# SLOVENSKI STANDARD
# SIST EN 62056-6-2:2013

**01-oktober-2013**

**Nadomešča:**
**SIST EN 62056-62:2007**

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**Izmenjava podatkov meritev električne energije - Niz DLMS/COSEM - 6-2. del: Vmesniški razredi COSEM (IEC 62056-6-2:2013)**

Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes (IEC 62056-6-2:2013)

Datenkommunikation der elektrischen Energiemesseung - DLMS/COSEM - Teil 6-2: Interface-Klassen (IEC 62056-6-2:2013)

Echange de données pour le comptage de l'énergie électrique - La suite DLMS/COSEM - Partie 6-2: Classes d'interfaces COSEM (CEI 62056-6-2:2013)

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**Ta slovenski standard je istoveten z:** **EN 62056-6-2:2013**

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**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 62056-6-2:2013** **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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August 2013

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English version

# Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes

(IEC 62056-6-2:2013)

Echange de données dans les équipements de comptage de l'énergie électrique - La suite DLMS/COSEM - Partie 6-2: Classes d'interfaces COSEM (CEI 62056-6-2:2013)

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## Foreword

The text of document 13/1525/FDIS, future edition 1 of IEC 62056-6-2, prepared by IEC/TC 13 "Electrical energy measurement, tariff- and load control" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62056-6-2:2013.

The following dates are fixed:

| | | |
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| • latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2014-04-04 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2016-07-04 |

EN 62056-6-2:2013 cancels and replaces EN 62056-62 published in 2007. It constitutes a technical revision.

The significant technical changes with respect to EN 62056-62 are listed in Annex A.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|---|---|---|
| IEC 61334-6:2000 | NOTE | Harmonized as EN 61334-6:2000 (not modified). |
| IEC 62053-23:2003 | NOTE | Harmonized as EN 62053-23:2003 (not modified). |
| IEC 62056-8-3:2013 | NOTE | Harmonized as EN 62056-8-3:2013 (not modified). |

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# 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 61334-4-32 | 1996 | Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 32: Data link layer - Logical link control (LLC) | EN 61334-4-32 | 1996 |
| 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 61334-4-511 | 2000 | Distribution automation using distribution line carrier systems - Part 4-511: Data communication protocols - Systems management - CIASE protocol | EN 61334-4-511 | 2000 |
| IEC 61334-4-512 | 2001 | Distribution automation using distribution line carrier systems - Part 4-512: Data communication protocols - System management using profile 61334-5-1 - Management Information Base (MIB) | EN 61334-4-512 | 2002 |
| IEC 61334-5-1 | 2001 | Distribution automation using distribution line carrier systems - Part 5-1: Lower layer profiles - The spread frequency shift keying (S-FSK) profile | EN 61334-5-1 | 2001 |
| IEC/TR 62051 | 1999 | Electricity metering - Glossary of terms | - | - |
| IEC/TR 62051-1 + corr. June | 2004 2005 | 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 62056-3-1 | 201X[1] | Electricity metering data exchange – The DLMS/COSEM suite - Part 3-1: Use of local area networks on twisted pair with carrier signalling | EN 62056-3-1 | 201X[2] |
| IEC 62056-5-3 | 2013 | Electricity metering data exchange - The DLMS/COSEM suite - Part 5-3: DLMS/COSEM application layer | EN 62056-5-3 | 2013 |

[1] To be published.
[2] At draft stage.

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| | | | | |
|---|---|---|---|---|
| IEC 62056-6-1 | 2013 | Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: COSEM Object Identification System (OBIS) | EN 62056-6-1 | 2013 |
| 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 62056-46 +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 | 2002 |
| ISO/IEC 8802-2 + corr. October | 1998 2000 | Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 2: Logical link control | - | - |
| ISO/IEC/IEEE 60559 | 2011 | Information technology - Microprocessor Systems - Floating-Point arithmetic | - | - |
| EN 13757-2 | 2004 | Communication systems for and remote reading of meters - Part 2: Physical and link layer | - | - |
| EN 13757-3 | 2004 | Communication systems for and remote reading of meters - Part 3: Dedicated application layer | - | - |
| EN 13757-5 | 2008 | Communication systems for meters and remote reading of meters - Part 5: Wireless relaying | - | - |
| ANSI C12.19:1997/IEEE 1377 | 1997 | Utility Industry End Device Data Tables | - | - |
| IETF RFC 1332 | 1992 | The PPP Internet Protocol Control Protocol (IPCP) | - | - |
| IETF RFC 1570 | 1994 | PPP LCP Extensions | - | - |
| IETF RFC 1661 | 1994 | Point-to-Point Protocol (PPP) | - | - |
| IETF RFC 1662 | 1994 | PPP in HDLC Framing | - | - |
| IETF RFC 1700 | 1994 | Assigned Numbers request for comments 1700 (STD 2) | - | - |
| IETF RFC 2507 | 1999 | IP Header Compression | - | - |
| IETF RFC 3241 | 2002 | Robust Header Compression (ROHC) over PPP | - | - |
| STD 0005 | 1981 | Internet Protocol | - | - |
| STD 0051 | 1994 | The Point-to-Point Protocol (PPP) | - | - |

