

ISO/IEC 14762:2009-01 (E)

Information technology – Functional safety requirements for home and building electronic systems (HBES)

CONTENTS

- FOREWORD.....4
- INTRODUCTION.....6
- 1 Scope.....7
- 2 Normative references7
- 3 Terms, definitions and abbreviations8
- 4 Conformance.....10
- 5 General requirements.....11
 - 5.1 General.....11
 - 5.2 Method of establishment for the requirements11
 - 5.2.1 General11
 - 5.2.2 HBES application environment11
 - 5.2.3 Sources of hazards.....11
 - 5.2.4 Hazardous events.....12
 - 5.2.5 Derivation of requirements.....12
- 6 Requirements for functional safety12
 - 6.1 General.....13
 - 6.2 Power feeding13
 - 6.2.1 Safe restart after power is restored (1)13
 - 6.2.2 Product marking and instructions prevent risk of wrong connections (3) (6).....13
 - 6.2.3 Product construction and design prevent wrong connections13
 - 6.3 Environment.....14
 - 6.3.1 Product designed for application environment and specified temperature range (7).....14
 - 6.3.2 Resistance to abnormal heat and prevention of fire propagation (8).....14
 - 6.3.3 Withstand of mechanical stress appropriate to the application(s) (9).....14
 - 6.4 Lifetime14
 - 6.5 Reasonably foreseeable misuse14
 - 6.5.1 Minimization of accidental download of wrong application software or parameters (15).....14
 - 6.5.2 Proper configuration and related parameters (15).....15
 - 6.5.3 Detection and/or indication of missing or incompletely configured products during configuration process (15)15
 - 6.6 Software and communication.....15
 - 6.6.1 Development process compliance with ISO 9000 or similar standards (16)15
 - 6.6.2 Check for proper operation of product software and integrity of the configuration (16)15
 - 6.6.3 Limitation of the traffic load imposed on the communication medium (12) (17)15
 - 6.6.4 Proper function of product and exclusion of hazards on reception of messages from multiple sources (23)16
 - 6.6.5 Defined state after a system reset (if any) (24)16
 - 6.6.6 Restricted access to manual configuration of system parameters (24)16
 - 6.6.7 Disturbed communication16
 - 6.7 Remote operations17

6.7.1	General recommendations.....	17
6.7.2	Within a single building or in its immediate vicinity.....	17
6.7.3	From outside the building	18
6.7.4	Management.....	18
Annex A (informative)	Example of a method for the determination of safety integrity levels	20
A.1	General	20
A.2	Terms and definitions	20
A.3	As low as reasonably practicable (ALARP) and tolerable risk concepts	21
Annex B (informative)	Hazards and development of necessary functional safety requirements	22
Annex C (informative)	Some examples of non safety related HBES applications	28
C.1	General	28
C.2	Example 1: Oven	28
C.3	Example 2: Devices presenting a high potential risk of hazard.....	28
C.4	Example 3: Mains plugs, socket outlets and circuits	29
C.5	Example 4: Water temperature adjustment	29
	Bibliography.....	30
Figure A.1	– Risk reduction – General concept	20
Table 1	– Requirements for avoiding inadvertent operations and possible ways to achieve them	19
Table A.1	– Example of risk classification of accidents	21
Table A.2	– Interpretation of risk classes	21
Table B.1	– Safety requirements and risk reduction	22