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SIST EN 62056-7-5:2017

01-februar-2017

Izmenjava podatkov pri merjenju električne energije - Niz DLMS/COSEM - 7-5. del: Profili izmenjave podatkov za lokalne mreže (LN)

Electricity metering data exchange - The dlms/cosem suite - Part 7-5: Local data transmission profiles for Local Networks (LN)

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Échange des données de comptage de l'électricité - la suite dlms/cosem - partie 7-5: Profils de transmission de données locales pour réseaux locaux (LN)

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Ta slovenski standard je istoveten z: **EN 62056-7-5:2016**

ICS:

17.220.20	Merjenje električnih in magnetnih veličin	Measurement of electrical and magnetic quantities
35.100.05	Večslojne uporabniške rešitve	Multilayer applications
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN 62056-7-5:2017 **en**

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62056-7-5

December 2016

ICS 17.220.20; 35.100.01; 91.140.50

English Version

Electricity metering data exchange - The DLMS/COSEM suite - Part 7-5: Local data transmission profiles for Local Networks (LN) (IEC 62056-7-5:2016)

Échange des données de comptage de l'électricité - la suite DLMS/COSEM - partie 7-5: Profils de transmission de données locales pour réseaux locaux (LN) (IEC 62056-7-5:2016)

Datenkommunikation der elektrischen Energiemessung - DLMS/COSEM - Teil 7-5: Kommunikationsprofile zur lokalen Datenübertragung für lokale Netze (IEC 62056-7-5:2016)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 13/1605/CDV, future edition 1 of IEC 62056-7-5, 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 62056-7-5:2016.

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)	2017-06-09
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-12-09

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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 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 60950-1 (mod)	2005	Information technology equipment - Safety - Part 1: General requirements	EN 60950-1	2006
-	-		+ A11	2009
+ A1 (mod)	2009		+ A1	2010
-	-		+ A12	2011
-	-		+ AC	2011
+ A2 (mod)	2013		+ A2	2013
IEC 62052-31	-	Electricity metering equipment (AC) - General requirements, tests and test conditions - Part 31: Product safety requirements and tests	EN 62052-31	-
IEC 62056-1-0	-	Electricity metering data exchange - The DLMS/COSEM suite - Part 1-0: Smart metering standardisation framework	EN 62056-1-0	-
IEC 62056-3-1	2013	Electricity metering data exchange - The DLMS/COSEM suite -- Part 3-1: Use of local area networks on twisted pair with carrier signalling	EN 62056-3-1	2014
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	2015
IEC 62056-5-3	2016		EN 62056-5-3	2016
IEC 62056-6-1	2015	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-1: Object Identification System (OBIS)	EN 62056-6-1	2016
IEC 62056-6-2	2016	Electricity metering data exchange - The DLMS/COSEM suite - Part 6-2: COSEM interface classes	EN 62056-6-2	2016
IEC 62056-9-7	-	Electricity metering data exchange - The DLMS/COSEM suite -- Part 9-7: Communication profile for TCP-UDP/IP networks	EN 62056-9-7	-
IEC 62056-21	2002	Electricity metering - Data exchange for meter reading, tariff and load control -- Part 21: Direct local data exchange	EN 62056-21	2002

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IEC 62056-46	2002	Electricity metering - Data exchange for meter reading, tariff and load control -- Part 46: Data link layer using HDLC protocol	EN 62056-46	2002
+ A1	2006		+ A1	2007
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	-	-
ISO/IEC 13239	2002	Information technology - Telecommunications and information exchange between systems - High-level data link control (HDLC) procedures	-	-
	-	Communication systems for and remote reading of meters - Part 2: Physical and link layer	EN 13757-2	-

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IEC 62056-7-5

Edition 1.0 2016-05

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Electricity metering data exchange – The DLMS/COSEM suite – Part 7-5: Local data transmission profiles for Local Networks (LN)

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INTERNATIONALE

ICS 17.220.20; 35.100.01; 91.140.50

ISBN 978-2-8322-3326-9

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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 7-5: Local data transmission profiles for Local Networks (LN)

FOREWORD

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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:

DLMS User Association
Zug/Switzerland
www.dlms.com

International Standard IEC 62056-7-5 has been prepared by technical committee 13: Electrical energy measurement and control.

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

CDV	Report on voting
13/1605/CDV	13/1650/RVC

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

This publication 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 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

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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 for transmitting metering data modelled by COSEM interface objects through Local Data Transmission Interfaces (LDTI). The LDTI may be part of a meter or of a Local Network Access Point (LNAP) hosting a DLMS/COSEM server.

The specification of the communication profiles follows the rules defined in IEC 62056-5-3:2016, Annex A.

A major driver for the introduction of smart metering is to provide the consumer with suitable metering information to optimise his/her energy consumption and/or production. For that purpose, smart meters are equipped with local interfaces providing metering data for the consumer on consumer devices.

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IEC 62056-21 and IEC 62056-3-1 are communication standards that specify direct local data exchange and data exchange through local networks. They provide protocol modes that support the DLMS/COSEM application layer and thus the COSEM object model. They also specify legacy modes that do not support the DLMS/COSEM application layer.

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In order to allow connecting legacy consumer equipment to the LDTI, this International Standard also specifies communication profiles using protocol modes that do not support the DLMS/COSEM application layer.

It is assumed, however, that in all cases the metering application is modelled by COSEM interface objects.

It is also assumed that the meter has interfaces that fully support DLMS/COSEM and allow the configuration of the local data transmission interface by a DLMS/COSEM client.

The requirements on the physical type of the interface, the choice of the data transmitted and the transmitting pattern highly depends on the markets and projects the meter is designed for.