

Electricity metering data exchange - The DLMS/COSEM suite - Part 8-5: Narrow-band OFDM G3-PLC communication profile for neighbourhood networks

EESTI STANDARDI EESSÕNA

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English Version

**Electricity metering data exchange - The DLMS/COSEM suite -
Part 8-5: Narrow-band OFDM G3-PLC communication profile for
neighbourhood networks
(IEC 62056-8-5:2017)**

Échange des données de comptage de l'électricité - La
suite DLMS/COSEM - Partie 8-5 : Profil de communication
OFDM G3-CPL à bande étroite pour les réseaux de
voisinage
(IEC 62056-8-5:2017)

Datenkommunikation der elektrischen Energiemessung -
DLMS/COSEM - Teil 8-5: Schmalband-OFDM-G3-PLC-
Kommunikationsprofil für Nachbarschaftsnetzwerke
(IEC 62056-8-5:2017)

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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

European foreword

The text of document 13/1708/CDV, future edition 1 of IEC 62056-8-5, prepared by IEC/TC 13 "Electrical energy measurement and control" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62056-8-5:2017.

The following dates are fixed:

- latest date by which the document has to be (dop) 2018-06-14
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standard or by endorsement
- latest date by which the national (dow) 2020-09-14
standards conflicting with the
document have to be withdrawn

This document supersedes CLC/TS 52056-8-5:2015.

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Endorsement notice

The text of the International Standard IEC 62056-8-5:2017 was approved by CENELEC as a European Standard without any modification.

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-300	-	International Electrotechnical Vocabulary - 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 instruments -- Part 314: Specific terms according to the type of instrument	-	-
IEC 62056-1-0	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-0: Smart metering standardisation framework	EN 62056-1-0	-
IEC 62056-4-7	2015	Electricity metering data exchange - The DLMS/COSEM suite -- Part 4-7: DLMS/COSEM transport layer for IP networks	EN 62056-4-7	2016
IEC 62056-5-3	2017	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes	EN 62056-5-3	2017
IEC 62056-6-1	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: Object Identification System (OBIS)	FprEN 62056-6-1	-
IEC 62056-6-2	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes	FprEN 62056-6-2	-
IEC 62056-9-7	2013	Electricity metering data exchange - The DLMS/COSEM suite -- Part 9-7: Communication profile for TCP-UDP/IP networks	EN 62056-9-7	2013
IEC/TR 62051	-	Electricity metering - Glossary of terms	-	-
IEC/TR 62051-1	-	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	-	-
IEEE 802.15.4	-	IEEE Standard for Low-Rate Wireless Networks	-	-
IETF RFC 2460	-	Internet Protocol - Version 6 (IPv6) - Specification	-	-
IETF RFC 4193	-	Unique Local IPv6 Unicast Addresses	-	-
IETF RFC 4291	-	IP Version 6 Addressing Architecture	-	-
IETF RFC 4861	-	Neighbor Discovery for IP version 6 (IPv6)	-	-
IETF RFC 4862	-	IPv6 Stateless Address Autoconfiguration	-	-
IETF RFC 4944	-	Transmission of IPv6 Packets over IEEE 802.15.4 Networks	-	-

IETF RFC 6282	-	Compression Format for IPv6 Datagrams over IEEE 802.15.4-Based Networks	-
IETF RFC 768	-	User Datagram Protocol	-
ITU-T G.9903	2014	SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS - Access networks - In premises networks - Narrow-band orthogonal frequency division multiplexing power line communication transceivers for G3-PLC networks	-

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INTRODUCTION

As defined in IEC 62056-1-0, the IEC 62056 DLMS/COSEM suite provides specific communication profile standards for communication media relevant for smart metering.

Such communication profile standards specify how the COSEM data model and the DLMS/COSEM application layer can be used on the lower, communication media-specific protocol layers.

Communication profile standards refer to communication standards that are part of the IEC 62056 DLMS/COSEM suite or to any other open communication standard.

This International Standard specifies the DLMS/COSEM communication profile for ITU-T G.9903:2014 PLC communication based on OFDM technology.

ITU-T G.9903 PLC is designed to meet the following aims:

- Robustness: the communication profile shall be suited to severe powerline environments (see 5.3.2);
- Performance and scalability: it embeds adaptive modulation to use the proper modulation according to the quality of the link (see 5.3.2) within dense environments (up to 2 000 nodes in the same PAN);
- Security: it shall offer a secure environment (see 7.4);
- Openness: it shall be based on open standards in order to support multi-supplier solutions (see Clause 5);
- Flexibility and future proof: it shall be able to support future applications through using IPv6 networking capabilities (see 5.3.4).

This standard follows the rules defined in IEC 62056-5-3:2017, Annex A.