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GB/T 47284-2026

Industrial design - Guidelines for the safety design of intelligent functions

工业设计 智能功能安全设计指南

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Industrial Design Basic Standardization Working Group (SAC/SWG31). This document was drafted by: China University of Mining and Technology (Beijing), China Electronics Product Reliability and Environmental Testing Institute, and China Household Electrical Appliances Research Institute. Research Institute, China National Institute of Standardization, Heilongjiang University of Science and Technology, China Special Equipment Inspection and Research Institute, China Coal Research Institute Co., Ltd. Institute of Automation, Chinese Academy of Sciences; Man Wah Furniture Group (Huizhou) Co., Ltd.; CGN Wind Power Co., Ltd.; Guangdong Ocean University; Qingdao Ocean University Er Intelligent Technology R&D Co., Ltd., Shanghai Noark Electric Co., Ltd., Beijing Anxiang Technology Co., Ltd., and Zhongji Boye (Ningbo) Automotive Technology Co., Ltd. Technology Co., Ltd., China Jiliang University, Guangdong Yonggu Electromechanical Technology Co., Ltd., Saifete Engineering Technology Group Co., Ltd., and Dalian CIMC Specialized Logistics Equipment Co., Ltd., Foshan Electrical & Lighting Co., Ltd., Chengdu Maishuo Electric Co., Ltd., Shaoxing Yuehuayu Intelligent Equipment Co., Ltd. Limited Liability Company, Ruimai Technology Co., Ltd., and Yunnan Tiefeng Mining and Chemical New Technology Co., Ltd. The main drafters of this document are. Yang Yuexiang, Wei Shengyu, Gao Xiaohong, Kong Meiyang, Yan Guangshi, Tao

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With the rapid development of smart technology, the market penetration rate of smart products is constantly increasing, bringing users a brand-new user experience, and also... This has led to new product quality and safety issues. Intelligent functional safety design is essential to ensure the normal operation of intelligent functions and prevent related quality and safety problems. An effective means is to carry out security design activities to address the security issues involved in intelligent functions. To promote the effective implementation of intelligent functional safety design work and enhance designers' understanding and awareness of intelligent functional safety issues, To eliminate or reduce the security risks arising from the implementation of intelligent functions, it is necessary to establish a universal intelligent functional safety design methodology for intelligent products. The designers provided guidance. Intelligent functional safety design only applies to the intelligent functions of a product and cannot replace the overall safety design or other aspects of the product's design. Intelligent functional safety design should establish a dynamic update mechanism to adjust and optimize in a timely manner based on continuous technological advancements and changes in the market environment. A safety design scheme is developed to be capable of responding to new risks that may emerge in the future. Industrial Design Intelligent Functional Safety Design Guide

1 Scope

GB/T 47284-2026 is the Chinese national standard covering designing a product whose intelligence can be wrong - the failure modes of an automatic function, the feedback that tells a user what the product is about to do, the manual override and the behaviour when the network or the sensor is gone. First edition, in force since 1 September 2026, with the industrial design form and evaluation standards of the same series. It was issued on 27 February 2026 and has been in force since 1 September 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document outlines the security issues arising from intelligent functions, the principles and design process for intelligent function safety design, and provides pre-design preparation guidelines. Guidance on safety design, including preparation, design implementation, testing, evaluation and validation. This document applies to the design of intelligent functional safety features for products.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 22760 Guidelines for Consumer Product Safety Risk Assessment

GB/T 32921 Information Security Technology - Guidelines for the Security Behavior of Information Technology Product Suppliers

GB/T 35273 Information Security Technology - Personal Information Security Specification

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 intelligence Abilities that possess human or similar human intelligence characteristics.

Note. The intelligent characteristics of humans or similar beings are manifested in the fact that in the process of achieving a certain goal, they will always go through one or more processes of perception, decision-making, and execution. Or, through a process cycle, one can continuously learn and improve one's ability to achieve one's goals, as well as the efficiency and effectiveness of achieving those goals. [Source: GB/T 28219-2018, 3.1, with modifications]

3.2 Product Items made or created by people or machines. [Source: GB/T 18978.11-2023, 3.1.2]

3.3 Technologies or technological solutions that enable products or things to be intelligent. [Source: GB/T 28219-2018, 3.6, with modifications]

3.4 intelligent function The product possesses one or more of the following capabilities through the application of intelligent technologies. perception, decision-making, execution, and learning.

3.5 intelligent products Products that utilize smart technologies and implement smart functions.