

Functional Safety

Certificate No. FS/SHFS2601000105MD

Certificate Holder: Fairino (Suzhou) Robot Technology Co., Ltd.
Room 1810 Building2, No.209 Zhuyuan Road, New District,
Suzhou, Jiangsu Province, China

Manufacturer: Fairino (Suzhou) Robot Technology Co., Ltd.
Room 1810 Building2, No.209 Zhuyuan Road, New District,
Suzhou, Jiangsu Province, China

Trademarks: FAIRINO

Certified Product: Composite mobile robots

Certification Mode: Type 1a

Model (s) No. / Series: FR-AMR-300

Assessment Performed: EN ISO 13849-1:2023, EN ISO 13849-2:2012

Conclusion: The safety architecture and performance level meet PL d with Cat. 3 for SF1-SF3, PL a with Cat. B for SF4 according to EN ISO 13849-1:2023, detail information of safety function items is shown in APPENDIX.

As shown in the technical report number(s): SHFS260100010571

This certificate confirms the achievement of the requirements of functional safety based on proof of the safety-related parameters (failure rate, DC / PFH, safety architecture etc), proofs that processes, and methods are established at the manufacturer guaranteeing that unexceptionable processes in terms of risk analysis, design, production, validation, modification and quality management comply with the standard.

This certificate is issued by the company under its General Conditions for Certification Services accessible at <https://www.sgsgroup.com.cn/en-cn/terms-and-conditions>. Attention is drawn to the limitations of liability defined therein and in the Test Report here above mentioned which findings are reflected in this Certificate. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Authorized by: Issue Date: 06/03/2026



Andrew Zhai
Technical Manager

Expiry Date: 06/03/2031

APPENDIX

Supplementary of Functional Safety Certificate

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Summary of Assessment Result in ISO 13849-1 Report:

SF	Safety Functions Name	PL Achieved	Response Time	MTTF _D (years)	PFH (1/h)	Safe State
SF1	Speed control	PL d with Cat. 3, DC ≥ 90%	500ms	44.7	3.87×10^{-7}	Stop category 1 in accordance with IEC 60204-1. Disconnect the power supply of the walking motor and engage the brake.
SF2	Emergency stop	PL d with Cat. 3, DC ≥ 90%	500ms	40.46	4.53×10^{-7}	Stop category 1 in accordance with IEC 60204-1. Disconnect the power supply of the walking motor and engage the brake.
SF3	Personnel detection	PL d with Cat. 3, DC ≥ 90%	500ms	23.29	4.21×10^{-7}	Stop category 1 in accordance with IEC 60204-1. Disconnect the power supply of the walking motor and engage the brake.
				45.63	1.54×10^{-7}	
				45.63	1.54×10^{-7}	
				19.68	5.67×10^{-7}	
SF4	Visual warning	PL a with Cat. B DC = None	500ms	5	2.24×10^{-5}	The visual warning information corresponds to the output of the light strip.

Note: For SF3 Personnel detection, the MTTF_D and PFH data correspond to different laser radar models and different manufacturers.