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Irish Standard  
I.S. EN IEC 62351-6:2020

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

**I.S. EN IEC 62351-6:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN IEC 62351-6:2020 is the adopted Irish version of the European Document EN IEC 62351-6:2020, Power systems management and associated information exchange - Data and communications security - Part 6: Security for IEC 61850

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EUROPEAN STANDARD

**EN IEC 62351-6**

NORME EUROPÉENNE

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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)

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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**

**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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-11-24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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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)**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 <sup>1</sup>	-	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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<sup>1</sup> Restricted to SNTP profile only.





**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**



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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](http://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**

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## CONTENTS

FOREWORD.....	4
1 Scope and object.....	6
1.1 Scope .....	6
1.2 Namespace name and version .....	6
1.3 Code Component distribution .....	7
2 Normative references .....	7
3 Terms, definitions and abbreviated terms .....	8
3.1 Terms and definitions.....	8
3.2 Abbreviated terms.....	8
4 Security issues addressed by this document.....	9
4.1 Operational issues affecting choice of security options .....	9
4.2 Security threats countered .....	9
4.3 Attack methods countered.....	9
5 Correlation of IEC 61850 parts and IEC 62351 parts.....	9
5.1 General.....	9
5.2 IEC 61850-8-1 Profile for Client/Server communications .....	10
5.2.1 General .....	10
5.2.2 Control centre to substation .....	11
5.2.3 Substation communications .....	11
5.3 IEC 61850 security for profiles using VLAN IDs.....	11
5.4 IEC 61850-8-2 for Client/Server communications .....	11
5.5 Using OriginatorID for Client/Server Services.....	11
6 Multicast Association Protocols .....	12
6.1 General.....	12
6.2 Replay Protection .....	12
6.2.1 GOOSE replay protection .....	12
6.2.2 Sampled Value replay protection .....	16
7 Security for SNTP.....	19
8 Layer 2 security for profiles for IEC 61850-8-1 GOOSE and IEC 61850-9-2 Sampled Value .....	20
8.1 Overview of Ethertype (informative) .....	20
8.2 Extended PDU .....	20
8.2.1 General format of extended PDU .....	20
8.2.2 Format of extension octets.....	21
9 Substation configuration language extensions .....	25
9.1 Service capability.....	25
9.1.1 Access Point support security for GOOSE Publisher.....	25
9.1.2 Access Point support security for SV Publisher.....	25
9.1.3 Access Point support security for GOOSE and SMV subscriber .....	25
9.1.4 Server Access Point support security for TPAA.....	26
9.1.5 Client Access Point support security for TPAA.....	26
9.2 Publish with security enabled.....	26
9.2.1 GOOSE .....	26
9.2.2 SMV .....	26
9.2.3 Key Policy and Management.....	27
9.3 Use of Simulation.....	27

10	Extension of LGOS and LSVS .....	27
11	Conformance .....	27
11.1	General conformance .....	27
11.2	Conformance for implementations claiming IEC 61850-8-1 ISO 9506 profile security .....	28
11.2.1	General .....	28
11.2.2	IEC 62351-4 TLS Conformity for ISO-9506 Client/Server Profile using ACSE Authentication .....	29
11.3	Conformance for implementations claiming VLAN profile security .....	29
11.4	Conformance for implementations claiming SNTP profile security .....	32
	Bibliography .....	33
	Figure 1 – MMS Security Profiles .....	10
	Figure 2 – Replay Protection State Machine for GOOSE .....	13
	Figure 3 – Replay Protection State Machine for SV .....	17
	Figure 4 – General format of extended PDU .....	20
	Figure 5 – Definition of Reserved 1 .....	20
	Figure 6 – Calculated MAC Domain .....	22
	Figure 7 – AES-GCM application on the example of a L2 GOOSE/SV packet. ....	23
	Table 1 – Scope of application to standards .....	6
	Table 2 – Extract from IEC 61850-9-2 (Informative) .....	16
	Table 3 – Extension of the LGOS class .....	27
	Table 4 – Extension of the LSVS class .....	27
	Table 5 – Conformance table .....	28
	Table 6 – PICS for IEC 61850-8-1 ISO 9506 profile .....	28
	Table 7 – PICS for TLS IEC 61850-8-1 Client/Server using ACSE Authentication .....	29
	Table 8 – PICS for VLAN profiles .....	30
	Table 9 – IEC 61850-8-1 L2 GOOSE Security .....	30
	Table 10 – IEC 61850-9-2 L2 SMV Security .....	31
	Table 11 – IEC 61850-8-1 Routable GOOSE .....	31
	Table 12 – IEC 61850-9-2 Routable SMV .....	32
	Table 13 – PICS for SNTP profiles .....	32

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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.

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

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# 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.



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