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CONTENTS

FOREWORD ..... 7
INTRODUCTION ..... 9
1 Scope ..... 10
2 Normative references ..... 10
3 Abbreviations ..... 12
4 Basic principles ..... 14
4.1 General ..... 14
4.2 Referencing methods ..... 15
4.3 Reserved base_names for special COSEM objects ..... 15
4.4 Class description notation ..... 15
4.5 Common data types ..... 18
4.6 Data formats ..... 19
4.6.1 Date and time formats ..... 19
4.6.2 Floating point number formats ..... 21
4.7 The COSEM server model ..... 23
4.8 The COSEM logical device ..... 24
4.8.1 General ..... 24
4.8.2 COSEM logical device name ..... 24
4.8.3 The "association view" of the logical device ..... 24
4.8.4 Mandatory contents of a COSEM logical device ..... 24
4.8.5 Management logical device ..... 25
4.9 Data security ..... 25
5 The COSEM interface classes ..... 25
5.1 Overview ..... 25
5.2 Interface classes for parameters and measurement data ..... 27
5.2.1 Data (class_id: 1, version: 0) ..... 27
5.2.2 Register (class_id: 3, version: 0) ..... 28
5.2.3 Extended register (class_id: 4, version: 0) ..... 32
5.2.4 Demand register (class_id: 5, version: 0) ..... 33
5.2.5 Register activation (class_id: 6, version: 0) ..... 36
5.2.6 Profile generic (class_id: 7, version: 1) ..... 38
5.2.7 Utility tables (class_id: 26, version: 0) ..... 43
5.2.8 Register table (class_id: 61, version: 0) ..... 44
5.2.9 Status mapping (class_id: 63, version: 0) ..... 47
5.3 Interface classes for access control and management ..... 48
5.3.1 Association SN (class_id: 12, version: 2) ..... 48
5.3.2 Association LN (class_id: 15, version: 1) ..... 52
5.3.3 SAP assignment (class_id: 17, version: 0) ..... 58
5.3.4 Image transfer (class_id: 18, version: 0) ..... 59
5.3.5 Security setup (class_id: 64, version: 0) ..... 67
5.4 Interface classes for time- and event bound control ..... 68
5.4.1 Clock (class_id: 8, version: 0) ..... 68
5.4.2 Script table (class_id: 9, version: 0) ..... 71
5.4.3 Schedule (class_id: 10, version: 0) ..... 72
5.4.4 Special days table (class_id: 11, version: 0) ..... 75
5.4.5 Activity calendar (class_id: 20, version: 0) ..... 76

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SIST EN 62056-6-2:2013
https://standards.iteh.ai/catalog/standards/sist/251d2164-339d-43a7-b793-8732a80ffe7/sist-en-62056-6-2-2013

SIST EN 62056-6-2:2013



5.4.6 Register monitor (class_id: 21, version: 0) ..... 79
5.4.7 Single action schedule (class_id: 22, version: 0) ..... 80
5.4.8 Disconnect control (class_id: 70, version: 0) ..... 81
5.4.9 Limiter (class_id: 71, version: 0) ..... 84
5.4.10 Sensor manager interface class (class_id:67, version: 0) ..... 86
5.5 Interface classes for setting up data exchange via local ports and modems ..... 90
5.5.1 IEC local port setup (class_id: 19, version: 1) ..... 90
5.5.2 IEC HDLC setup (class_id: 23, version: 1) ..... 92
5.5.3 IEC twisted pair (1) setup (class_id: 24, version: 0) ..... 94
5.5.4 Modem configuration (class_id: 27, version: 1) ..... 95
5.5.5 Auto answer (class_id: 28, version: 0) ..... 96
5.5.6 Auto connect (class_id: 29, version: 1) ..... 98
5.6 Interface classes for setting up data exchange via M-Bus ..... 99
5.6.1 M-Bus slave port setup (class_id: 25, version: 0) ..... 99
5.6.2 M-Bus client (class_id: 72, version: 0) ..... 100
5.6.3 Wireless Mode Q channel (class_id: 73, version: 1) ..... 105
5.6.4 M-Bus master port setup (class_id: 74, version: 0) ..... 105
5.7 Interface classes for setting up data exchange over the Internet ..... 106
5.7.1 TCP-UDP setup (class_id: 41, version: 0) ..... 106
5.7.2 IPv4 setup (class_id: 42, version: 0) ..... 107
5.7.3 MAC address setup (class_id: 43, version: 0) ..... 111
5.7.4 PPP setup (class_id: 44, version: 0) ..... 111
5.7.5 GPRS modem setup (class_id: 45, version: 0) ..... 115
5.7.6 SMTP setup (class_id: 46, version: 0) ..... 116
5.8 Interface classes for setting up data exchange using S-FSK PLC ..... 117
5.8.1 General ..... 117
5.8.2 Definitions and abbreviations related to the S-FSK PLC profile ..... 117
5.8.3 Overview ..... 119
5.8.4 S-FSK Phy&MAC set-up (class_id: 50, version: 1) ..... 121
5.8.5 S-FSK Active initiator (class_id: 51, version: 0) ..... 125
5.8.6 S-FSK MAC synchronization timeouts (class_id: 52, version: 0) ..... 127
5.8.7 S-FSK MAC counters (class_id: 53, version: 0) ..... 129
5.8.8 IEC 61334-4-32 LLC setup (class_id: 55, version: 1) ..... 133
5.8.9 S-FSK Reporting system list (class_id: 56, version: 0) ..... 134
5.9 Interface classes for setting up the LLC layer for ISO/IEC 8802-2 ..... 135
5.9.1 General ..... 135
5.9.2 Definitions related to the ISO/IEC 8802-2 LLC layer ..... 135
5.9.3 ISO/IEC 8802-2 LLC Type 1 setup (class_id: 57, version: 0) ..... 135
5.9.4 ISO/IEC 8802-2 LLC Type 2 setup (class_id: 58, version: 0) ..... 136
5.9.5 ISO/IEC 8802-2 LLC Type 3 setup (class_id: 59, version: 0) ..... 137
5.10 Maintenance of the interface classes ..... 140
5.10.1 New versions of interface classes ..... 140
5.10.2 New interface classes ..... 140
5.10.3 Removal of interface classes ..... 140
6 Relation to OBIS ..... 140
6.1 General ..... 140
6.2 Abstract COSEM objects ..... 141
6.2.1 Use of value group C ..... 141
6.2.2 Data of historical billing periods ..... 142

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SIST EN 62056-6-2:2013



6.2.3 Billing period values / reset counter entries ..... 143
6.2.4 Clock objects (class_id: 8) ..... 144
6.2.5 Modem configuration and related objects ..... 144
6.2.6 Script table objects (class_id: 9) ..... 144
6.2.7 Special days table objects (class_id: 11) ..... 145
6.2.8 Schedule objects (class_id: 10) ..... 145
6.2.9 Activity calendar objects (class_id: 20) ..... 145
6.2.10 Register activation objects (class_id: 6) ..... 146
6.2.11 Single action schedule objects (class_id: 22) ..... 146
6.2.12 Register monitor objects (class_id: 21) ..... 146
6.2.13 Limiter objects (class_id: 71) ..... 146
6.2.14 IEC local port setup objects (class_id: 19) ..... 146
6.2.15 Standard readout profile objects (class_id: 7) ..... 146
6.2.16 IEC HDLC setup objects (class_id: 23) ..... 147
6.2.17 IEC twisted pair (1) setup objects (class_id: 24) ..... 147
6.2.18 Objects related to data exchange over M-Bus ..... 147
6.2.19 Objects to set up data exchange over the Internet ..... 148
6.2.20 Objects for setting up data exchange using S-FSK PLC ..... 149
6.2.21 Objects for setting up the ISO/IEC 8802-2 LLC layer ..... 149
6.2.22 Association objects (class_id: 12, 15) ..... 150
6.2.23 SAP assignment object (class_id: 17) ..... 150
6.2.24 COSEM logical device name object ..... 150
6.2.25 Security setup and frame counter objects (class_id: 64) ..... 150
6.2.26 Image transfer objects (class_id: 18) ..... 151
6.2.27 Utility table objects (class_id: 26) ..... 151
6.2.28 Device ID objects ..... 152
6.2.29 Metering point ID objects ..... 152
6.2.30 Parameter changes and calibration objects ..... 152
6.2.31 I/O control signal objects ..... 152
6.2.32 Disconnect control objects (class_id: 70) ..... 153
6.2.33 Status of internal control signals objects ..... 153
6.2.34 Internal operating status objects ..... 153
6.2.35 Battery entries objects ..... 154
6.2.36 Power failure monitoring objects ..... 154
6.2.37 Operating time objects ..... 155
6.2.38 Environment related parameters objects ..... 155
6.2.39 Status register objects ..... 155
6.2.40 Event code objects ..... 155
6.2.41 Communication port log parameter objects ..... 156
6.2.42 Consumer message objects ..... 156
6.2.43 Currently active tariff objects ..... 156
6.2.44 Event counter objects ..... 156
6.2.45 Error register objects ..... 156
6.2.46 Alarm registers and alarm filters objects ..... 157
6.2.47 General list objects (class_id: 7) ..... 157
6.2.48 Event log objects ..... 158
6.2.49 Inactive objects ..... 158
6.3 Electricity related COSEM objects ..... 158
6.3.1 Value group D definitions ..... 158

