STN	**Riadenie energetických systémov a výmena súvisiacich informácií Bezpečnosť dát a komunikácií Časť 6: Bezpečnosť podľa IEC 61850**	**STN EN IEC 62351-6**
		33 4622

Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/21

Obsahuje: EN IEC 62351-6:2020, IEC 62351-6:2020

132468

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62351-6

December 2020

ICS 33.200

English Version

Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850
(IEC 62351-6:2020)

Gestion des systèmes de puissance et échanges d'informations associés - Sécurité des communications et des données - Partie 6: Sécurité pour l'IEC 61850 (IEC 62351-6:2020)

Energiemanagementsysteme und zugehöriger Datenaustausch - IT-Sicherheit für Daten und Kommunikation - Teil 6: Sicherheit für IEC 61850 (IEC 62351-6:2020)

This European Standard was approved by CENELEC on 2020-11-24. 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.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN IEC 62351-6:2020 E

EN IEC 62351-6:2020 (E)

European foreword

The text of document 57/2234/FDIS, future edition 1 of IEC 62351-6, 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 IEC 62351-6:2020.

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)	2021-08-24
•	latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2023-11-24

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

Endorsement notice

The text of the International Standard IEC 62351-6:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62351-3   NOTE   Harmonized as EN 62351-3

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1   Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2   Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
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 61850-7-3	-	Communication networks and systems for power utility automation - Part 7-3: Basic communication structure - Common data classes	EN 61850-7-3	-
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	-
IEC 61850-8-2	-	Communication networks and systems for power utility automation - Part 8-2: Specific communication service mapping (SCSM) - Mapping to Extensible Messaging Presence Protocol (XMPP)	EN IEC 61850-8-2	-
IEC 61850-9-2	-	Communication networks and systems for power utility automation - Part 9-2: Specific communication service mapping (SCSM) - Sampled values over ISO/IEC 8802-3	EN 61850-9-2	-
IEC/TS 62351-1	-	Power systems management and associated information exchange - Data and communications security - Part 1: Communication network and system security - Introduction to security issues	-	-

EN IEC 62351-6:2020 (E)

Publication	Year	Title	EN/HD	Year
IEC/TS 62351-2	-	Power systems management and associated information exchange - Data and communications security - Part 2: Glossary of terms	-	-
IEC 62351-4	2020	Power systems management and associated information exchange - Data and communications security - Part 4: Profiles including MMS and derivatives	-	-
IEC 62351-9	-	Power systems management and associated information exchange - Data and communications security - Part 9: Cyber security key management for power system equipment	EN 62351-9	-
ISO/IEC 13239	-	Information technology - Telecommunications and information exchange between systems - High-level data link control (HDLC) procedures	-	-
ISO/IEC 9594-8 | Rec. ITU-T X.509	-	Information technology - Open Systems Interconnection - The Directory - Part 8: Public-key and attribute certificate frameworks	-	-
RFC 2104	-	HMAC: Keyed-Hashing for Message Authentication	-	-
RFC 5905[1]	-	Network Time Protocol Version 4: Protocol and Algorithms Specification	-	-
RFC 8052	-	Group Domain of Interpretation (GDOI) Protocol Support for IEC 62351 Security Services	-	-
NIST SP 800-38D	-	Recommendation for Block Cipher Modes of Operation - Galois/Counter Mode (GCM) and GMAC	-	-

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[1] Restricted to SNTP profile only.

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IEC 62351-6

Edition 1.0   2020-10

INTERNATIONAL
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Power systems management and associated information exchange –
Data and communication security –
Part 6: Security for IEC 61850

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Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary
67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC 62351-6

Edition 1.0   2020-10

INTERNATIONAL STANDARD

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**Power systems management and associated information exchange –
Data and communication security –
Part 6: Security for IEC 61850**

INTERNATIONAL
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ICS 33.200

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATION SECURITY –

Part 6: Security for IEC 61850

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.

2) The formal decisions or agreements of 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 IEC National Committees.

