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**Road vehicles - Functional safety –
Part 4: Product development at the system level**

(ISO 26262-4:2011, MOD)

道路车辆功能安全 第4部分：产品开发：系统层面

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Foreword

GB/T 34590 “Road vehicles - Functional safety” consists of the following parts:

- *Part 1: Vocabulary;*
- *Part 2: Management of functional safety;*
- *Part 3: Concept phase;*
- *Part 4: Product development at the system level;*
- *Part 5: Product development at the hardware level;*
- *Part 6: Product development at the software level;*
- *Part 7: Production and operation;*
- *Part 8: Supporting processes;*
- *Part 9: Automotive Safety Integrity Level (ASIL) -oriented and safety-oriented analyses;*
- *Part 10: Guideline.*

This Part is Part 4 of GB/T 34590.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part used redrafting method and adopted ISO 26262-2:2011 “Road vehicles - Functional safety - Part 4: Product development at the system level”.

The differences and reasons between this Part and ISO 26262-4:2011 are as follows:

- modified the scope of application of this Part; “ISO 26262 is intended to be applied to safety-related systems that include one or more electrical and/or electronic (E/E) systems and that are installed in series production passenger cars with a maximum gross vehicle mass up to 3500 kg” was modified as “this Standard is applicable to safety-related systems containing one or more electrical and electronic systems installed on mass production passenger cars”;
- for normative references, this Part made a modification with technical differences so as to adapt to the technical conditions of China; refer to Clause 2 “Normative references” for the modification; the modifications are as follows:

- used GB/T 34590.1-2017 that adopted an International standard to modify to replace ISO 26262-1: 2011;
- used GB/T 34590.2-2017 that adopted an International standard to modify to replace ISO 26262-2: 2011;
- used GB/T 34590.3-2017 that adopted an International standard to modify to replace ISO 26262-3: 2011;
- used GB/T 34590.5-2017 that adopted an International standard to modify to replace ISO 26262-5: 2011;
- used GB/T 34590.6-2017 that adopted an International standard to modify to replace ISO 26262-6: 2011;
- used GB/T 34590.7-2017 that adopted an International standard to modify to replace ISO 26262-7: 2011;
- used GB/T 34590.8-2017 that adopted an International standard to modify to replace ISO 26262-8: 2011;
- used GB/T 34590.9-2017 that adopted an International standard to modify to replace ISO 26262-9: 2011.

This Part also made the following editorial modifications:

- modified the introduction of ISO 26262-4:2011 as well as its description and content of Figure 1.

This Part was proposed by and shall be under the jurisdiction of National Technical Committee on Automobile of Standardization Administration of China (SAC/TC 114).

Main drafting organizations of this Part: China Automotive Technology and Research Center, Pan Asia Automotive Technology Center Co., Ltd., Bosch Automotive Components (Suzhou) Co., Ltd., China First Automobile Co., Ltd., Shanghai Haila Electronics Co., Ltd., Schaeffler Investment (China) Co., Ltd., Beijing Xingke Technology Co., Ltd., United Automotive Electronics Co., Ltd., Continental Automotive Investment (Shanghai) Co., Ltd., Shanghai Automotive Group Co., Ltd. Technology Center, Dongfeng Motor Corporation Technology Center.

The drafting organizations of this Part: Anhui Jianghuai Automobile Group Co., Ltd., Brilliance Auto Group Holdings Limited, Chongqing Changan Automobile Co., Ltd., Honda Technology Industry (China) Investment Co., Ltd., Zhejiang Younait Motor Co., Ltd., Ningde Times New Energy Technology Co., Ltd., Neusoft Group Co., Ltd., Chery Automobile Co., Ltd.

Road vehicles - Functional safety -

Part 4: Product development at the system level

1 Scope

This part of GB/T 34590 specifies the requirements for product development at the system level for automotive applications, including the following:

- requirements for the initiation of product development at the system level,
- specification of the technical safety requirements,
- the technical safety concept,
- system design,
- item integration and testing,
- safety validation,
- functional safety assessment, and
- product release.

This Standard is applicable to safety-related systems containing one or more electrical and electronic systems installed on mass production passenger cars.

This Standard does not address unique E/E systems in special purpose vehicles such as vehicles designed for drivers with disabilities.

Systems and their components released for production, or systems and their components already under development prior to the publication date of this Standard, are exempted from the scope. For further development or alterations based on systems and their components released for production prior to the publication of this Standard, only the modifications will be developed in accordance with this Standard.

This Standard already addresses possible hazards caused by malfunctioning behaviour of E/E safety-related systems, including interaction of these systems. It does not address hazards related to electric shock, fire, smoke, heat, radiation, toxicity, flammability, reactivity, corrosion, release of energy and similar hazards, unless directly caused by malfunctioning behaviour of E/E safety-related systems.

This Standard does not address the nominal performance of E/E systems, even if dedicated functional performance standards exist for these systems (e.g. active and passive safety systems, brake systems, Adaptive Cruise Control).

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.

GB/T 34590.1-2017, *Road vehicles - Functional safety - Part 1: Vocabulary* (ISO 26262-1:2011, MOD)

GB/T 34590.2-2017, *Road vehicles - Functional safety - Part 2: Management of functional safety* (ISO 26262-2:2011, MOD)

GB/T 34590.3-2017, *Road vehicles - Functional safety - Part 3: Concept phase* (ISO 26262-3: 2011, MOD)

GB/T 34590.5-2017, *Road vehicles - Functional safety - Part 5: Product development at the hardware level* (ISO 26262-5 :2011, MOD)

GB/T 34590.6-2017, *Road vehicles - Functional safety - Part 6: Product development at the software level* (ISO 26262-6: 2011, MOD)

GB/T 34590.7-2017, *Road vehicles - Functional safety - Part 7: Production and operation* (ISO 26262-7:2011, MOD)

GB/T 34590.8-2017, *Road vehicles - Functional safety - Part 8: Supporting processes* (ISO 26262-8: 2011, MOD)

GB/T 34590.9-2017, *Road vehicles - Functional safety - Part 9: Automotive Safety Integrity Level (ASIL) -oriented and safety-oriented analyses* (ISO 26262-9: 2011, MOD)

3 Terms and definitions

For the purposes of this document, the terms, definitions and abbreviated terms given in GB/T 34590.1-2017 apply.

4 Requirements

4.1 General requirements

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Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

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