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SIST EN 62056-6-2:2013
https://standards.iteh.ai/catalog/standards/sist/251d2164-339d-43a7-8732-a80ffe7/sist-en-62056-6-2-2013

SIST EN 62056-6-2:2013



6.3.2 Electricity ID numbers ..... 159
6.3.3 Billing period values / reset counter entries ..... 159
6.3.4 Other electricity related general purpose objects ..... 159
6.3.5 Measurement algorithm ..... 160
6.3.6 Metering point ID (electricity related) ..... 161
6.3.7 Electricity related status objects ..... 162
6.3.8 Electricity related list objects (class_id: 7) ..... 162
6.3.9 Threshold values ..... 162
6.3.10 Register monitor objects (class_id: 21) ..... 163
6.4 Coding of OBIS identifications ..... 163
7 Previous versions of interface classes ..... 164
7.1 General ..... 164
7.2 Profile generic (class_id: 7, version: 0) ..... 164
7.3 Association SN (class_id: 12, version: 0) ..... 168
7.4 Association SN (class_id: 12, version: 1) ..... 170
7.5 Association LN (class_id: 15, version: 0) ..... 173
7.6 IEC local port setup (class_id: 19, version: 0) ..... 178
7.7 IEC HDLC setup, (class_id: 23, version: 0) ..... 179
7.8 PSTN modem configuration (class_id: 27, version: 0) ..... 181
7.9 PSTN auto dial (class_id: 29, version: 0) ..... 182
7.10 S-FSK Phy&MAC setup (class_id: 50, version: 0) ..... 184
7.11 S-FSK IEC 61334-4-32 LLC setup (class_id: 55, version: 0) ..... 188
Annex A (informative) Significant technical changes with respect to IEC 62056-62 ..... 190
Bibliography ..... 193
Index ..... 195

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SIST EN 62056-6-2:2013
https://standards.iteh.ai/catalog/standards/sist/251d2164-339d-43a7-b793-8732a80ffie7/sist-en-62056-6-2-2013

Figure 1 – An interface class and its instances ..... 14
Figure 2 – The COSEM server model ..... 23
Figure 3 – Combined metering device ..... 23
Figure 4 – Overview of the interface classes – Part 1 ..... 26
Figure 5 – Overview of the interface classes – Part 2 ..... 27
Figure 6 – The time attributes when measuring sliding demand ..... 33
Figure 7 – The attributes in the case of block demand ..... 33
Figure 8 – The attributes in the case of sliding demand (number of periods = 3) ..... 34
Figure 9 – The meaning of the definitions concerning the Image ..... 60
Figure 10 – The Image Read and the Image Transfer services ..... 60
Figure 11 – Image transfer process flow chart ..... 64
Figure 12 – The generalized time concept ..... 69
Figure 13 – State diagram of the Disconnect control IC ..... 82
Figure 14 – Definition of upper and lower thresholds ..... 90
Figure 15 – Object model of DLMS/COSEM servers ..... 119
Figure 16 – Data of historical billing periods – example with module 12, VZ = 5 ..... 143

