1    Value group A    11      5.2    Value group D    11      5.3    Value group D    11      5.4    Value group D    11      5.5    Value group D    11      5.5    Value group D    11      5.6    Value group D    12      5.7<	FO	REWC	PRD	.4	
1    Scope.    7      2    Normative references    7      3    Terms, definitions and abbreviations    8      4    OBIS structure    8      4.1    General    8      4.2    Value group A    8      4.3    Value group D    8      4.4    Value group C    8      4.5    Value group E    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    (Standardstiter, atternation)    11      5.1    Value group D    (Standardstiter, atternation)    11      5.2    Value group D    (Standardstiter, atternation)    12      5.4    Value group D    (Stan	INT	RODL	ICTION	.6	
1    Scope    7      2    Normative references    7      3    Terms, definitions and abbreviations    8      4    OBIS structure    8      4    General    8      4.1    General    8      4.2    Value group A    8      4.3    Value group D    9      4.4    Value group D    9      4.5    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    (standards; strendards;					
2    Normative references    7      3    Terms, definitions and abbreviations    8      4    OBIS structure    8      4.1    General    8      4.1    General    8      4.1    General    8      4.2    Value group A    8      4.3    Value group C    8      4.4    Value group E    9      4.5    Value group E    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    11      5.1    Value group C    SISTEN CONSTANCE      5.4    Value group C    SISTEN CONSTANCE      5.5    Value group F    25      5.6    Value group F    25      5.7    Astract objects    26      5.8    Electricity-related general purpose objects    32      5.9	1	Scop	е	.7	
3    Terms, definitions and abbreviations    8      4    OBIS structure    8      4.1    General    8      4.2    Value group A    8      4.3    Value group B    8      4.4    Value group C    8      4.5    Value group C    8      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    (standards:iteln:all)    11      5.1    Value group A    (standards:iteln:all)    11      5.2    Value group B    11    11    12      5.4    Value group C    11    11    12    11      5.3    Value group C    11    11    12    11    11    11    12    11    12    11    12    11    12    12    12    12    12    12    12    12 <td< td=""><td>2</td><td colspan="4">Normative references</td></td<>	2	Normative references			
4    OBIS structure    8      4.1    General    8      4.2    Value group A    8      4.3    Value group B    8      4.4    Value group D    9      4.6    Value group D    9      4.6    Value group E    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group definitions A    STANDARD PREVIEW    11      5.1    Value group C    Standardshitestratestructure    9      5    Value group C    Standardshitestratestructure    11      5.1    Value group C    Standardshitestratestructure    12      5.4    Value group C    Standardshitestratestructure    12      5.4    Value group E    60005700004set cos 60056.61.3007    20      5.5    Value group E    600057300004set cos 60056.61.3007    20      5.6    Value group E    6000057300004set cos 60056.61.3007    20	3	Term	s, definitions and abbreviations	. 8	
4.1    General    8      4.2    Value group A    8      4.3    Value group B    8      4.4    Value group D    9      4.5    Value group D    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group definitions h. STANDARD.PREVIEW    11      5.1    Value group A    (standards.iteh.ai)    11      5.2    Value group C    SISTEN (2056-012007)    12      5.4    Value group C    SISTEN (2056-012007)    12      5.4    Value group E    SO225740004/sit.es 60256-61-3007    20      5.4    Value group F    26    So    26      5.7    Abstract objects    26    5    7      5.8    Electricity-related general purpose objects    32    5.11    Register table objects    32      5.10    Data profile objects <td< td=""><td>4</td><td>OBIS</td><td>structure</td><td>. 8</td></td<>	4	OBIS	structure	. 8	
4.2    Value group A    8      4.3    Value group C    8      4.4    Value group C    8      4.5    Value group F    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      4.11    State group A    (standards:itenait)    11      5.1    Value group B    11    11    12      5.4    Value group C    State codes    12      5.4    Value group F    25    26    26      5.5    Value group F    25    26    26    28      6.    Value group F    25    26    28    29    29    29    29    29    29    20    26    28		4.1	General	.8	
4.3    Value group B    8      4.4    Value group C    8      4.5    Value group D    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    11      5.1    Value group A    11      5.2    Value group A    11      5.3    Value group A    11      5.4    Value group B    11      5.5    Value group C    11      5.4    Value group C    11      5.5    Value group F    20      5.6    Value group F    20      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    32      5.10    Data profile objects    32      5.11    Register table objects    32      5.11    Register table objects    32      5.11		4.2	Value group A	.8	
4.4    Value group C    8      4.5    Value group D    9      4.6    Value group F    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A    (standards.iteh.ai)    11      5.1    Value group A    (standards.iteh.ai)    11      5.2    Value group D    (standards.iteh.ai)    11      5.3    Value group D    (standards.iteh.ai)    12      5.4    Value group F    (standards.iteh.ai)    20      5.4    Value group F    (standards.iteh.ai)    20      5.5    Value group F    (standards.iteh.ai)    20      5.6    Value group F    (standards.iteh.ai)    20      5.8    Electr		4.3	Value group B	.8	
4.5    Value group D    9      4.6    Value group E    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group definitions    STANDARD PREVIEW    11      5.1    Value group A    11    11      5.2    Value group B    STANDARD PREVIEW    11      5.3    Value group C    SISTEN 02050012007    12      5.4    Value group C    SISTEN 02050012007    12      5.4    Value group F    25    15      5.5    Value group F    25    26      5.6    Value group F    25    26      5.7    Abstract objects    26    28    29      5.9    List objects    32    32    31      5.10    Data profile objects    32    32    31      8    Bibliography    36    36      INDEX    37    37    37 <td></td> <td>4.4</td> <td>Value group C</td> <td>. 8</td>		4.4	Value group C	. 8	
