SLOVENSKI STANDARD
SIST EN 61970-456:2013/A1:2016

01-marec-2016

Programski vmesnik za sistem za upravljanje energije (EMS-API) - 456. del: Profili stanja sproščenega elektroenergetskega sistema - Dopolnilo A1

Energy management system application program interface (EMS-API) - Part 456: Solved power system state profiles

Ta slovenski standard je istoveten z: EN 61970-456:2013/A1:2016

ICS:

29.240.30	Krmilna oprema za elektroenergetske sisteme	Control equipment for electric power systems
35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment

SIST EN 61970-456:2013/A1:2016 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61970-456:2013/A1

January 2016

ICS 33.200

English Version

Energy management system application program interface (EMS-API) - Part 456: Solved power system state profiles (IEC 61970-456:2013/A1:2015)

Interface de programmation d'application pour système de gestion d'énergie (EMS-API) - Partie 456: Profils d'état de réseaux électriques résolus (IEC 61970-456:2013/A1:2015)

Schnittstelle für Anwendungsprogramme für Netzführungssysteme (EMS-API) - Teil 456: Globale Stabilitätsbeurteilung in elektrischen Versorgungssystemen (IEC 61970-456:2013/A1:2015)

This amendment A1 modifies the European Standard EN 61970-456:2013; it was approved by CENELEC on 2015-11-03. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 57/1591/FDIS, future edition 1 of IEC 61970-456:2013/A1, 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 61970-456:2013/A1:2016.

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)	2016-08-03
–	latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-11-03

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

Endorsement notice

The text of the International Standard IEC 61970-456:2013/A1:2015 was approved by CENELEC as a European Standard without any modification.

IEC 61970-456

Edition 1.0 2015-09

INTERNATIONAL STANDARD

AMENDMENT 1

Energy management system application program interface (EMS-API) – Part 456: Solved power system state profiles

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 33.200

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FOREWORD

This amendment has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

IEC 61970-456:2013 is based on IEC 61970-301 Edition 4 (2013). Both are based on the 61970 UML version CIM14. The amendment is based on IEC 61970-301 Edition 5 (2013) and the 61970 UML version CIM15.

For the Topology profile this amendment includes the following changes with respect to the previous edition:

a) The classes Name and NameType classes have been added.

b) The class TopologicalNode has been extended with the role ConnectivityNodeContainer.

c) The attribute IdentifiedObject.description has been removed.

For the StateVariables profile this edition includes the following changes with respect to the previous edition:

a) The role TopologicalIsland.ToplogicalNodes has been replaced by ToplogicalNode.TopologicalIsland.

b) The documentation of attributes SvPowerFlow.p and SvPowerFlow.q has been updated.

c) The attribute SvShuntCompensatorSections.sections has been changed from Integer to Float.

d) The attribute SvShuntCompensatorSections.continuousSections is removed.

e) The attribute SvTapStep.position is changed from Integer to Float.

f) The attribute SvTapStep.continuousPosition is removed.

g) The attribute SvVoltage.angle is changed from radians to degrees.

h) The data types have been elaborated.

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

FDIS	Report on voting
57/1591/FDIS	57/1620/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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.

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

3 Profile information

Replace, in the first paragraph, "UML version CIM14v14" *by* "UML version CIM15v33".

Replace the existing Table 1 by the following new Table 1.

Name	Version	URI	Revision date
Topology	2	http://iec.ch/TC57/2011/61970-456/Topology/CIM15/2	2011-09-09
StateVariables	2	http://iec.ch/TC57/2011/61970-456/StateVariables/CIM15/2	2011-09-09

9 Topology profile

9.1 General

Remove the second paragraph: "Profile namespace: http://iec.ch/TC57/61970-456/Topology/CIM14/1#".

9.2.2 TopologicalNode

Add the following row at the end of the table "Native members":

ConnectivityNodeContainer	1..1	ConnectivityNodeContainer	The connectivity node container to which the topological node belongs.

Remove the first row "description" *from the table "Inherited members".*

Add the following new Subclauses 9.2.3 and 9.2.4 after Subclause 9.2.2:

9.2.3 Name

Core package

The Name class provides the means to define any number of human readable names for an object. A name is not to be used for defining inter-object relationships. For inter-object relationships instead use the object identification 'mRID'.

Native members

name	1..1	string	Any free text that names the object.
IdentifiedObject	1..1	IdentifiedObject	Identified object that this name designates.
NameType	1..1	NameType	Type of this name.

9.2.4 NameType

Core package

Type of name. Possible values for attribute 'name' are implementation dependent but standard profiles may specify types. An enterprise may have multiple IT systems each having its own local name for the same object, e.g. a planning system may have different names from an EMS. An object may also have different names within the same IT system, e.g. localName and aliasName as defined in CIM version 14. Their definitions from CIM14 are as follows:

The localName is a human readable name of the object. It is only used with objects organized in a naming hierarchy. localName: A free text name local to a node in a naming hierarchy similar to a file directory structure. A power system related naming hierarchy may be: Substation, VoltageLevel, Equipment etc. Children of the same parent in such a hierarchy have names that typically are unique among them.

aliasName: A free text alternate name typically used in tabular reports where the column width is limited.

9.3 Abstract classes – IdentifiedObject

Remove the first row "description" *from the table* "Native members".

10.1 General

Remove the second paragraph "Profile namespace: http://iec.ch/TC57/61970-456/StateVariables/CIM14/1#".

10.2.1 TopologicalIsland

Remove the second row "TopologicalNodes" *from the table* "Native members".

Remove the first row "description" *from the table* "Inherited members".

10.2.3 SvPowerFlow

Replace the existing text in the first row "p", fourth column in the table "Native members" *by the following new text:*

The active power flow. Load sign convention is used, i.e. positive sign means flow out from a node.

Replace the existing text in the second row "q"*, fourth column in the table* "Native members" *by the following new text:*

The reactive power flow. Load sign convention is used, i.e. positive sign means flow out from a node.

10.2.5 SvShuntCompensatorSections

Remove the first row "continuousSections" *from the table* "Native members".

Replace the existing text in the second row "sections"*, third column in the table* "Native members" *with the following new text:*

float

10.2.6 SvTapStep

Remove the first row "continuousPosition" *from the table* "Native members".

Replace the existing text in the second row "position", third column in the table "Native members" *with the following new text:*

float

10.2.7 SvVoltage

Replace the existing text in the first row "angle", *third column in the table* "Native members" *with the following next text:*

AngleDegrees

Add the following new Subclause 10.2.8 after Subclause 10.2.7:

10.2.8 TopologicalNode

Topology Package

For documentation of TopologicalNode refer to 9.2.2.

Native Members

TopologicalIsland	1..1	TopologicalIsland	A topological node belongs to a topological island.

Replace the existing text of 10.3.2 to 10.3.6 with the following new text:

10.3.2 ActivePower

Product of RMS value of the voltage and the RMS value of the in-phase component of the current

Native attributes

Value (Float)
Units (UnitSymbol=W)
Multiplier (UnitMultiplier=M)

10.3.3 AngleDegrees

Measurement of angle in degrees.

Native attributes

Value (Float)
units (UnitSymbol=deg)
multiplier (UnitMultiplier=none)

10.3.4 ApparentPower

Product of the RMS value of the voltage and the RMS value of the current

Native attributes

Value (Float)
Units (UnitSymbol=VA)
Multiplier (UnitMultiplier=M)

10.3.5 ReactivePower

Product of RMS value of the voltage and the RMS value of the quadrature component of the current.