Table 1 – Reserved base_names for SN referencing ..... 15
Table 2 – Common data types ..... 18
Table 3 – Enumerated values for physical units ..... 30

SIST EN 62056-6-2:2013



Table 4 – Examples for scaler_unit....32
Table 5 – Schedule....72
Table 6 – Special days table....73
Table 7 – Disconnect control IC – states and state transitions....83
Table 8 – Explicit presentation of threshold value arrays....90
Table 9 – Explicit presentation of action_sets....90
Table 10 – Mapping IEC 61334-5-512 MIB variables to COSEM IC attributes / methods....120
Table 11 – MAC addresses in the S-FSK profile....125
Table 12 – Use of value group C for abstract objects in the COSEM context....142
Table 13 – Representation of various values by appropriate ICs....158
Table 14 – Measuring algorithms – enumerated values....160
Table 15 – Threshold objects, electricity....163
Table 16 – Register monitor objects, electricity....163

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SIST EN 62056-6-2:2013
https://standards.iteh.ai/catalog/standards/sist/251d2164-339d-43a7-b793-8732a80ffe7/sist-en-62056-6-2-2013

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## Part 6-2: COSEM interface classes

## FOREWORD

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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 62056-6-2 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 for applicants throughout the world. In this respect, the statement of the provider of the maintenance service is registered with the IEC. Information may be obtained from:

DLMS[1] User Association
Zug/Switzerland
www.dlms.ch

[1] Device Language Message Specification.

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International Standard IEC 62056-6-2 has been prepared by IEC technical committee 13: Electrical energy measurement, tariff- and load control.

This edition cancels and replaces IEC 62056-62 published in 2006. It constitutes a technical revision.

The significant technical changes with respect to IEC 62056-62 are listed in Annex A.

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

| FDIS | Report on voting |
|---|---|
| 13/1525/FDIS | 13/1543/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.

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.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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The numbering scheme has changed from IEC 62056-XY to IEC 62056-X-Y. For example IEC 62056-62 becomes IEC 62056-6-2.

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The committee has decided that the contents of this publication will remain unchanged until the stability 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.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

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# INTRODUCTION

Driven not only by the business needs of utilities – often in a deregulated competitive market – but also by the increasing desire to manage natural resources efficiently as regards production, distribution and use, the utility meter is increasingly part of an integrated metering, control, and billing system. Not only at grid level but, with the advent of initiatives to involve consumers in energy and resource management, in industry and even down to the domestic level, the meter is no simple data recording device but relies critically on communication capabilities, system integration and interoperability.

COSEM, the Companion Specification for Energy Metering, addresses these challenges by looking at the meter as an integrated part of a communication system which requires above all the ability to convey measurements of the delivered product (energy) from the diverse points where these measurements are made to the business processes which use them, over a variety of connecting media. Such systems handle a gamut of additional information and support setup and control functions which allow operating the meter remotely at virtually all times.

COSEM achieves all this in a way which is essentially non-proprietary and does not make assumptions about the technical processes in place within the meter. Using *object modelling* techniques established in the world of information science, the data to be supplied by the meter is defined in a standard way that is accessible to the utility's business processes and relevant parts of its behaviour are similarly represented, while the communications are defined following the *Open Systems Interconnection* that is fundamental to the telecommunications world. The formal specification of interface classes and objects, which enables this, forms a major part of COSEM.

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To allow further analysis of information, for the purposes of billing, load-, customer- and contract management, it is necessary to uniquely identify data items, whether collected manually or automatically, via local or remote data exchange, in a manufacturer-independent way. The definition of identification codes to achieve this – the OBIS codes – is based on DIN 43863-3:1997, *Electricity meters – Part 3: Tariff metering device as additional equipment for electricity meters – EDIS – Energy Data Identification System.*

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The COSEM model represents the meter as a server – see 4.7 – used by client applications that retrieve data from, provide control information to, and instigate known actions within the meter via controlled access to the attributes and specific methods of objects making up the server interface. This client may be supporting the business processes of utilities, customers, meter operators, or meter manufacturers.

The information content and abilities of the server are not fixed; instead, the standardized objects and interface classes (ICs) form an extensible library from which the manufacturer can assemble (model) its products according to national specifications or contract requirements. As a key element, the server offers means to retrieve its particular structural model (the list of logical devices and the list of objects visible through the interface). The library is designed so that the entire range of products (from residential to commercial, industrial, and transmission and distribution applications) can be covered. The choice of the subset of ICs used to build a meter, and the instantiation and implementation of those ICs 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.