

INTERNATIONAL STANDARD

NORME INTERNATIONALE

— International Electrotechnical Vocabulary —
Part 192: Dependability

— Vocabulaire Électrotechnique International —
Partie 192: Sûreté de fonctionnement





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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20, Switzerland

Tel. + 41 22 919 02 11
Fax + 41 22 919 03 00
info@iec.ch
www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

— INTERNATIONAL ELECTROTECHNICAL VOCABULARY —

Part 192: Dependability

FOREWORD

- a) 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.
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International Standard IEC 60050-192 has been prepared by IEC technical committee 56: Dependability, of IEC technical committee 1: Terminology.

This first edition cancels and replaces the first edition of IEC 60050-191:1990, sections 191-01 to 191-20, IEC 60050-191:1990/AMD1:1999, entries in sections 191-01 to 191-20 and IEC 60050-191:1990/AMD2:2002. It constitutes a technical revision. It has the status of a horizontal standard in accordance with IEC Guide 108.

This part of IEC 60050 includes the following significant technical changes with respect to the IEC 60050-191:

- inclusion of terms more commonly used by practitioners;
- provision of figures to help explain definitions of time-related concepts.

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

FDIS	Report on voting
1/2254/FDIS	1/2256/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 document has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this part of the IEC, the terms and definitions are provided in French and English; in addition the terms are given in Arabic (ar), Czech (cs), German (de), Spanish (es), Finnish (fi), Italian (it), Japanese (ja), Norwegian [Bokmål (nb) and Nynorsk (nn)], Polish (pl), Portuguese (pt), Slovenian (sl), Serbian (sr), Swedish (sv) and Chinese (zh).

A list of all parts of the IEC 60050 series, published under the general title International Electrotechnical Vocabulary, can be found on the IEC website and is available at www.electropedia.org.

INTRODUCTION

PRINCIPLES AND RULES FOLLOWED

General

The IEV (IEC 60050 series) is a general purpose multilingual vocabulary covering the field of electrotechnology, electronics and telecommunication (available at www.electropedia.org). It comprises about 20 000 *terminological entries*, each corresponding to a concept. These entries are distributed among about 80 parts, each part corresponding to a given field.

EXAMPLE

Part 161 (IEC 60050-161): Electromagnetic compatibility

Part 411 (IEC 60050-411): Rotating machines

The entries follow a hierarchical classification scheme Part/Section/Concept; within the sections, the concepts are organized in a systematic order.

The terms and definitions (and possibly non-verbal representations, examples, notes and sources) in the entries are given in two or more of the three IEC languages, that is French, English and Russian (*principal IEV languages*).

In each entry, the terms alone are also given in several of the *additional IEV languages* [Arabic (ar), Czech (cs), German (de), Spanish (es), Finnish (fi), Italian (it), Japanese (ja), Norwegian [Bokmål (nb) and Nynorsk (nn)], Polish (pl), Portuguese (pt), Slovenian (sl), Serbian (sr), Swedish (sv) and Chinese (zh)].

Organization of a terminological entry

Each of the entries corresponds to a concept, and comprises:

- an *entry number*,
- possibly a *letter symbol for the quantity or unit*,

then, for the principal IEV languages present in the part:

- the term designating the concept, called “*preferred term*”, possibly accompanied by *synonyms* and *abbreviations*,
- the *definition* of the concept,
- possibly *non-verbal representations, examples* and *notes to entry*,
- possibly the *source*,

and finally, for the additional IEV languages, the terms alone.

Entry number

The entry number is comprised of three elements, separated by hyphens:

Part number	3 digits,
Section number	2 digits,
Concept number	2 digits (01 to 99).

EXAMPLE

131-13-22

Letter symbols for quantities and units

These symbols, which are language independent, are given on a separate line following the entry number.

EXAMPLE

131-12-04*R***resistance****Preferred term and synonyms**

The preferred term is the term that heads a terminological entry in a given language; it may be followed by synonyms. It is printed in boldface.

Synonyms:

The synonyms are printed on separate lines under the preferred term: preferred synonyms are printed in boldface, and deprecated synonyms are printed in lightface. Deprecated synonyms are prefixed by the text “DEPRECATED:”.

