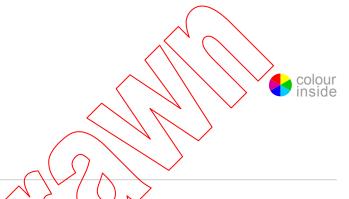


IEC GUIDE 120

Edition 1.0 2018-06

GUIDE



Security aspects - Guidelines for their inclusion in publications



INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 35.030 ISBN 978-2-8322-5827-9

Warning! Make sure that you obtained this publication from an authorized distributor.

– 2 –

CONTENTS

г	JKEWU	KU	4			
IN	TRODU	ICTION	6			
1	Scope7					
2	Normative references					
3	Term	Terms and definitions				
4						
_	4.1	General				
	4.1		_			
	4.2	Primary recommended sources Other relevant sources	10			
	4.3.1		10			
	4.3.1					
	4.3.3	. \ \ \ /				
5		gorisation of publications				
J						
	5.1	Overview				
	5.2	3,1				
	5.2.1	General	11			
	5.2.2		12			
	5.2.3	Group security publications	12			
	5.2.4	Product security publications	13			
	5.2.5		13			
	5.2.6					
	5.2.7					
	5.3	Application domain	13			
	5.4	Content	14			
	5.5	User/target group				
	5.6	Developing security publications				
	5.6.1	-2-1/2				
	5.6.2	Group security publications	15			
	5.6.3					
	5.6.4					
6	Марр	oing/overview of publications	16			
	6.1	General	16			
	6.2	List of relevant publications	16			
	6.3	Domain table chart	16			
7	Cons	iderations for publications development	17			
	7.1	Practical considerations for publication writers	17			
	7.2	Development process of security in publications				
	7.3	Interrelation between functional safety and security				
	7.4	Specific requirements				
	7.4.1	·				
	7.4.2	· · · · · · · · · · · · · · · · · · ·				
	7.4.3	•				
	7.4.4					
	7.4.5	•				
	7.4.6	,				
	7.4.7	·				
		2,	20			

7.4.8	Supply chain	23			
7.4.9	Consider greenfield and brownfield	24			
7.4.10	Use of term integrity	24			
7.5 Sec	urity risk assessment	24			
7.5.1	General	24			
7.5.2	Iterative process of security risk assessment and risk mitigation	25			
7.5.3	Maintaining safe operation	25			
7.5.4	Scenario analysis	26			
7.5.5	Security risk mitigation strategy	26			
7.5.6	Validation	26			
Bibliography		27			
Figure 1 – Pos	ssible categorization of publications	11			
Figure 2 – Types of publications					
Figure 3 – Pul	olications and application domains	16			
Figure 4 – Exa	ample of security requirements, threats, and possible attacks	17			
Figure 5 – Dec	cision flow chart	19			
Figure 6 – Inte	errelation between functional safety and security	20			
Figure 7 – Exa	ample of security management cycle for an organization	22			
Figure 8 – Selected measures for defence-in-depth strategy					
Figure 9 - Pos	ssible impact of security risk(s) on the safety-related control system	25			

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SECURITY ASPECTS – GUIDELINES FOR THEIR INCLUSION IN PUBLICATIONS

FOREWORD

- 1) 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 (Repeatter 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 preparation. 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.
- 2) The formal decisions or agreements of IEC on technical matters express as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for interpational use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This first edition of NEC 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.

IEC Guide 120:2018 © IEC:2018

- 5 -

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.



IEC Guide 120:2018 © IEC:2018

INTRODUCTION

- 6 -

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.



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