4.6    Value group E    9      4.7    Value group F    9      4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group de initional STANDARD PREVIEW    11      5.1    Value group D    (standards.itch.ai)    11      5.2    Value group D    (standards.itch.ai)    12      5.4    Value group F    20    20      5.6    Value group F    25    26      5.7    Abstract objects    26    28      5.8    Electricity-related general purpose objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    <		4.5	Value group D	.9	
4.7    Value group F		4.6	Value group E	.9	
4.8    Manufacturer specific codes    9      4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group definitions    STANDARD PREVIEW    11      5.1    Value group A    11    11      5.2    Value group B    11    11      5.3    Value group C    12    12      5.4    Value group C    11    12      5.4    Value group C    12    12      5.4    Value group E    68025740004/size as 62056-61-2007    12      5.5    Value group F    25    26    25      5.7    Abstract objects    26    28    29      5.9    List objects    32    32    31    32      5.10    Data profile objects    32    33    33      Annex A (normative)    Code presentation    34    34      Bibliography    36    36    37      Figure 1 – OBIS code structure    8    8    8      Figure 2 – Quadrant definitions for active and reacti		4.7	Value group F	.9	
4.9    Reserved ranges    9      4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group definitions    S.T.A.ND.A.RD.P.R.E.V.IE.W.    11      5.1    Value group B    11    11      5.2    Value group B    11    11      5.3    Value group C    12    12      5.4    Value group D.    11    12      5.4    Value group D.    11    12      5.4    Value group D.    11    12      5.5    Value group E    20    12      5.5    Value group F    20    20      5.6    Value group F    20    20      5.6    Value group F    20    20      5.7    Abstract objects    20      5.8    Electricity-related general purpose objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36    37      Figure 1 – OBIS code structur		4.8	Manufacturer specific codes	.9	
4.10    Summary of rules for manufacturer, utility, consortia and country specific codes    9      5    Value group A		4.9	Reserved ranges	.9	
5    Value group A	F	4.10	Summary of rules for manufacturer, utility, consortia and country specific codes	.9	
5.1    Value group A    (standards.iteh.ai)    11      5.2    Value group B    11      5.3    Value group C    12      5.4    Value group Detributes interaction by standards/sistedate/rit2=u662=4b8c=8bc=    15      5.5    Value group F    25      5.6    Value group F    25      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    32      5.11    Register table objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36    37      Figure 1 – OBIS code structure    8    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34	5	value		1	
5.2    Value group C    11      5.3    Value group C    12      5.4    Value group D    15      5.5    Value group E    15      5.6    Value group F    25      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.1	Value group A (standards.iteh.ai)	11 14	
5.3    Value group D_standards tell information standards/sizt7a8cb812:u662:4b8c-8bbc    12      5.4    Value group D_standards tell information standards/sizt7a8cb812:u662:4b8c-8bbc    15      5.5    Value group F    20      5.6    Value group F    25      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.Z	Value group C	12	
5.4    Value group E    6802f574009d/sist-asc62056.61-2007.    20      5.5    Value group F    25      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.5	Value group D	15	
5.6    Value group F.    25      5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.5	Value group E	20	
5.7    Abstract objects    26      5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.6	Value group F	25	
5.8    Electricity-related general purpose objects    29      5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.7	Abstract objects	26	
5.9    List objects    32      5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.8	Electricity-related general purpose objects	29	
5.10    Data profile objects    32      5.11    Register table objects    33      Annex A (normative)    Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.9	List objects	32	
5.11 Register table objects    33      Annex A (normative) Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.10	Data profile objects	32	
Annex A (normative) Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34		5.11	Register table objects	33	
Annex A (normative) Code presentation    34      Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34					
Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1    Pulse for manufacturer, utility, concerting and country specific codes    10	Anr	iex A	(normative) Code presentation	34	
Bibliography    36      INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1    Pulse for manufacturer, utility, conserting and country specific codes    10					
INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1    Pulse for manufacturer, utility, conserting and country specific codes    10	Bibl	liograp	ohy	36	
INDEX    37      Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1    Pulse for manufacturer, utility, conserting and country specific codes    10					
Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1 – Rules for manufacturer, utility, conserting and country specific codes    10	IND	EX		37	
Figure 1 – OBIS code structure    8      Figure 2 – Quadrant definitions for active and reactive power    15      Figure 3 – Model of the line and the transformer for calculation of loss quantities    22      Figure A.1 – Reduced ID code presentation    34      Table 1 – Rules for manufacturer, utility, conserting and country specific codes    10					
Figure 2 – Quadrant definitions for active and reactive power	Figu	ure 1 -	- OBIS code structure	.8	
Figure 3 – Model of the line and the transformer for calculation of loss quantities	Figu	ure 2 -	- Quadrant definitions for active and reactive power1	5	
Figure A.1 – Reduced ID code presentation	Figu	ure 3 -	- Model of the line and the transformer for calculation of loss quantities2	22	
Table 1 Pulse for manufacturer utility, consertia and country specific codes 10	Figu	ure A.	1 – Reduced ID code presentation	34	
Table 1 Pulse for manufacturer, utility, consertia and country specific codes 10					
Table 1 – Rules for manufacturer, utility, consolita and country specific codes	Tab	le 1 –	Rules for manufacturer, utility, consortia and country specific codes1	0	
Table 2 – Value group A codes 11	Tab	le 2 –	Value group A codes	1	
	Tab	le 3 –	Value group B codes	1	
	Tab	le 3 –	Value group B codes1	1	

