NEMA Standards Publication

ANSI C12-IEC 62056-9-7 ED1.0

American National Standard for Electricity Metering Data Exchange – THE DLMS/COSEM SUITE- Communication Profile for TCP-UDP/IP Networks

National Electrical Manufacturers Association

National Electrical Manufacturers Association
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FOREWORD FOR U.S. ADOPTION

This American National Standard is an adoption of IEC 62056-9-7 Ed.1.0 *Electricity Metering Data Exchange – THE DLMS/COSEM SUITE- Communication Profile for TCP-UDP/IP Networks*. Any reference in this standard to an IEC 62056 part is understood to mean a reference to the equivalent ANSI/IEC 62056 part, where it exists.

This standard contains all the original text from IEC 62056-9-7 Ed.1.0 without change.

Suggestions for the improvement of this standard are welcome and should be submitted to:

Vice President, Technical Services
National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
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This standard was processed and approved by committee of interested stakeholders as required by ANSI for adoption. In this particular situation, all committee members voted for its approval. At the time this standard was approved, the committee consisted of the following members:

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General Interest			
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ERCOT	D. Tucker	Power Measurements, LLC	W. Hardy
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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 9-7: Communication profile for TCP-UDP/IP networks

FOREWORD

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The IEC takes no position concerning the evidence, validity and scope of this maintenance service.

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[1] User Association
Zug/Switzerland
www.dlms.ch

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1 Device Language Message Specification.

International Standard IEC 62056-9-7 has been prepared by IEC technical committee 13: Electrical energy measurement, tariff- and load control.

It is based on IEC 62056-53 Ed.2:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 53: COSEM application layer*, Annex B.3, *The TCP-UDP/IP based communication profiles (COSEM_on_IP)* and introduces the following significant technical changes:

NOTE Whereas IEC 62056-53 Ed. 2.0 contains the specification of the DLMS/COSEM communication profiles, IEC 62056-5-3 Ed.1.0 replacing the earlier edition does not.

- The title of the standard has been aligned with the title of other parts of the revised IEC 62056 series;
- Clause 4, *Targeted communication environments* has been extended, a functional reference architecture figure has been added;
- Clause 5, *The structure of the profile(s)* has been extended, the Figure has been generalized and simplified;
- In clause 6, *Identification and addressing scheme,* the port number assigned by the IANA for DLMS/COSEM has been added;
- In subclause 9.1, two paragraphs specifying how confirmed and unconfirmed COSEM-OPEN and xDLMS service invocations have been added;
- Subclause 9.6, *Transporting long messages,* has been amended. It specifies now that for transporting long messages, application layer block transfer can be used (also available now with SN referencing);
- The clause on Multi-drop configurations has been removed.

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

FDIS	Report on voting
13/1520/FDIS	13/1537/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, under the general title *Electricity metering data exchange – The DLMS/COSEM suite*, can be found on the IEC website.

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.

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ELECTRICITY METERING DATA EXCHANGE – THE DLMS/COSEM SUITE –

Part 9-7: Communication profile for TCP-UDP/IP networks

1 Scope

This part of IEC 62056 specifies the DLMS/COSEM communication profile for TCP-UDP/IP networks.

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 62056-47:2006, *Electricity metering – Data exchange for meter reading, tariff and load control – Part 47: COSEM transport layer for IPv4 networks*

IEC 62056-5-3:2013, *Electricity metering data exchange – The DLMS/COSEM suite – Part 5-3: DLMS/COSEM application layer*

NOTE See also the Bibliography.

3 Terms, definitions and abbreviations

For the purposes of this document, the following terms, definitions and abbreviations apply.

3.1 Terms and definitions

3.1.1
client
a station, asking for services. Normally the master station

3.1.2
server
a station, delivering services. The tariff device (meter) is normally the server, delivering the requested values or executing the requested tasks

3.2 Abbreviations

AA	Application Association
AARE	A-Associate Response – an APDU of the ACSE
AARQ	A-Associate Request – an APDU of the ACSE
ACSE	Association Control Service Element
AL	Application Layer
AP	Application Process