



NSAI
Standards

Irish Standard
I.S. EN 62056-9-7:2013

Electricity metering data exchange - The DLMS/COSEM suite -- Part 9-7: Communication profile for TCP-UDP/IP networks (IEC 62056-9-7:2013 (EQV))

I.S. EN 62056-9-7:2013

Incorporating amendments/corrigenda issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<i>This document replaces:</i> EN 62056-53:2007 (partially)	<i>This document is based on:</i> EN 62056-9-7:2013	<i>Published:</i> 4 October, 2013
This document was published under the authority of the NSAI and comes into effect on: 8 October, 2013		ICS number: 17.220 35.110 91.140.50
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeán Náisiúnta na hÉireann		

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 62056-9-7

October 2013

ICS 17.220; 35.110; 91.140.50

Supersedes EN 62056-53:2007 (partially)

English version

**Electricity metering data exchange -
The DLMS/COSEM suite -
Part 9-7: Communication profile for TCP-UDP/IP networks
(IEC 62056-9-7:2013)**

Échange des données de comptage de
l'électricité -
La suite DLMS/COSEM -
Partie 9-7: Profil de communication pour
réseaux TCP-UDP/IP
(CEI 62056-9-7:2013)

Datenkommunikation der elektrischen
Energiemessung - DLMS/COSEM -
Teil 9-7: Festlegungen zur Nutzung von
TCP-UDP/IP-Netzen
(IEC 62056-9-7:2013)

This European Standard was approved by CENELEC on 2013-05-28. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 13/1520/FDIS, future edition 1 of IEC 62056-9-7, 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 62056-9-7:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-04-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-05-28

This document supersedes EN 62056-53:2007 (PART).

EN 62056-9-7:2013 includes the following significant technical changes with respect to EN 62056-53:2007:

Note: Whereas IEC 62056-53 Ed. 2.0 contains the specification of the DLMS/COSEM communication profiles, IEC 62056-5-3 Ed.1.0 replacing the earlier edition does not.

- The title of the standard has been aligned with the title of other parts of the revised IEC 62056 series;
- Clause 4, Targeted communication environments has been extended, a functional reference architecture figure has been added;
- Clause 5, The structure of the profile(s) has been extended, the Figure has been generalized and simplified;
- In clause 6, Identification and addressing scheme, the port number assigned by the IANA for DLMS/COSEM has been added;
- In subclause 9.1, Two paragraphs specifying how confirmed and unconfirmed COSEM-OPEN and xDLMS service invocations have been added;
- Subclause 9.6, Transporting long messages, has been amended. It specifies now that for transporting long messages, application layer block transfer can be used (also available now with SN referencing);
- The clause on Multi-drop configurations has been removed.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62056-9-7:2013 was approved by CENELEC as a European Standard without any modification.

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

IEC 62056-6-1	NOTE	Harmonised as EN 62056-6-1 ¹⁾ (not modified).
IEC 62056-6-2	NOTE	Harmonised as EN 62056-6-2 ¹⁾ (not modified).

¹⁾ at draft stage.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62056-5-3 ²⁾	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 5-3: DLMS/COSEM application layer	EN 62056-5-3 ²⁾	-
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

²⁾ At draft stage.

This page is intentionally left BLANK.

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms, definitions and abbreviations	5
3.1 Terms and definitions	5
3.2 Abbreviations	5
4 Targeted communication environments.....	6
5 Structure of the profile(s).....	7
6 Identification and addressing scheme	8
7 Supporting layer services and service mapping	10
8 Communication profile specific service parameters of the COSEM AL services	11
9 Specific considerations / constraints.....	12
9.1 Confirmed and unconfirmed AAs and service invocations, packet types used	12
9.2 Releasing application associations: using RLRQ/RLRE is mandatory	13
9.3 Service parameters of the COSEM-OPEN / -RELEASE / -ABORT services.....	13
9.4 xDLMS client/server type services.....	13
9.5 EventNotification Service and TriggerEventNotificationSending service	13
9.6 Transporting long messages.....	13
9.7 Allowing COSEM servers to establish the TCP connection	14
9.8 The COSEM TCP-UDP/IP profile and real-world IP networks.....	14
Bibliography.....	15
Index	17
Figure 1 – Communication architecture.....	7
Figure 2 – Examples for lower-layer protocols in the TCP-UDP/IP based profile(s)	8
Figure 3 – Identification / addressing scheme in the TCP-UDP/IP based profile(s)	10
Figure 4 – Summary of TCP / UDP layer services	11
Table 1 – Application associations and data exchange in the TCP-UDP/IP based profile	12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 9-7: Communication profile for TCP-UDP/IP networks

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) 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 62056-9-7 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:

DLMS¹ User Association
Zug/Switzerland
www.dlms.ch

¹ Device Language Message Specification.

International Standard IEC 62056-9-7 has been prepared by IEC technical committee 13: Electrical energy measurement, tariff- and load control.

It is based on IEC 62056-53 Ed.2:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 53: COSEM application layer*, Annex B.3, *The TCP-UDP/IP based communication profiles (COSEM_on_IP)* and introduces the following significant technical changes:

NOTE Whereas IEC 62056-53 Ed. 2.0 contains the specification of the DLMS/COSEM communication profiles, IEC 62056-5-3 Ed.1.0 replacing the earlier edition does not.

- The title of the standard has been aligned with the title of other parts of the revised IEC 62056 series;
- Clause 4, *Targeted communication environments* has been extended, a functional reference architecture figure has been added;
- Clause 5, *The structure of the profile(s)* has been extended, the Figure has been generalized and simplified;
- In clause 6, *Identification and addressing scheme*, the port number assigned by the IANA for DLMS/COSEM has been added;
- In subclause 9.1, two paragraphs specifying how confirmed and unconfirmed COSEM-OPEN and xDLMS service invocations have been added;
- Subclause 9.6, *Transporting long messages*, has been amended. It specifies now that for transporting long messages, application layer block transfer can be used (also available now with SN referencing);
- The clause on Multi-drop configurations has been removed.

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

FDIS	Report on voting
13/1520/FDIS	13/1537/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.

A list of all parts of IEC 62056, under the general title *Electricity metering data exchange – The DLMS/COSEM suite*, can be found on the IEC website.

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 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.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-