SLOVENSKI STANDARD
SIST EN 61850-7-1:2012

01-januar-2012

Komunikacijska omrežja in sistemi za avtomatizacijo porabe (električne) energije - 7-1. del: Osnovna komunikacijska struktura - Načela in modeli

Communication networks and systems for power utility automation - Part 7-1: Basic communication structure - Principles and models

Kommunikationsnetze und -systeme für die Automatisierung in der elektrischen Energieversorgung -- Teil 7-1: Grundlegende Kommunikationsstruktur - Grundsätze und Modelle

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques -- Partie 7-1: Structure de communication de base - Principes et modèles

Ta slovenski standard je istoveten z: **EN 61850-7-1:2011**

ICS:

29.240.30	Krmilna oprema za elektroenergetske sisteme	Control equipment for electric power systems
33.200	Daljinsko krmiljenje, daljinske meritve (telemetrija)	Telecontrol. Telemetering

SIST EN 61850-7-1:2012 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61850-7-1

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Supersedes EN 61850-7-1:2003

English version

Communication networks and systems for power utility automation - Part 7-1: Basic communication structure - Principles and models

(IEC 61850-7-1:2011)

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques -
Partie 7-1: Structure de communication de base -
Principes et modèles
(CEI 61850-7-1:2011)

Kommunikationsnetze und -systeme für die Automatisierung in der elektrischen Energieversorgung -
Teil 7-1: Grundlegende Kommunikationsstruktur -
Grundsätze und Modelle
(IEC 61850-7-1:2011)

This European Standard was approved by CENELEC on 2011-08-19. 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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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 57/1121/FDIS, future edition 2 of IEC 61850-7-1, 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 61850-7-1:2011.

This document supersedes EN 61850-7-1:2003.

Compared to EN 61850-7-1:2003, EN 61850-7-1:2011 introduces:

- the model for statistical and historical statistical data,
- the concepts of proxies, gateways, LD hierarchy and LN inputs,
- the model for time synchronisation,
- the concepts behind different testing facilities,
- the extended logging function.

EN 61850-7-1:2011 also clarifies the following points:

- the use of numbers for data extension,
- the use of name spaces,
- the mode and behaviour of a logical node,
- the use of range and deadbanded values,
- the access to control actions and others.

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)	2012-05-19
– latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2014-08-19

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 61850-7-1:2011 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 61346-1	NOTE Harmonized as EN 61346-1.
IEC 61346-2	NOTE Harmonized as EN 61346-2.
IEC 61400 series	NOTE Harmonized in EN 61400 series (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC/TS 61850-2	-	Communication networks and systems in substations - Part 2: Glossary	-	-
IEC 61850-3	-	Communication networks and systems in substations - Part 3: General requirements	EN 61850-3	-
IEC 61850-4	-	Communication networks and systems for power utility automation - Part 4: System and project management	EN 61850-4	-
IEC 61850-5	-	Communication networks and systems in substations - Part 5: Communication requirements for functions and device models	EN 61850-5	-
IEC 61850-6	-	Communication networks and systems for power utility automation - Part 6: Configuration description language for communication in electrical substations related to IEDs	EN 61850-6	-
IEC 61850-7-2	-	Communication networks and systems for power utility automation - Part 7-2: Basic information and communication structure - Abstract communication service interface (ACSI)	EN 61850-7-2	-
IEC 61850-7-3	-	Communication networks and systems for power utility automation - Part 7-3: Basic communication structure - Common data classes	EN 61850-7-3	-
IEC 61850-7-4	-	Communication networks and systems for power utility automation - Part 7-4: Basic communication structure - Compatible logical node classes and data object classes	EN 61850-7-4	-
IEC 61850-8-1	-	Communication networks and systems for power utility automation - Part 8-1: Specific Communication Service Mapping (SCSM) - Mappings to MMS (ISO 9506-1 and ISO 9506-2) and to ISO/IEC 8802-3	EN 61850-8-1	-

Publication	Year	Title	EN/HD	Year
IEC 61850-9-2	-	Communication networks and systems in substations - Part 9-2: Specific Communication Service Mapping (SCSM) - Sampled values over ISO/IEC 8802-3	EN 61850-9-2	-
IEC 61850-10	-	Communication networks and systems in substations - Part 10: Conformance testing	EN 61850-10	-
ISO/IEC 8802-3	-	Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications	-	-
ISO/IEC 8825	Series	Information technology - ASN.1 encoding rules	-	-
ISO 9506-1	-	Industrial automation systems - Manufacturing Message Specification - Part 1: Service definition	-	-
ISO 9506-2	-	Industrial automation systems - Manufacturing Message Specification - Part 2: Protocol specification	-	-

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colour inside

Communication networks and systems for power utility automation – Part 7-1: Basic communication structure – Principles and models

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques – Partie 7-1: Structure de communication de base – Principes et modèles

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

Part 7-1: Basic communication structure – Principles and models

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 61850-7-1 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

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

FDIS	Report on voting
57/1121/FDIS	57/1145/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.

This second edition cancels and replaces the first edition published in 2003. This second edition constitutes a technical revision.

Compared to the first edition, this second edition introduces:

- the model for statistical and historical statistical data,
- the concepts of proxies, gateways, LD hierarchy and LN inputs,
- the model for time synchronisation,
- the concepts behind different testing facilities,
- the extended logging function.

It also clarifies the following points:

- the use of numbers for data extension,
- the use of name spaces,
- the mode and behaviour of a logical node,
- the use of range and deadbanded values,
- the access to control actions and others.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61850 series, under the general title: *Communication networks and systems for power utility automation* 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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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