

GUIDE



Security aspects – Guidelines for their inclusion in publications
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IEC GUIDE 120:2018

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Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 21 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

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IEC Glossary - std.iec.ch/glossary

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**SECURITY ASPECTS – GUIDELINES FOR
THEIR INCLUSION IN PUBLICATIONS**

FOREWORD

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This first edition of IEC Guide 120 has been prepared, in accordance with ISO/IEC Directives, Part 1, Annex A, by the Advisory Committee on Information security and data privacy (ACSEC). This is a non-mandatory guide in accordance with SMB Decision 136/8.

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

DV	Report on voting
C/2086/DV	C/2113A/RV

Full information on the voting for the approval of this Guide 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 bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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INTRODUCTION

The increasing complexity and connectivity of systems, products, processes and services entering the market requires that the consideration of security aspects be given a high priority. Inclusion of security aspects in standardization provides protection from and response to risks of unintentionally and intentionally caused events that can disrupt the functionality/operation of products and systems.

When preparing publications, committees should ensure that relevant resilience requirements applicable to their application domain are included. Security aspects will in many cases play a role in achieving resilience directed standards.

In this guide, the term “committee”, includes technical committees, subcommittees and system committees. The term “publication” includes “standard”, “technical report”, “technical specification” and “guide”.

National laws (legislation and regulation) may override the general application of publications.

NOTE Publications can deal exclusively with security aspects or can include clauses specific to security.

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SECURITY ASPECTS – GUIDELINES FOR THEIR INCLUSION IN PUBLICATIONS

1 Scope

This document provides guidelines on the security topics to be covered in IEC publications, and aspects of how to implement them. These guidelines can be used as a checklist for the combination of publications used in implementation of systems.

This document includes what is often referred to as “cyber security”.

This document excludes non electrotechnical aspects of security such as societal security, except where they directly interact with electrotechnical security.

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.

ISO/IEC Directives Part 2:2018, *Principles and rules for the structure and drafting of ISO and IEC documents*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 accountability

property of a system (including all of its system resources) that ensures that the actions of a system entity may be traced uniquely to that entity, which can be held responsible for its actions

[SOURCE: IEC TS 62443-1-1:2009, 3.2.3]

3.2 attack

attempt to destroy, expose, alter, disable, steal or gain unauthorized access to or make unauthorized use of an asset

[SOURCE: ISO/IEC 27000:2016, 2.3]

3.3 authentication

provision of assurance that a claimed characteristic of an entity is correct

[SOURCE: ISO/IEC 27000:2016, 2.7]

**3.4
authorization**

right or permission that is granted to a system entity to access a system resource

[SOURCE: IEC TS 62443-1-1:2009, 3.2.14]

**3.5
availability**

property of being accessible and usable upon demand by an authorized entity

[SOURCE: ISO/IEC 27000:2016, 2.9]

**3.6
confidentiality**

property that information is not made available or disclosed to unauthorized individuals, entities, or processes

[SOURCE: ISO/IEC 24767-1:2008, 2.1.2]

**3.7
functional safety**

part of the overall safety that depends on functional and physical units operating correctly in response to their inputs

[SOURCE: IEC 60050-351:2013, 351-57-06]

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**3.8
harm**

injury or damage to the health of people, or damage to property or the environment

[SOURCE: ISO/IEC GUIDE 51:2014, 3.1]

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**3.9
integrity**

property of accuracy and completeness

[SOURCE: ISO/IEC 27000:2016, 2.40]

**3.10
non-repudiation**

ability to prove the occurrence of a claimed event or action and its originating entities

[SOURCE: ISO/IEC 27000:2016, 2.54]

**3.11
risk**

combination of the probability of occurrence of harm and the severity of that harm

Note 1 to entry: The probability of security risks often cannot be determined in the same way as the probability of safety hazards based on statistical analysis

[SOURCE: IEC 60050-351:2013, 351-57-03, modified – Note 1 to entry has been added]

**3.12
safety**

freedom from risk which is not tolerable

[SOURCE: ISO/IEC GUIDE 51:2014, 3.14]

**3.13
security**

condition that results from the establishment and maintenance of protective measures that ensure a state of inviolability from hostile acts or influences

Note 1 to entry: Hostile acts or influences could be intentional or unintentional.

[SOURCE: IEC 62351-2:2008, modified – Note 1 to entry has been added]

**3.14
security control**

measure (including process, policy, device, practice or other action) which modifies security risk or use

**3.15
security service**

mechanism used to provide confidentiality, data integrity, authentication, or non-repudiation of information

[SOURCE: IEC TS 62443-1-1:2009, 3.2.115]

**3.16
threat**

potential for violation of security, which exists when there is a circumstance, capability, action, or event that could breach security and cause harm

[SOURCE: IEC TS 62443-1-1:2009, 3.2.125]

**3.17
vendor**

manufacturer or distributor of a product

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[SOURCE: IEC 62337:2012, 3.12, modified – replaced “piece of equipment/instrument/package unit” with “product”]

**3.18
vulnerability**

flaw or weakness in a system’s design, implementation, or operation and management that could be exploited to violate the system’s security policy

Note 1 to entry: This definition of vulnerability should not be confused with the term vulnerability when used in the context of general risk management, where it encompasses the notion of possibility of exposition to a risk.

[SOURCE: IEC TR 62918:2014, 3.16, modified – Note 1 to entry has been added]

4 Guide to terminology

4.1 General

There are already many security-related terms and definitions in existing publications. Therefore, before defining a new term, existing terms and definitions should be checked first. Primary recommended sources are shown in 4.2 and they should be used in preference to the other relevant sources shown in 4.3. If no appropriate term and definition is found in those sources, either modify an existing one or define a new one.

Definitions in this document are not intended to be generic ones but only apply to this document.

The ISO/IEC Directives Part 2:2018, Clause 16, defines how the terms and definitions in IEC publications are drafted.

NOTE The same term might have different definitions depending on the context in which it is used, or different terms might be used for the same or similar meaning in different application domains.

4.2 Primary recommended sources

The sources for this category are:

- 1) IEC 60050 (all parts) (IEV) [2]¹
- 2) IEC Glossary [3]
- 3) ISO/IEC JTC 1 SC 27 Standing Document SD6, Glossary of IT Security Terminology [4]

where IEC 60050 and the IEC Glossary should be used in preference.

IEC 60050 provides representative definitions to more than 20 000 terms, organized by subject areas in IEC. The IEC Glossary is a compilation of electrotechnical terms extracted from the “Terms and definitions” clause in existing IEC publications.

If no appropriate term or definition is found in the two sources above, ISO/IEC JTC 1 SC 27 SD6, which covers more security-related terms and definitions, should be consulted.

NOTE Application-domain specific terms developed by IEC committees are also considered to be primary sources. These can be searched using the web page of the IEC Glossary.

4.3 Other relevant sources

4.3.1 General

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There are a variety of resources available which focus on certain application domains of electrotechnology such as energy, building, healthcare, and transportation.

This category includes application-domain independent sources (4.3.2) and application-domain specific sources (4.3.3).

4.3.2 Other application-domain independent sources

- IETF RFC 4949 [5]
- NISTIR 7298 [6]
- IEEE, Standards Glossary [7]
- ITU, ITU Terms and Definitions [8]

4.3.3 Other application-domain specific sources

- Healthcare: HL7, Glossary Of Acronyms, Abbreviations and Terms Related To Information Security In Healthcare Information Systems [9]
- Nuclear: IAEA, Nuclear Security Series Glossary [10]
- Energy: IEA, Glossary [11]

¹ Numbers in square brackets refer to the Bibliography.