ICS 17.220.20, 35.110, 91.140.50

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August 2019

STN	**Výmena údajov pri meraní elektrickej energie Súbor DLMS/COSEM Časť 8-4: Komunikačné profily pre úzkopásmové OFDM PLC PRIME susedné siete**	**STN EN IEC 62056-8-4** 35 6131

Electricity metering data exchange - the DLMS/COSEM suite - Part 8-4: Communication profiles for narrow-band OFDM PLC PRIME neighbourhood networks

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. 07/19

Obsahuje: EN IEC 62056-8-4:2019, IEC 62056-8-4:2018

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2019
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English Version

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Échange des données de comptage de l'électricité - la suite DLMS/COSEM - Partie 8-4: Profils de communication pour réseaux de voisinage OFDM PLC PRIME à bande étroite (IEC 62056-8-4:2018)

Datenkommunikation der elektrischen Energiemessung - DLMS/COSEM - Teil 8-4: Kommunikationsprofile für Schmalband-OFDM-PLC-PRIME-Nachbarschaftsnetzwerke (IEC 62056-8-4:2018)

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The text of document 13/1749/CDV, future edition 1 of IEC 62056-8-4, prepared by IEC/TC 13 "Electrical energy measurement and control" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62056-8-4:2019.

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) 2019-10-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-01-17

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IEC 61334-4-1:1996 NOTE Harmonized as EN 61334-4-1:1996 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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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 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 61334-4-511	2000	Distribution automation using distribution line carrier systems - Part 4-511: Data communication protocols - Systems management - CIASE protocol	EN 61334-4-511	2000
IEC 62056-1-0	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-0: Smart metering standardisation framework	EN 62056-1-0	-
IEC/TS 62056-1-1	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-1: Template for DLMS/COSEM communication profile standards	-	-
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 5-3: DLMS/COSEM application layer	EN 62056-5-3	2017
IEC 62056-6-1	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: Object Identification System (OBIS)	EN 62056-6-1	-
IEC 62056-6-2	2017	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes	EN IEC 62056-6-2	2018

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
ITU-T G.9904	2012	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 PRIME networks	-	-
STD 0005	-	Internet Protocol	-	-
STD 0006	-	User Datagram Protocol	-	-
STD 0007	-	Transmission Control Protocol	-	-
RFC 1144	-	Compressing TCP/IP Headers for Low-Speed Serial Links	-	-
RFC 2460	-	Internet Protocol, Version 6 (IPv6) Specification	-	-
RFC 2464	-	Transmission of IPv6 Packets over Ethernet Networks	-	-
RFC 3315	-	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	-	-
RFC 4291	-	IP Version 6 Addressing Architecture	-	-
RFC 4862	-	IPv6 Stateless Address Autoconfiguration	-	-
RFC 6282	-	Compression Format for IPv6 Datagrams over IEEE 802.15.4-Based Networks	-	-

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Échange des données de comptage de l'électricité – la suite DLMS/COSEM – Partie 8-4: Profils de communication pour réseaux de voisinage OFDM PLC PRIME à bande étroite

IEC 62056-8-4:2018-12(en-fr)

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Échange des données de comptage de l'électricité – la suite DLMS/COSEM – Partie 8-4: Profils de communication pour réseaux de voisinage OFDM PLC PRIME à bande étroite

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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 8-4: Communication profiles for narrow-band OFDM PLC PRIME neighbourhood networks

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www.prime-alliance.org.com

International Standard IEC 62056-8-4 has been prepared by IEC technical committee 13: Electrical energy measurement and control.

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

CDV	Report on voting
13/1749/CDV	13/1763/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all 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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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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 DLMS/COSEM communication profiles using Recommendation ITU-T G.9904:2012 *Narrow-band orthogonal frequency division multiplexing power line communication transceivers for PRIME networks*. It applies for devices installed on the neighbourhood network.

It follows the rules defined in IEC 62056-5-3:2017, Annex A, and in IEC 62056-1-0 and the IEC TS 62056-1-1 recommendations for its structure.

The communication profile specified in this document is based on the results of the European OPEN Meter project, Topic Energy 2008.7.1.1, Project no.: 226369, www.openmeter.com, and has been prepared by the PRIME Alliance Technical Working Group, www.prime-alliance.org.

ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 8-4: Communication profiles for narrow-band OFDM PLC PRIME neighbourhood networks

1 Scope

This part of IEC 62056 specifies DLMS/COSEM communication profiles for narrow-band OFDM power line carrier PRIME neighbourhood networks using the modulation as specified in Recommendation ITU-T G.9904:2012.

Three communication profiles are specified:

- a profile using the IEC 61334-4-32 LLC layer;
- a profile using TCP-UDP/IPv4;
- a profile using TCP-UDP/IPv6.

2 Normative references

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.

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)*

IEC 61334-4-511:2000, *Distribution automation using distribution line carrier systems – Part 4-511: Data communication protocols – Systems management – CIASE protocol*

IEC 62056-1-0, *Electricity metering data exchange – The DLMS/COSEM suite – Part 1-0: Smart metering standardization framework*

IEC TS 62056-1-1, *Electricity metering data exchange – The DLMS/COSEM suite – Part 1-1: Template for DLMS/COSEM communication profile standards*

IEC 62056-4-7:2015, *Electricity metering data exchange – The DLMS/COSEM suite – Part 4-7: DLMS/COSEM transport layer for IP networks*

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

Recommendation ITU-T G.9904:2012, *Series G: Transmission systems and media, digital systems and networks Access networks – In premises networks. Narrowband orthogonal frequency division multiplexing power line communication transceivers for PRIME networks*

STD0005 – Internet Protocol
Author: J. Postel
Date: September 1981
Also: RFC0791, RFC0792, RFC0919, RFC0922, RFC0950, RFC1112
Available from: http://www.ietf.org/rfc/rfc0791.txt

STD0006 – User Datagram Protocol
Author: J. Postel
Date: 28 August 1980
Also: RFC 768
Available from: http://www.ietf.org/rfc/rfc0768.txt

STD0007 – Transmission Control Protocol
Author: J. Postel
Date: September 1981
Available from: http://www.ietf.org/rfc/rfc0793.txt

RFC 1144, Compressing TCP/IP Headers for Low Speed serial Link
Author: V. Jabobson
Date: February 1990
Available from https://tools.ietf.org/rfc/rfc1144.txt

RFC 2460, Internet Protocol, Version 6 (IPv6) Specification
Authors: S. Deering, Cisco, R. Hinden Nokia
Date: December 1998
Available from: http://www.ietf.org/rfc/rfc2460.txt

RFC 2464, Transmission of IPv6 Packets over Ethernet Networks
Authors M. Crawford Fermilab
Date: December 1998
Available from: http://www.ietf.org/rfc/rfc2464.txt

RFC 3315, Dynamic Host Configuration Protocol for IPv6 (DHCPv6)
Authors R. Droms, E J. Bound, B. Volz, T. Lemon, C. Perkins, M. Carney
Date: July 2003
Available from: www.ietf.org/rfc/rfc3315.txt

RFC 4291, IP Version 6 Addressing Architecture
Authors R. Hinden Nokia, S. Deering Cisco Systems
Date: February 2006.
Available from: http://www.ietf.org/rfc/rfc4291.txt

RFC 4862, IPv6 Stateless Address Configuration
Authors S. Thomson, Cisco, T. Narten IBM, T. Jinmei, Toshiba
Date: September 2007.
Available from: www.ietf.org/rfc/rfc4862.txt

RFC 6282, Compression Format for IPv6 Datagrams over IEEE 802.15.4–Based Networks
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