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

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 62351-9

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Power systems management and associated information
exchange - Data and communications security -
Part 9: Cyber security key management for power system
equipment
(IEC 62351-9 :2017)

Gestion des systèmes de puissance et échanges
d'informations associés - Sécurité des communications et
des données - Partie 9: Gestion de clé de cybersécurité des
équipements de système de puissance
(IEC 62351-9 :2017)

Energiemanagementsysteme und zugehöriger
Datenaustausch - IT-Sicherheit für Daten und
Kommunikation - Teil 9: Cyber security Schlüssel-
Management für Stromversorgungsanlagen
(IEC 62351-9 :2017)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 57/1838/FDIS, future edition 1 of IEC 62351-9, 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 62351-9:2017.

The following dates are fixed:

- latest date by which the document has to be (dop) 2018-03-22
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2020-06-22
standards conflicting with the
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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62351-3	NOTE	Harmonized as EN 62351-3.
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

<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	-	-
ISO/IEC 9594-8/	2017	Information technology - Open Systems Interconnection - The Directory -	-	-
Rec. ITU-T X.509	2016	Part 8: Public-key and attribute certificate frameworks	-	-
ISO/IEC 9834-1/	2012	Information technology - Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree	-	-
Rec. ITU-T X.660	2011		-	-
RFC 5246	-	The Transport Layer Security (TLS) Protocol Version 1.2	-	-
RFC 5272	-	Certificate Management over CMS (CMC)	-	-
RFC 5934	-	Trust Anchor Management Protocol (TAMP)	-	-
RFC 6407	-	The Group Domain of Interpretation	-	-
IETF RFC 6960	-	X.509 - Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP	-	-
RFC 7030	-	Enrolment over Secure Transport	-	-

SCEP IETF Draft, Simple Certificate Enrolment Protocol, draft-gutmann-scep-04.txt



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Edition 1.0 2017-05

INTERNATIONAL STANDARD



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



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IEC 62351-9

Edition 1.0 2017-05

INTERNATIONAL STANDARD



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

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**POWER SYSTEMS MANAGEMENT AND
ASSOCIATED INFORMATION EXCHANGE –
DATA AND COMMUNICATIONS SECURITY –**

Part 9: Cyber security key management for power system equipment**FOREWORD**

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International Standard IEC 62351-9 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
57/1838/FDIS	57/1853/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 in 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.

In this standard, the following print types are used:

- ASN.1 notions is presented in bold Courier New typeface;
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POWER SYSTEMS MANAGEMENT AND ASSOCIATED INFORMATION EXCHANGE – DATA AND COMMUNICATIONS SECURITY –

Part 9: Cyber security key management for power system equipment

1 Scope

This part of IEC 62351 specifies cryptographic key management, namely how to generate, distribute, revoke, and handle public-key certificates and cryptographic keys to protect digital data and its communication. Included in the scope is the handling of asymmetric keys (e.g. private keys and public-key certificates), as well as symmetric keys for groups (GDOI).

This part of IEC 62351 assumes that other standards have already chosen the type of keys and cryptography that will be utilized, since the cryptography algorithms and key materials chosen will be typically mandated by an organization's own local security policies and by the need to be compliant with other international standards. This document therefore specifies only the management techniques for these selected key and cryptography infrastructures. The objective is to define requirements and technologies to achieve interoperability of key management.

The purpose of this part of IEC 62351 is to guarantee interoperability among different vendors by specifying or limiting key management options to be used. This document assumes that the reader understands cryptography and PKI principles.

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

ISO/IEC 9594-8:2017 | Rec. ITU-T X.509 (2016), *Information technology – Open systems interconnection – The Directory: Public-key and attribute certificate frameworks*

ISO/IEC 9834-1:2012 | Rec. ITU-T X.660 (2011), *Information technology – Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree*

SCEP IETF Draft, *Simple Certificate Enrolment Protocol, draft-gutmann-scep-04.txt*

RFC 5246, *The Transport Layer Security (TLS) Protocol Version 1.2*

RFC 5272, *Certificate Management over CMS (CMC)*

RFC 5934, *Trust Anchor Management Protocol (TAMP)*

RFC 6407, *The Group Domain of Interpretation*

RFC 6960, *X.509 Internet Public Key Infrastructure Online Certificate Status Protocol – OCSP*

RFC 7030, *Enrolment over Secure Transport*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TS 62351-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses

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