Absence of an appropriate term:

When no appropriate term exists in a given language, the preferred term is replaced by five dots, as follows:

“.....” (and there are of course no synonyms).

Attributes

Each term (or synonym) may be followed by attributes giving additional information, and printed in lightface on the same line as the corresponding term, following this term.

EXAMPLE

<i>specific use of the term</i>	transmission line , <in electric power systems>
<i>national variant</i>	lift, GB
<i>grammatical information</i>	quantize , verb
	transient , noun
	AC , adj

Source

In some cases, it has been necessary to include in an IEV part a concept taken from another IEV part, or from another authoritative terminology document (ISO/IEC Guide 99, ISO/IEC 2382, etc.), either with or without modification to the definition (and possibly to the term).

This is indicated by the mention of this source, printed in lightface, and placed at the end of the entry in each of the principal IEV languages present.

EXAMPLE

SOURCE: IEC 60050-131:2002, 131-03-13, modified

Terms in additional IEV languages

These terms are placed following the entries in the principal IEV languages, on separate lines (a single line for each language), preceded by the alpha-2 code for the language defined in ISO 639-1, and in the alphabetic order of this code.

— INTERNATIONAL ELECTROTECHNICAL VOCABULARY —

Part 192: Dependability

1 Scope

This part of IEC 60050 gives the general terminology used in the field of dependability.

The terms are generic and are applicable to all fields of dependability methodology, including electrotechnical applications.

The document is not an exhaustive vocabulary for all IEC standards in the dependability field: definitions for some specialized terms may only be found in the relevant standards.

This document is based on IEC 60050-191:1990, which has been subjected to a systematic, in-depth review and revision, in order to:

- reflect the current usage of the terms in the dependability field;
- introduce new terms from new or revised standards, and other informed sources; and
- provide a grammatical form, and presentation to comply with the IEC directives.

In producing this document, several sections of IEC 60050-191:1990 (formerly Chapter 191) concerning quality of service, have been omitted:

- sections 19 and 20: Quality of service in telecommunications, has been adopted and developed by the International Telecommunication Union, as publication ITU-T E.800, Definitions of terms related to quality of service; and
- sections 21 to 30, inclusive: Quality of service in electric power systems is to be developed as a new document, IEC 60050-6921.

It has the status of a horizontal standard in accordance with IEC Guide 108, Guidelines for ensuring the coherency of IEC publications * Application of horizontal standards.

This terminology is consistent with the terminology developed in the other specialized parts of the IEV.

This horizontal standard is primarily intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.

One of the responsibilities of a technical committee is, wherever applicable, to make use of horizontal standards in the preparation of its publications. The content of this horizontal standard will not apply unless specifically referred to or included in the relevant publications.

2 Normative references

There are no normative references in this document.

ISO 5127, *Information and documentation—Foundation and vocabulary*

ISO 9000:2005, *Quality management systems—Fundamentals and vocabulary*

ISO/IEC 2382-1:1993, *Information technology—Vocabulary—Part 1: Fundamental terms*

ISO/IEC/IEEE 24765:2010, *Systems and software engineering—Vocabulary*

IEC 60050-191:1990, *International Electrotechnical Vocabulary (IEV)—Part 191: Dependability and quality of service*

3 Terms and definitions

3.1

General

3.2

States and times

3.3

Reliability related concepts: failures

3.4

Reliability related concepts: faults

3.5

Reliability related concepts: measures

3.6

Maintenance and maintenance support related concepts

3.7

Maintainability and maintenance support: measures

3.8

Availability related measures

3.9

Concepts related to test, demonstration and improvement

3.10

Design-related dependability concepts

3.11

Analysis concepts

3.12

Dependability improvement related concepts

3.13

Measurement concepts and modifiers

Bibliography

- [1] ISO 639-1, *Codes for the representation of names of languages—Part 1: Alpha-2 code*

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

3, rue de Varembé
CH-1211 Geneva 20, Switzerland

Tel. + 41 22 919 02 11

Fax + 41 22 919 03 00

info@iec.ch

www.iec.ch