62056-61 © IEC:2006(E)

Table 4 – Value group C codes – Abstract objects	. 12
Table 5 – Value group C codes – Electricity	. 13
Table 6 – Value group D codes – Electricity	. 15
Table 7 – Value group D codes – Consortia specific identifiers	. 18
Table 8 – Value group D codes – Country specific identifiers	. 19
Table 9 – Value group E codes – Tariff rates	.20
Table 10 – Value group E codes – Harmonics	.21
Table 11 – Value group E codes – Extended phase angle measurement	.21
Table 12 – Value group E codes – Transformer and line loss quantities	. 23
Table 13 – Value group E codes – UNIPEDE voltage dip quantities	. 25
Table 14 – Abstract object codes	.26
Table 15 – General error messages	.28
Table 16 – General purpose codes – Electricity	. 29
Table 17 – Electricity related error messages	. 32
Table 18 – General list objects	. 32
Table 19 – Electricity related list objects	. 32
Table 20 – Profile codes – Abstract	. 32
Table 21 – Profile codes – Electricity	. 33
Table 22 – Register table object codes – Abstract	. 33
Table 23 – Register table object codes - Celectricity iteh.ai)	. 33
Table A.1 – Example of display code replacement	.34
Table A.2 – Value group F – Billing periods	. 35
6802f574009d/sist-en-62056-61-2007	

