BS EN IEC 62325-503:2018

BSI Standards Publication

Framework for energy market communications

Part 503: Market data exchanges guidelines for the IEC 62325-351 profile (IEC 62325-503:2018)

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 62325-503:2018. It is identical to IEC 62325-503:2018. It supersedes PD IEC/TS 62325-503:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/57, Power systems management and associated information exchange.

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.

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

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EUROPEAN STANDARD

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English Version

Framework for energy market communications - Part 503: Market data exchanges guidelines for the IEC 62325-351 profile (IEC 62325-503:2018)

Cadre pour les communications pour le marché de l'énergie - Partie 503: Lignes directrices concernant les échanges de données du marché pour le profil défini dans l'IEC 62325-351
(IEC 62325-503:2018)

Kommunikation im Energiemarkt - Teil 503: Richtlinien zum Austausch von Marktdaten für das Profil der IEC 62325-351
(IEC 62325-503:2018)

This European Standard was approved by CENELEC on 2018-08-30. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 57/1936/CDV, future edition 1 of IEC 62325-503, prepared by IEC/TC 57 "Power systems management and associated information exchange" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62325-503:2018.

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)	2019-05-30
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-08-30

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62325-503:2018 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 Where 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 TS 61970-2	-	Energy management system application program interface (EMS-API) - Part 2: Glossary	-	-
ISO/IEC 9594-8	2017	Information technology - Open Systems Interconnection - The Directory - Part 8: Public-key and attribute certificate frameworks	-	-
ISO/IEC 19464:2014	2014	Information technology - Advanced Message Queuing Protocol (AMQP) v1.0 specification	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 503: Market data exchanges guidelines for the IEC 62325-351 profile

FOREWORD

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International Standard IEC 62325-503 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

This edition cancels and replaces IEC TS 62325-503 published in 2014.

This edition includes the following significant technical changes with respect to the previous edition:

a) Use of ISO/IEC 19464:2014, Advanced Message Queuing Protocol (AMQP) v1.0 specification;
b) Splitting of the node described in the IEC TS 62325-503:2014 into a broker that implements the messaging function and a directory;
c) Increase of operability and resilience of the communication system with the ability for an endpoint to send and receive messages through several brokers;
d) Benefits of standardisation, performance and scalability of the AMQP protocol for transferring messages.

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

CDV	Report on voting
57/1936/CDV	57/1983/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.

In this document, the following print types are used:

Help the visibility of information in table and diagram: in italic type

A list of all parts in the IEC 62325 series, published under the general title *Framework for energy market communications*, 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours, which are considered useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document is part of the IEC 62325 series for deregulated energy market communications.

The principal objective of the IEC 62325 series is to produce documents which facilitate the integration of market application software developed independently by different vendors into a market management system, between market management systems and market participant systems. This is accomplished by defining message exchanges to enable these applications or systems access to public data and exchange information independent of how such information is represented internally.

The common information model (CIM) specifies the basis for the semantics for the message exchange. The European style market profile specifications that support the European style design electricity markets are defined in IEC 62325-351. These electricity markets are based on the European regulations, and on the concepts of third party access and zonal markets. The IEC 62325-451-n International documents specify the content of the messages exchanged.

The purpose of this document is to provide the guidelines to exchange the above-mentioned messages. A European market participant (trader, distribution utilities, etc.) could benefit from a single, common, harmonised, secure platform for message exchange with the European Transmission System Operators (TSOs); thus reducing the cost of building different IT platforms to interface with all the parties involved.

This document represents an important step in facilitating parties entering into electricity markets other than their national ones; they could use the same or similar information exchange system to participate in more than one market all over Europe.

This document was originally based upon the work of the European Network of Transmission System Operators (ENTSO-E) Working Group EDI.

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 503: Market data exchanges guidelines for the IEC 62325-351 profile

1 Scope

This part of IEC 62325 is for European electricity markets.

This document specifies a standard for a communication platform which every Transmission System Operator (TSO) in Europe can use to exchange reliably and securely documents for the energy market. Consequently a European market participant (TSO, regional supervision centre, distribution utility, power exchange, etc.) could benefit from a single, common, harmonised and secure platform for message exchange with other participants; thus, reducing the cost of building different information technology (IT) platforms to interface with all the parties involved.

“MADES” (MArket Data Exchange Standard) is the acronym to designate this standard.

MADES is a specification for a decentralised common communication platform based on international IT standards:

- From an application program perspective, MADES specifies the software interfaces to exchange electronic documents with peer applications. Such interfaces mainly provide means to send and receive documents using a so-called “MADES communication system” (or "MADES system" or simply "system"). The sender can request about the status of the delivery of a document and the recipient issues a message back, the acknowledgement, when receiving the document. This makes a MADES system usable for exchanging documents in business processes requiring a reliable delivery.
- MADES also specifies services hidden to the applications such as recipient localisation, recipient connection status, message routing and security. Services include directory, authentication, signing, encryption, message tracking, message logging and message temporary storage.

The purpose of MADES is to create a secured message exchange standard based on standard communication protocols and utilising IT best practices for exchanging data over any TCP/IP communication network, in order to facilitate business-to-business (B2B) information exchanges as described in IEC 62325-351 and the IEC 62325-451 series.

A MADES system acts as a post-office organisation: the transported object is a “message” in which the document of the sender is securely packaged in an envelope containing metadata, which is necessary information for transportation, tracking and delivery.

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 TS 61970-2, *Energy management system application program interface (EMS-API) – Part 2: Glossary*