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7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

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

International Standard IEC 62351-6 has been prepared by IEC technical committee 57: Power systems management and associated information exchange.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
57/2234/FDIS	57/2258/RVD

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

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

A list of all parts of the IEC 62351 series, published under the general title *Power systems management and associated information exchange – Data and communications security,* can be found on the IEC website.

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The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATION SECURITY –

Part 6: Security for IEC 61850

1 Scope and object

1.1 Scope

This part of IEC 62351 specifies messages, procedures, and algorithms for securing the operation of all protocols based on or derived from the IEC 61850 series. This document applies to at least those protocols listed in Table 1.

Table 1 – Scope of application to standards

Number	Name
IEC 61850-8-1	Communication networks and systems for power utility automation – Part 8-1: Specific communication service mapping (SCSM) – Mappings to MMS (ISO/IEC 9506-1 and ISO/IEC 9506-2) and to ISO/IEC 8802-3
IEC 61850-8-2	Communication networks and systems for power utility automation – Part 8-2: Specific communication service mapping (SCSM) – Mapping to Extensible Messaging Presence Protocol (XMPP)
IEC 61850-9-2	Communication networks and systems for power utility automation – Part 9-2: Specific communication service mapping (SCSM) – Sampled values over ISO/IEC 8802-3
IEC 61850-6	Communication networks and systems for power utility automation – Part 6: Configuration description language for communication in power utility automation systems related to IEDs

The initial audience for this document is intended to be the members of the working groups developing or making use of the protocols listed in Table 1. For the measures described in this specification to take effect, they must be accepted and referenced by the specifications for the protocols themselves. This document is written to enable that process.

The subsequent audience for this document is intended to be the developers of products that implement these protocols.

Portions of this document may also be of use to managers and executives in order to understand the purpose and requirements of the work.

1.2 Namespace name and version

This new clause is mandatory for any IEC 61850 namespace (as defined by part 7-1 of IEC 61850 Edition 2).

The parameters which identify this new release of this namespace are:

- Namespace version: 2020
- Namespace revision: A
- Namespace name: "IEC 62351-6:2020A"
- Namespace release: 1

The table below provides an overview of all published versions of this namespace.

Edition	Publication date	Webstore	Namespace
Edition 1.0	2020-?	IEC 62351-6:2020	IEC 62351-6:2020

1.3   Code Component distribution

There is currently no code component scheduled for the code component downloading area.

2   Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61850-6, *Communication networks and systems for power utility automation – Part 6: Configuration description language for communication in electrical substations related to IEDs*

IEC 61850-7-3, *Communication networks and systems for power utility automation – Part 7-3: Basic communication structure – Common data classes*

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*

IEC 61850-8-2, *Communication networks and systems for power utility automation – Part 8-2: Specific communication service mapping (SCSM) – Mapping to Extensible Messaging Presence Protocol (XMPP)*

IEC 61850-9-2, *Communication networks and systems for power utility automation – Part 9-2: Specific communication service mapping (SCSM) – Sampled values over ISO/IEC 8802-3*

IEC TS 62351-1, *Power systems management and associated information exchange – Data and communications security – Part 1: Communication network and system security – Introduction to security issues*

IEC TS 62351-2, *Power systems management and associated information exchange – Data and communications security – Part 2: Glossary of terms*

IEC 62351-4:2020, *Power systems management and associated information exchange – Data and communications security – Part 4: Profiles including MMS and derivatives*

IEC 62351-9, *Power systems management and associated information exchange – Data and communications security – Part 9: Cyber security key management for power system equipment*

ISO/IEC 13239, *Information technology – Telecommunications and information exchange between systems – High-level data link control (HDLC) procedures*

ISO/IEC 9594-8 | Rec. ITU-T X.509: *Information technology – Open Systems Interconnection – The Directory: Public-key and attribute certificate frameworks*

RFC 2104, *HMAC: Keyed-Hashing for Message Authentication*

RFC 5905, *Network Time Protocol Version 4: Protocol and Algorithms Specification* [1]

RFC 8052, *Group Domain of Interpretation (GDOI) Protocol Support for IEC 62351 Security Services*

NIST Special Publication 800-38D, *Recommendation for Block Cipher Modes of Operation Galois/Counter Mode (GCM and GMAC)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN