SLOVENSKI STANDARD
SIST EN 61850-4:2011

01-september-2011

Komunikacijska omrežja in sistemi za avtomatizacijo porabe električne energije - 4. del: Sistemsko in projektno upravljanje

Communication networks and systems for power utility automation - Part 4: System and project management

Kommunikationsnetze und -systeme in Stationen - Teil 4: System- und Projektverwaltung

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques - Partie 4: Gestion du système et gestion de projet

Ta slovenski standard je istoveten z: **EN 61850-4:2011**

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 61850-4:2011 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61850-4

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ICS 33.200

Supersedes EN 61850-4:2002

English version

Communication networks and systems for power utility automation - Part 4: System and project management

(IEC 61850-4:2011)

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques -
Partie 4: Gestion du système et gestion de projet
(CEI 61850-4:2011)

Kommunikationsnetze und -systeme in Stationen -
Teil 4: System- und Projektverwaltung
(IEC 61850-4:2011)

This European Standard was approved by CENELEC on 2011-05-16. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61850-4:2011 E

Foreword

The text of document 57/1103/FDIS, future edition 2 of IEC 61850-4, prepared by IEC TC 57, Power systems management and associated information exchange, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61850-4 on 2011-05-16.

This European Standard supersedes EN 61850-4:2002.

It constitutes a technical revision to align the document more closely with the other parts of the EN 61850 series, in addition to enlarging the scope from substation automation systems to all utility automation systems.

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

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-02-16
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-05-16

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61850-4:2011 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 61850-10	NOTE	Harmonized as EN 61850-10.
ISO 9001:2008	NOTE	Harmonized as EN ISO 9001:2008 (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 60848	-	GRAFCET specification language for sequential function charts	EN 60848	-
IEC 61082	Series	Preparation of documents used in electrotechnology	EN 61082	Series
IEC 61175	-	Industrial systems, installations and equipment and industrial products - Designation of signals	EN 61175	-
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	Series	Communication networks and systems for power utility automation - Part 7: Basic information and communication structure	EN 61850-7	Series
IEC 81346	Series	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations	EN 81346	Series
IEC 81346-1	-	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 1: Basic rules	EN 81346-1	-
IEC 81346-2	-	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes	EN 81346-2	-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Communication networks and systems for power utility automation –
Part 4: System and project management

Réseaux et systèmes de communication pour l'automatisation des systèmes électriques –
Partie 4: Gestion du système et gestion de projet

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

Part 4: System and project management

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 61850-4 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 2002. It constitutes a technical revision to align the document more closely with the other parts of the IEC 61850 series, in addition to enlarging the scope from substation automation systems to all utility automation systems.

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

FDIS	Report on voting
57/1103/FDIS	57/1122/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 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.

COMMUNICATION NETWORKS AND SYSTEMS FOR POWER UTILITY AUTOMATION –

Part 4: System and project management

1 Scope

This part of IEC 61850 applies to projects associated with process near automation systems of power utilities (UAS, utility automation system), like e.g. substation automation systems (SAS). It defines the system and project management for UAS systems with communication between intelligent electronic devices (IEDs) in the substation respective plant and the related system requirements.

The specifications of this part pertain to the system and project management with respect to:

– the engineering process and its supporting tools;
– the life cycle of the overall system and its IEDs;
– the quality assurance beginning with the development stage and ending with discontinuation and decommissioning of the UAS and its IEDs.

The requirements of the system and project management process and of special supporting tools for engineering and testing are described.

2 Normative references

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.

IEC 60848, *GRAFCET specification language for sequential function charts*

IEC 61082 (all parts), *Preparation of documents used in electrotechnology*

IEC 61175, *Industrial systems, installations and equipment and industrial products – Designation of signals*

IEC 61850-6, *Communication networks and systems for power utility automation – Part 6: Configuration description language for communication in electrical substations related to IEDs*

IEC 61850-7 (all parts), *Communication networks and systems for power utility automation – Part 7: Basic communication structure*

IEC 81346 (all parts), *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations*

IEC 81346-1, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules*

IEC 81346-2, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 2: Classification of objects and codes for classes*

3 Terms and definitions

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

3.1
supporting tools
those tools that support the user in the engineering, the operation and the management of the UAS and its IEDs

NOTE These tools are usually a part of the UAS.

3.1.1
engineering tools
tools that support the creation and documentation of the conditions for adapting an automation system to the specific plant (substation) and customer requirements

NOTE Engineering tools are divided into project management, configuration and documentation tools.

3.1.2
system specification tools
tools used to create a system requirement specification including the relation of system functions to the plant/substation to be managed; especially a tool creating a specification in a formally defined, standardized format for evaluation by other tools

3.1.3
system configuration tools
tools handling the communication between the IEDs in the system, configuration of issues common for several IEDs, and the logical association of the IED's functions to the process to be controlled and supervised

NOTE See also "system parameters".

3.1.4
IED configuration tools
tools handling the specific configuration and download of configuration data to a specific IED of a specific type

3.2
expandability
criteria for the efficient extension of an automation system (hardware and functional) by use of the engineering tools

3.3
flexibility
criteria for the fast and efficient implementation of functional changes including hardware

3.4
scalability
criteria for a cost effective system while recognizing various functionalities, various IEDs, substation sizes and substation voltage ranges

3.5
parameters
variables which define the behaviour of functions of the automation system and its IEDs within a given range of values