Irish Standard
I.S. EN 62325-451-4:2017

Framework for energy market communications - Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

I.S. EN 62325-451-4:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 62325-451-4:2017 is the adopted Irish version of the European Document EN 62325-451-4:2017, Framework for energy market communications - Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62325-451-4

July 2017

ICS 33.200

Supersedes EN 62325-451-4:2015

English Version

Framework for energy market communications - Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market (IEC 62325-451-4:2017)

Cadre pour les communications pour le marché de l'énergie - Partie 451-4: Processus métier de règlement des écarts et de réconciliation, modèles contextuels et modèles d'assemblage pour le marché européen (IEC 62325-451-4:2017)

Kommunikation im Energiemarkt - Teil 451-4: Abwicklungs- und Abstimmungsgeschäftsprozesse, kontextbezogene Modelle und Einbindungsmodelle für den europäischen Markt (IEC 62325-451-4:2017)

This European Standard was approved by CENELEC on 2017-05-16. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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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 57/1737/CDV, future edition 2 of IEC 62325-451-4, 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 62325-451-4:2017.

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)	2018-02-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-05-16

This document supersedes EN 62325-451-4:2015.

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 62325-451-4:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61968-11	NOTE	Harmonized as EN 61968-11.
IEC 61970-301	NOTE	Harmonized as EN 61970-301.

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/TS 61970-2	-	Energy management system application program interface (EMS-API) - Part 2: Glossary	CLC/TS 61970-2	-
IEC 62325-301	-	Framework for energy market communications - Part 301: Common information model (CIM) extensions for markets	EN 62325-301	-
IEC 62325-351	-	Framework for energy market communications - Part 351: CIM European market model exchange profile	EN 62325-351	-
IEC 62325-450	2013	Framework for energy market communications - Part 450: Profile and context modelling rules	EN 62325-450	2013
IEC 62325-451-1	-	Framework for energy market communications - Part 451-1: Acknowledgement business process and contextual model for CIM European market	EN 62325-451-1	-
IEC 62325-451-2	-	Framework for energy market communications - Part 451-2: Scheduling business process and contextual models for European market	EN 62325-451-2	-
IEC 62361-100	-	Power systems management and associated information exchange - Interoperability in the long term - Part 100: CIM profiles to XML schema mapping	EN 62361-100	-

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IEC 62325-451-4

Edition 2.0 2017-04

INTERNATIONAL STANDARD

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Framework for energy market communications – Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

IEC 62325-451-4:2017-04(en)

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INTERNATIONAL STANDARD

Framework for energy market communications – Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62325-451-4 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

a) Removal of the attributes “quantity” and “secondary quantity” of the class “Point”;
b) Introduction of the class “Quantity” from IEC 62351-351 UML package, with the following attributes “quantity” as mandatory and “quality” as optional, and create two association 1..1 between the class “Quantity” and the class “Point” with the role “In_Quantity” and “Out_Quantity”.

c) Introduction of the class “Reason” from IEC 62351-351 UML package, with the following attributes “code” as mandatory and “text” as optional, and create an association 0..* from the class “Reason” to the class “Point” with the role “Reason”.

The text of this International Standard is based on the following documents:

CDV	Report on voting
57/1737/CDV	57/1804/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 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.

A bilingual version of this publication may be issued at a later date.

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

INTRODUCTION

This standard is one of the IEC 62325 series which define protocols for deregulated energy market communications.

The principal objective of the IEC 62325 series is to produce standards 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 this message exchange.

The European style market profile (ESMP) is based on different parts of the CIM IEC standard. The CIM is defined through a series of standards, i.e. IEC 62325-301, IEC 61970-301 and IEC 61968-11.

This document provides the settlement and reconciliation business process that can be used throughout a European style market. This standard was originally based upon the work of the European Transmission System Operators (ETSO) Task Force EDI (Electronic Data Interchange) and then on the work of the European Network of Transmission System Operators (ENTSO-E) Working Group EDI.

This document describes the settlement and reconciliation process for wholesale markets; it is brought to the attention of the reader that it is envisaged to initiate work on a combined reconciliation process for retail and wholesale markets.

FRAMEWORK FOR ENERGY MARKET COMMUNICATIONS –

Part 451-4: Settlement and reconciliation business process, contextual and assembly models for European market

1 Scope

Based on the European style market profile (ESMP) (IEC 62325-351), this part of IEC 62325-451 specifies a package for the settlement and reconciliation business process and the associated document contextual model, assembly model and XML schema for use within European style markets.

The relevant aggregate core components (ACCs) defined in IEC 62325-351 have been contextualised into aggregated business information entities (ABIEs) to satisfy the requirements of this business process. The contextualised ABIEs have been assembled into the relevant document contextual models. Related assembly models and XML schema for the exchange of information between market participants are automatically generated from the assembled document contextual models.

This part of IEC 62325 provides a uniform layout for the transmission of aggregated data in order to settle the electricity market. It is however not the purpose of this document to define the formula to be taken into account to settle or reconcile a market. The purpose of this document is only to enable the information exchange necessary to carry out the computation of settlement and reconciliation.

The settlement process or reconciliation process is the way to compute the final position of each market participant as well as its imbalance amounts.

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*

IEC 62325-301, *Framework for energy market communications – Part 301: Common information model (CIM) extensions for markets*

IEC 62325-351, *Framework for energy market communications – Part 351: CIM European market model exchange profile*

IEC 62325-450:2013, *Framework for energy market communications – Part 450: Profile and context modelling rules*

IEC 62325-451-1, *Framework for energy market communications – Part 451-1: Acknowledgement business process and contextual model for CIM European market*

IEC 62325-451-2, *Framework for energy market communications – Part 451-2: Scheduling business process and contextual model for CIM European market*

IEC 62361-100, *Power systems management and associated information exchange – Interoperability in the long term – Part 100: CIM profiles to XML schema mapping*