- 4 -

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

### Part 61: 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 committee; 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.
- 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 provides no marking procedure, to indicate, its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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 62056-61 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 5.1 - may be obtained from:

DLMS<sup>1</sup> User Association

Geneva / Switzerland

www.dlms.ch

International Standard IEC 62056-61 has been prepared by IEC technical committee 13: Equipment for electrical energy measurement and load control.

<sup>&</sup>lt;sup>1</sup> Device Language Message Specification

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:

- some parts of the "Manufacturer specific" ranges have been changed to "Reserved" to open code space for future standard code purposes;
- "Utility specific" ranges have been allocated;
- "Consortia specific" codes similar to "Country specific" codes have been introduced;
- a table explaining the rules for "Manufacturer specific", "Country specific" and "Consortia specific" codes has been added;
- new time integral types of quantities have been added, some definitions have been clarified;
- new OBIS codes to identify transformer and line loss quantities, voltage dips, power failures, statuses, etc. have been added;
- some list objects and profiles may be now abstract or electricity related;
- a second billing period counter mechanism has been added and the description of handling value group F has been amended.

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



Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-6802f574009d/sist-en-62056-61-2007

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

The competitive electricity market requires an ever-increasing amount of timely information concerning the usage of electrical energy. Recent technology developments enable to build intelligent static metering equipment, which is capable of capturing, processing and communicating this information to all parties involved.

For further analysis of this information, for the purposes of billing, load, customer and contract management, it is necessary to uniquely identify all data in a manufacturer independent way, collected manually or automatically, via local or remote data exchange.

The definition of identification codes is based on DIN 43863-3:1997.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN 62056-61:2007</u> https://standards.iteh.ai/catalog/standards/sist/5a8cb812-a662-4b8c-81be-6802f574009d/sist-en-62056-61-2007 62056-61 © IEC:2006(E)

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

### Part 61: Object identification system (OBIS)

#### 1 Scope

The OBject Identification System (OBIS) defines the identification codes (ID-codes) for commonly used data items in electricity metering equipment. This part of IEC 62056 specifies the overall structure of the identification system and the mapping of all data items to their identification codes.

OBIS provides a unique identifier for all data within the metering equipment, including not only measurement values, but also abstract values used for configuration or obtaining information about the behaviour of the metering equipment. The ID codes defined in this standard are used for the identification of

- logical names of the various instances of the interface classes, or objects, as defined in IEC 62056-62;
- data transmitted through communication lines, see Clause A.1.
- data displayed on the metering equipment, see Clause A.2.

This standard applies to all types of electricity metering equipment, such as fully integrated meters, modular meters, tariff attachments, data concentrators, etc.

To cover metering equipment measuring energy types other than electricity, combined metering equipment measuring more than one type of energy or metering equipment with several physical measurement channels, the concepts of medium and channels are introduced. This allows meter data originating from different sources to be identified. While this standard fully defines the structure of the identification system for other media, the mapping of non-electrical energy related data items to ID codes needs to be completed separately.

NOTE EN 13757-1 defines identifiers for metering equipment other than electricity: heat cost allocators, cooling, heating, gas, cold water and hot water.

#### 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 (IEV) – 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 instrument – Part 314: Specific terms according to the type of instrument

IEC 61000-2-8:2002: Electromagnetic compatibility (EMC) – Part 2-8: Environment – Voltage dips and short interruptions on public electric power supply systems with statistical measurement results

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