SLOVENSKI STANDARD
SIST EN 61850-4:2004

01-maj-2004

Communication networks and systems in substations - Part 4: System and project management (IEC 61850-4:2002)

Communication networks and systems in substations -- Part 4: System and project management

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

Réseaux et systèmes de communication dans les postes -- Partie 4: Gestion du système et gestion de projet

Ta slovenski standard je istoveten z: EN 61850-4:2002

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 61850-4:2004   **en**

iTeh STANDARD PREVIEW

(standards.iteh.ai)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61850-4

March 2002

ICS 33.200

English version

Communication networks and systems in substations
Part 4: System and project management
(IEC 61850-4:2002)

Réseaux et systèmes de communication
dans les postes
Partie 4: Gestion du système
et gestion de projet
(CEI 61850-4:2002)

Kommunikationsnetze und -systeme
in Stationen
Teil 4: System- und Projektverwaltung
(IEC 61850-4:2002)

iTeh STANDARD PREVIEW

(standards.iteh.ai)

This European Standard was approved by CENELEC on 2002-03-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61850-4:2002 E

EN 61850-4:2002   - 2 -

Foreword

The text of document 57/558/FDIS, future edition 1 of IEC 61850-4, prepared by IEC TC 57, Power system control and associated communications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61850-4 on 2002-03-01.

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)   2002-12-01

– latest date by which the national standards conflicting
  with the EN have to be withdrawn   (dow)   2005-03-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annexes A and B are informative.
Annex ZA has been added by CENELEC.

_____

Endorsement notice

The text of the International Standard IEC 61850-4:2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications
with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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	1988	Preparation of function charts for control systems (Corrigendum 1990)	-	-
IEC 61082	Series	Preparation of documents used in electrotechnology	EN 61082	Series
IEC 61175	1993	Designations for signals and connections	EN 61175	1993
IEC 61346	Series	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations	EN 61346	Series
ISO 9001	1994	Quality systems - Model for quality assurance in design/ development, production, installation and servicing	EN ISO 9001	1994

iTeh STANDARD PREVIEW

(standards.iteh.ai)

NORME
INTERNATIONALE

INTERNATIONAL
STANDARD

CEI
IEC

61850-4

Première édition
First edition
2002-01

Réseaux et systèmes de communication
dans les postes –

Partie 4:
Gestion du système et gestion de projet

Communication networks and systems
in substations –

Part 4:
System and project management

© IEC 2002 Droits de reproduction réservés — Copyright - all rights reserved

International Electrotechnical Commission   3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300   e-mail: inmail@iec.ch   IEC web site http://www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

U

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION
_____

COMMUNICATION NETWORKS AND SYSTEMS IN SUBSTATIONS –

Part 4: System and project management

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61850-4 has been prepared by IEC technical committee 57: Power system control and associated communications

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

FDIS	Report on voting
57/558/FDIS	57/573/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 3.

Annexes A and B are for information only.

IEC 61850 consists of the following parts, under the general title: Communication networks and systems in substations:

Part 1: Introduction and overview[1]

_____

[1] Under consideration.

61850-4 © IEC:2002 – 7 –

Part 2: Glossary[1]

Part 3: General requirements

Part 4: System and project management

Part 5: Communication requirements for functions and device models[1]

Part 6: Substation automation system configuration description language[1]

Part 7-1: Basic communication structure for substation and feeder equipment – Principles and models[1]

Part 7-2: Basic communication structure for substation and feeder equipment – Abstract communication service interface (ACSI)[1]

Part 7-3: Basic communication structure for substation and feeder equipment – Common data classes[1]

Part 7-4: Basic communication structure for substation and feeder equipment – Compatible logical node classes and data classes[1]

Part 8-1: Specific communication service mapping (SCSM) – Mapping to MMS (ISO/IEC 9506 Part 1 and Part 2)[1]

Part 9-1: Specific communication service mapping (SCSM) – Serial unidirectional multidrop point to point link[1]

Part 9-2: Specific communication service mapping (SCSM) – Mapping on a IEEE 802.3 based process bus[1]

Part 10: Conformance testing[1]

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

• reconfirmed;
• withdrawn;
• replaced by a revised edition, or
• amended.

_____

[1] Under consideration.

61850-4 © IEC:2002   – 9 –

COMMUNICATION NETWORKS AND SYSTEMS IN SUBSTATIONS –

Part 4: System and project management

1   Scope and object

This part of IEC 61850 applies to substation automation systems (SAS). It defines the communication between intelligent electronic devices (IEDs) in the substation 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 SAS 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 normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61850. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61850 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60848:1988, *Preparation of function charts for control systems*

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

IEC 61175:1993, *Designations for signals and connections*

IEC 61346 (all parts), *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations*

ISO 9001:1994, *Quality systems – Model for quality assurance in design, development, production, installation and servicing*

61850-4 © IEC:2002   – 11 –

3 Definitions

For the purpose of this part of IEC 61850, the following definitions apply:

3.1
supporting tools
those that support the user in the engineering, the operation and the management of the SAS and its IEDs. The following tasks can be implemented:

– engineering;

– project management;

– parameter change(s);

– diagnostics;

– testing;

– documentation;

– other services.

NOTE   The tools are usually part of the SAS.

3.1.1
engineering tools
those tools that support the creation and documentation of the conditions for adapting an SAS to the specific substation and customer requirements. They are divided into project manage-ment, parameterization and documentation tools.

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

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

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

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

3.5.1
system parameters
data which define the interaction of IEDs in the SAS. They are especially important in the:

– configuration of the SAS;

– communication between IEDs;

– marshalling of data between IEDs;

– processing and visualization of data from other IEDs (for example, at the station level)