ICS 17.220, 35.110, 91.140.50 SLOVENSKÁ TECHNICKÁ NORMA Október 2014

STN	**Výmena údajov pri meraní elektrickej energie. Súbor DLMS/COSEM. Časť 3-1: Používanie miestnych sietí so stočenými pármi so signalizáciou na nosnej frekvencii.**	**STN EN 62056-3-1** 35 6131

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/14

Obsahuje: EN 62056-3-1:2014, IEC 62056-3-1:2013

Oznámením tejto normy sa od 24.09.2016 ruší
STN EN 62056-31 (35 6131) z októbra 2001

119408

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62056-3-1

March 2014

ICS 17.220; 35.110; 91.140.50

Supersedes EN 62056-31:2000

English version

Electricity metering data exchange - The DLMS/COSEM suite - Part 3-1: Use of local area networks on twisted pair with carrier signalling

(IEC 62056-3-1:2013)

Échange des données de comptage de l'électricité -
La suite DLMS/COSEM -
Partie 3-1: Utilisation des réseaux locaux sur paire torsadée avec signal de porteuse
(CEI 62056-3-1:2013)

Datenkommunikation der elektrischen Energiemessung -
DLMS/COSEM -
Teil 3-1: Nutzung lokaler Netzwerke mit Trägerfrequenz-Signalübertragung auf verdrillten Zweidrahtleitungen
(IEC 62056-3-1:2013)

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

Ref. No. EN 62056-3-1:2014 E

Foreword

The text of document 13/1546/FDIS, future edition 1 of IEC 62056-3-1, 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 62056-3-1:2014.

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)	2014-09-07
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-09-24

This document supersedes EN 62056-31:2000.

EN 62056-3-1:2014 includes the following significant technical changes with respect to EN 62056-31:2000:

- addition of a profile which makes use of the EN 62056 DLMS/COSEM Application layer and COSEM object model;
- review of the data link layer which is split into two parts:
  - a pure Data Link layer;
  - a “Support Manager” entity managing the communication media;
- ability to negotiate the communication speed, bringing baud rate up to 9 600 bauds.

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 62056-3-1:2013 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 62056-6-1:2013	NOTE	Harmonized as EN 62056-6-1:2013 (not modified).
IEC 62056-6-2:2013	NOTE	Harmonized as EN 62056-6-2:2013 (not modified).

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 61334-4-41	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 62056-51	1998	Electricity metering - Data exchange for meter reading, tariff and load control - Part 51: Application layer protocols	-	-
IEC 62056-5-3	2013	Electricity metering data exchange - The DLMS/COSEM suite - Part 5-3: DLMS/COSEM application layer	EN 62056-5-3	2014
ISO/IEC 8482	1993	Information technology - Telecommunications and information exchange between systems - Twisted pair multipoint interconnections	-	-
EIA 485	-	Electrical characteristics of generators and receivers for use in balanced digital multipoint systems	-	-

IEC 62056-3-1

Edition 1.0 2013-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electricity metering data exchange – The DLMS/COSEM suite – Part 3-1: Use of local area networks on twisted pair with carrier signalling

Échange des données de comptage de l'électricité – La suite DLMS/COSEM – Partie 3-1: Utilisation des réseaux locaux sur paire torsadée avec signal de porteuse

IEC 62056-3-1:2013

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IEC 62056-3-1

Edition 1.0 2013-08

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX XE

ICS 17.220; 35.110; 91.140.50

ISBN 978-2-8322-1046-8

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 3-1: Use of local area networks on twisted pair with carrier signalling

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62056-3-1 has been prepared by IEC technical committee 13: Electrical energy measurement, tariff- and load control.

This first edition cancels and replaces the first edition of IEC 62056-31, issued in 1999, and constitutes a technical revision.

The main technical changes with regard to the previous edition are as follows:

- addition of a profile which makes use of the IEC 62056 DLMS/COSEM Application layer and COSEM object model,
- review of the data link layer which is split into two parts:
  - a pure Data Link layer;
  - a "Support Manager" entity managing the communication media;
- ability to negotiate the communication speed, bringing baud rate up to 9 600 bauds.

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

FDIS	Report on voting
13/1546/FDIS	13/1552/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 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 eidition.

The numbering scheme has changes from IEC 62056-XY to IEC 62056-X-Y. For example, IEC 62056-31 becomes IEC 62056-3-1.

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.

ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 3-1: Use of local area networks on twisted pair with carrier signalling

1 Scope

This part of IEC 62056 describes three profiles for local bus data exchange with stations either energized or not. For non-energized stations, the bus supplies energy for data exchange.

Three different profiles are supported:

- base profile: this three-layer profile provides remote communication services;

  NOTE This first profile has been published in IEC 61142:1993 and became known as the Euridis standard.

- profile with DLMS: this profile allows using DLMS services as specified in IEC 61334-4-41;

  NOTE This second profile has been published in IEC 62056-31 Ed. 1.0:1999;

- profile with DLMS/COSEM: this profile allows using the DLMS/COSEM Application layer and the COSEM object model as specified in IEC 62056-5-3 Ed. 1.0:— and in IEC 62056-6-2 Ed. 1.0:— respectively.

The three profiles use the same physical layer and they are fully compatible, meaning that devices implementing any of these profiles can be operated on the same bus.

The transmission medium is twisted pair using carrier signalling and it is known as the Euridis Bus.

2 Normative references

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.

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

IEC 62056-51:1998 *Electricity Metering – Data exchange for meter reading, tariff and load control – Part 51: Application Layer Protocols*

IEC 62056-5-3 Ed. 1.0:—, *Electricity metering data exchange – The DLMS/COSEM suite – Part 5-3: DLMS/COSEM application layer*

ISO/IEC 8482:1993, *Information technology – Telecommunications and information exchange between systems – Twisted pair multipoint interconnections*

EIA 485 – *Standard for Electrical Characteristics of Generators and Receivers for Use in Balanced Digital Multipoint Systems*