BS EN 62056-3-1:2014

BSI Standards Publication

Electricity metering data exchange — The DLMS/ COSEM suite

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

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National foreword

This British Standard is the UK implementation of EN 62056-3-1:2014. It is identical to IEC 62056-3-1:2013. It supersedes BS EN 62056-31:2000 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/13, Electricity Meters.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2014

ISBN 978 0 580 72001 7
ICS 17.220; 35.110; 91.140.50

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2014.

Amendments/corrigenda issued since publication

Date	Text affected

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	-	-

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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*