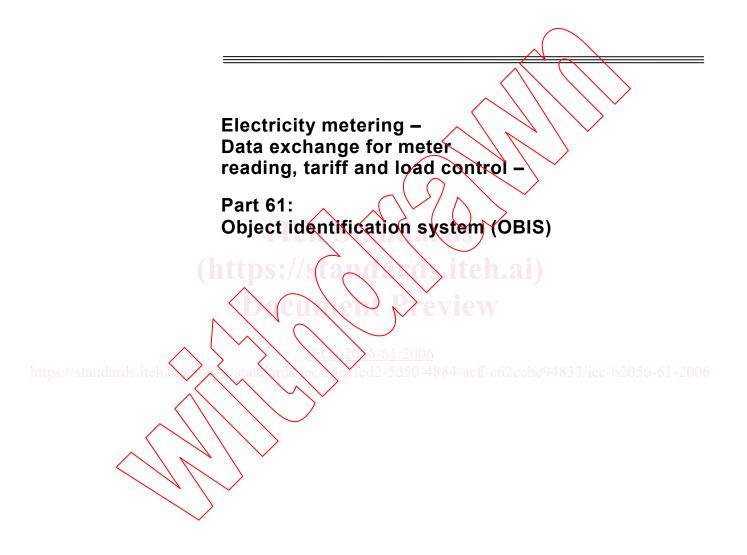
INTERNATIONAL STANDARD

IEC 62056-61

Second edition 2006-11





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PRICE CODE



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 61: Object identification system (OBIS)

FOREWORD

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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:

DLMS¹ 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.

¹ 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:

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	FDIS		Repor	t on votin	g
k	13/1388/FD/S		1311	399/RVD	h a
		_	_		

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.

nttps://standards.itch.a/_/a/o//stan/yrds/ec/Na/fed2-5d50-4884-acff-e62ccbe94837/jec-62056-61-200/

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.



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 EC 62056 specifies the overall structure of the identification system and the mapping of an 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 of 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.4.
- 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

IEC 62051-1:2004, Electricity metering – Glossary of terms – Part 1: Terms related to data exchange with metering equipment using DLMS/COSEM

IEC 62053-23:2003, Electricity metering equipment (a.c.) – Particular requirements – Part 23: Static meters for reactive energy (classes 2 and 3)

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

IEC 62056-62 Ed. 2:2006, Electricity metering – Data exchange for meter reading, tariff and load control – Part 62: Interface classes

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-300, IEC 62051 and IEC 62051-1 apply.

3.2 Abbreviations

COSEM COmpanion Specification for Energy Metering

IC Interface Class

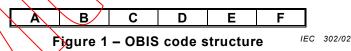
OBIS OBject Identification System

VZ Billing period counter

4 OBIS structure

4.1 General

OBIS codes identify data items used in energy metering equipment, in a hierarchical structure 2006 using six value groups A to F, see Figure 1.



4.2 Value group A

The value group A defines the media (energy type) to which the metering is related. Non-media related information is handled as abstract data.

4.3 Value group B

The value group B defines the channel number, i.e. the number of the input of a metering equipment having several inputs for the measurement of energy of the same or different types (e.g. in data concentrators, registration units). Data from different sources can thus be identified. The definitions for this value group are independent from the value group A.

4.4 Value group C

The value group C defines the abstract or physical data items related to the information source concerned, for example current, voltage, power, volume, temperature. The definitions depend on the value of the value group A .

Further processing, classification and storage methods are defined by value groups D, E and $\mathsf{F}.$

For abstract data, value groups D to F provide further classification of data identified by value groups A to C.

4.5 Value group D

The value group D defines types, or the result of the processing of physical quantities identified with the value groups A and C, according to various specific algorithms. The algorithms can deliver energy and demand quantities as well as other physical quantities.

4.6 Value group E

The value group E defines further processing or classification of quantities identified by value groups A to D.

4.7 Value group F

The value group F defines the storage of data, identified by value groups A to E, according to different billing periods. Where this is not relevant, this value group can be used for further classification.

4.8 Manufacturer specific codes

In value groups B, C, D, E and F the following ranges are available for manufacturer-specific purposes:

- group B: 128...199;
- group C: 128...199, 240;
- group D: 128...254;
- group E: 128...254;
- group F: 128...254

If any of these value groups contain a value in the manufacturer specific range, then the whole OBIS code shall be considered as manufacturer specific, and the value of the other groups does not necessarily carry a meaning defined in this standard or in IEC 62056-62.

In addition, manufacturer specific ranges are defined in Table 14 with A = 0, C = 96 and Table 16 with A = 1, C = 96.

4.9 Reserved ranges

By default, all codes not allocated are reserved. 2

4.10 Summary of rules for manufacturer, utility, consortia and country specific codes

Table 1 summarizes the rules for handling manufacturer specific codes defined in 4.8, utility specific codes defined in 5.2, consortia specific codes defined in Table 7 and country specific codes defined in Table 8.

² Administered by the DLMS User Association (see Foreword).

Table 1 - Rules for manufacturer, utility, consortia and country specific codes

Code type	Value group					Note	
	Α	В	С	D	E	F	
		128199	х	х	х	х	
		х	128 199, 240	х	х	х	
Manufacturer specific	0, 1, 49	х	х	128254	х	х	See Note 1
		х	х	х	128254	х	
		Х	х	х	Х	128254	
Manufacturer specific abstract	0	064	96	5099	0255	0. 255	See Note 2
Manufacturer specific, media related general purpose	1, 49	064	96	5099	0255	0255	See Note 2
Utility specific		65127		<	1	4	See Note 3
Consortia specific	0.1.1.0	164	93	See Table 7			See Note 4
Country specific	0, 1, 49	164	94	See Table 8	$\sqrt{}$		See Note 5

NOTE 1 "x" means any value.

NOTE 2 The range D = 50...99 is available for identifying objects, which are not represented by another defined code, but need representation on the display as well. If this is not required, the range D = 128...254 should be used.

NOTE 3 If the value of B is 65...127, the whole OBIS code should be considered as utility specific and the value of other groups does not necessarily carry a meaning defined neither in IEC 62056-62 nor in this standard.

NOTE 4 The usage of value group E and F are defined in consortia specific documents.

NOTE 5 The usage of value group E and F are defined in country specific documents.

Objects for which this standard defines standard identifiers shall not be re-identified by manufacturer, utility, consortia or country specific identifiers.

On the other hand, an object previously identified by a manufacturer, utility, consortia or country specific identifier may receive a standard identifier in the future, if its use is of common interest for the users of this standard.