SLOVENSKI STANDARD
SIST EN 61850-3:2004

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Communication networks and systems in substations - Part 3: General requirements (IEC 61850-3:2002)

Communication networks and systems in substations -- Part 3: General requirements

Kommunikationsnetze und -systeme in Stationen -- Teil 3: Allgemeine Anforderungen

Réseaux et systèmes de communication dans les postes -- Partie 3: Prescriptions générales

Ta slovenski standard je istoveten z: **EN 61850-3:2002**

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 61850-3:2004 **en**

EUROPEAN STANDARD **EN 61850-3**

NORME EUROPÉENNE

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ICS 33.200

English version

Communication networks and systems in substations
Part 3: General requirements
(IEC 61850-3:2002)

Réseaux et systèmes de communication dans les postes
Partie 3: Prescriptions générales
(CEI 61850-3:2002)

Kommunikationsnetze und –systeme in Stationen
Teil 3: Allgemeine Anforderungen
(IEC 61850-3:2002)

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 61850-3:2002 E

Foreword

The text of document 57/557/FDIS, future edition 1 of IEC 61850-3, 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 61850-3 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 annex A is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61850-3:2002 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 60654-4	1987	Operating conditions for industrial-process measurement and control equipment Part 4: Corrosive and erosive influences	EN 60654-4	1997
IEC 60694	1996	Common specifications for high-voltage switchgear and controlgear standards	EN 60694 + corr. May	1996 1999
IEC 60870-2-1	1995	Telecontrol equipment and systems Part 2: Operating conditions - Section 1: Power supply and electromagnetic compatibility	EN 60870-2-1	1996
IEC 60870-2-2	1996	Part 2: Operating conditions - Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)	EN 60870-2-2	1996
IEC 60870-4	1990	Part 4: Performance requirements	HD 546.4 S1	1992
IEC 61000-4-3 (mod)	1995	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
IEC 61000-4-8	1993	Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993

Publication	Year	Title	EN/HD	Year
IEC 61000-4-10	1993	Part 4-10: Testing and measurement techniques - Damped oscillatory magnetic field immunity test	EN 61000-4-10	1993
IEC 61000-4-12	1995	Part 4-12: Testing and measurement techniques - Oscillatory waves immunity test	EN 61000-4-12	1995
IEC 61000-4-16	1998	Part 4-16: Testing and measurement techniques - Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 150 kHz	EN 61000-4-16	1998
IEC TS 61000-6-5	2001	Part 6-5: Generic standards - Immunity for power station and substation environments	-	-
CISPR 22 (mod)	1997	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + corr. July	1998 2001
IEEE C37.90.2	1995	Withstand capability of relay systems to radiated electromagnetic interference from transceivers	-	-

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Réseaux et systèmes de communication dans les postes –

Partie 3: Prescriptions générales

Communication networks and systems in substations –

Part 3: General requirements

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For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMUNICATION NETWORKS AND SYSTEMS IN SUBSTATIONS –

Part 3: General requirements

FOREWORD

1) The IEC (International Electrotechnical Commission) is a world-wide organisation for standardisation comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardisation 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 organisations liasing with the IEC also participate in this preparation. The IEC collaborates closely with the International Organisation for Standardisation (ISO) in accordance with conditions determined by agreement between the two organisations.
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 61850-3 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
57/557/FDIS	57/572/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.

Annex A is 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]

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.

COMMUNICATION NETWORKS AND SYSTEMS IN SUBSTATIONS –

Part 3: General requirements

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 general requirements of the communication network, with emphasis on the quality requirements. It also deals with guidelines for environmental conditions and auxiliary services, with recommendations on the relevance of specific requirements from other standards and specifications.

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 60654-4:1987, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

IEC 60694:1996, *Common specifications for high-voltage switchgear and controlgear standards*

IEC 60870-2-1:1995, *Telecontrol equipment and systems – Part 2: Operating conditions – Section 1: Power supply and electromagnetic compatibility*

IEC 60870-2-2:1996, *Telecontrol equipment and systems – Part 2: Operating conditions – Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)*

IEC 60870-4:1990, *Telecontrol equipment and systems – Part 4: Performance requirements*

IEC 61000-4-3:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 3: Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 4: Electrical fast transient/burst immunity test.* Basic EMC Publication

IEC 61000-4-5:1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 5: Surge immunity test*