



# SLOVENSKI STANDARD

## SIST EN 61078:2007

01-januar-2007

Nadomešča:  
SIST EN 61078:2002

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**Analizne tehnike za zagotovljivost – Zanesljivost, blokovni diagram in Boolove metode (IEC 61078:2006)**

Analysis techniques for dependability - Reliability block diagram and boolean methods

Techniken für die Analyse der Zuverlässigkeit - Verfahren mit dem Zuverlässigkeitsblockdiagramm und Boole'sche Verfahren

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Techniques d'analyse pour la sûreté de fonctionnement - Bloc-diagramme de fiabilité et méthodes booléennes

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**Ta slovenski standard je istoveten z: EN 61078:2006**

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**ICS:**

21.020

Značilnosti in načrtovanje  
strojev, aparatov, opreme

Characteristics and design of  
machines, apparatus,  
equipment

**SIST EN 61078:2007**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61078**

May 2006

ICS 03.120.01; 03.120.99

Supersedes EN 61078:1993

English version

**Analysis techniques for dependability -  
Reliability block diagram and boolean methods  
(IEC 61078:2006)**

Techniques d'analyse  
pour la sûreté de fonctionnement -  
Bloc-diagramme de fiabilité  
et méthodes booléennes  
(CEI 61078:2006)

Techniken für die Analyse  
der Zuverlässigkeit -  
Verfahren mit dem  
Zuverlässigkeitsblockdiagramm  
und Boole'sche Verfahren  
(IEC 61078:2006)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

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**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 56/1071/FDIS, future edition 2 of IEC 61078, prepared by IEC TC 56, Dependability, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61078 on 2006-03-01.

This European Standard supersedes EN 61078:1993.

The major change with respect to EN 61078:1993 is that an additional clause on Boolean disjointing methods (Annex B) has been added.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2009-03-01

Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 61078:2006 was approved by CENELEC as a European Standard without any modification. (standards.iteh.ai)

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

IEC 60812 <https://standards.iteh.ai/catalog/standards/sist/d8b6474b-c34b-4d81-9cc9-83f110459c32/sist-en-61078-2007>  
 NOTE Harmonized as EN 60812:2006 (not modified).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-191	1990	International Electrotechnical Vocabulary (IEV) Chapter 191: Dependability and quality of service	-	-
IEC 61025	- <sup>1)</sup>	Fault tree analysis (FTA)	HD 617 S1	1992 <sup>2)</sup>
ISO 3534-1	1993	Statistics - Vocabulary and symbols Part 1: Probability and general statistical terms	-	-

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<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC

61078

Deuxième édition  
Second edition  
2006-01

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**Techniques d'analyse pour la sûreté  
de fonctionnement –  
Bloc-diagramme de fiabilité et  
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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

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*Pour prix, voir catalogue en vigueur  
For price, see current catalogue*

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ANALYSIS TECHNIQUES FOR DEPENDABILITY – RELIABILITY BLOCK DIAGRAM AND BOOLEAN METHODS

### FOREWORD

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International Standard IEC 61078 has been prepared by IEC technical committee 56: Dependability.

This second edition cancels and replaces the first edition, published in 1991, and constitutes a full technical revision. The major change with respect to the previous edition is that an additional clause on Boolean disjoining methods (Annex B) has been added.

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

FDIS	Report on voting
56/1071/FDIS	56/1089/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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## INTRODUCTION

Different analytical methods of dependability analysis are available, of which the reliability block diagram (RBD) is one. The purpose of each method and their individual or combined applicability in evaluating the reliability and availability of a given system or component should be examined by the analyst prior to starting work on the RBD. Consideration should also be given to the results obtainable from each method, data required to perform the analysis, complexity of analysis and other factors identified in this standard.

A reliability block diagram (RBD) is a pictorial representation of a system's reliability performance. It shows the logical connection of (functioning) components needed for successful operation of the system (hereafter referred to as “system success”).

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## ANALYSIS TECHNIQUES FOR DEPENDABILITY – RELIABILITY BLOCK DIAGRAM AND BOOLEAN METHODS

### 1 Scope

This International Standard describes procedures for modelling the dependability of a system and for using the model in order to calculate reliability and availability measures.

The RBD modelling technique is intended to be applied primarily to systems without repair and where the order in which failures occur does not matter. For systems where the order of failures is to be taken into account or where repairs are to be carried out, other modelling techniques, such as Markov analysis, are more suitable.

It should be noted that although the word “repair” is frequently used in this standard, the word “restore” is equally applicable. Note also that the words “item” and “block” are used extensively throughout this standard: in most instances interchangeably.

### 2 Normative references

The following referenced documents are indispensable for the application 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 60050-191:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 191: Dependability and quality of service*

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IEC 61025, *Fault tree analysis (FTA)*

ISO 3534-1:1993, *Statistics – Vocabulary and symbols – Part 1: Probability and general statistical terms*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-191 and ISO 3534-1 apply.