

Functional Safety

Certificate No. FS/SHFS2510000625MD

Certificate Holder: SHENZHEN DOBOT CORP LTD
Room 1003, Building 2, Chongwen Park, Nanshan iPark,
No.3370, Liuxian Blvd, Fuguang Community, Taoyuan Street,
Nanshan District, Shenzhen, China.

Manufacturer: SHENZHEN DOBOT CORP LTD
Room 1003, Building 2, Chongwen Park, Nanshan iPark,
No.3370, Liuxian Blvd, Fuguang Community, Taoyuan Street,
Nanshan District, Shenzhen, China.

Trademarks: 

Certified Product: Collaborative Robot

Certification Mode: Type 1a

Model (s) No. / Series: CR 30H, CR 30HT, CR 30H-Food
More detail information refers to APPENDIX II

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

Conclusion: The safety architecture and performance level meet PL d with
Cat. 3 according to ISO 13849-1:2023, detail information of
safety function items is shown in APPENDIX I/II.

As shown in the technical report number(s): SHFS251000062571

This certificate confirms the achievement of the requirements of functional safety based on proof of the safety-related parameters (failure rate, DC, PFH, MTTFD, CCF, 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:** 22/12/2025

Andrew Zhai
Technical Manager **Expiry Date:** 22/12/2030

APPENDIX I

Supplementary of Functional Safety Certificate

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Summary of Assessment Result in ISO 13849-1 report:

General Technical Safety Parameters	Assessment Result
Performance Level	PL d
Category	Category 3
Diagnostic Coverage	DC ≥ 60%
Common Cause Failure	CCF = 75

Detail technical safety parameters for each safety functions are listed in the following table:

SF	Safety Functions Name	MTTF _D (years)	PFH (1/h)	Safe State
SF1	Emergency Stop (System)	76	1.57×10^{-7}	Stop category 1
SF2	Emergency Stop (User)	76	1.57×10^{-7}	Stop category 1
SF3	Safeguard Stop	64	2.13×10^{-7}	Stop category 2
SF4	Safeguard Reset Input	64	2.13×10^{-7}	Stop category 2
SF5	Reduced Mode Input	64	2.13×10^{-7}	Stop category 2
SF6	Mode Switch Input	64	2.13×10^{-7}	Stop category 2
SF7	3 Position Enabling Device Input	56	2.52×10^{-7}	Stop category 2
SF8	Estop Digital Output	48	3.35×10^{-7}	DO output low level
SF9	System Estop Digital Output	48	3.35×10^{-7}	DO output low level
SF10	Safeguard Stop Status Output	61	2.52×10^{-7}	DO output low level
SF11	Reduced Digital Output	61	2.52×10^{-7}	DO output low level
SF12	Moving Digital Output	63	2.13×10^{-7}	DO output low level
SF13	Not stopping Digital Output	347	4.29×10^{-8}	DO output low level
SF14	Safe Home Position Output	63	2.13×10^{-7}	DO output low level
SF15	Joint Position Limit (soft axis limiting)	108	1.01×10^{-7}	Stop category 1
SF16	Pose Limit (Safety Zone)	59	2.52×10^{-7}	Stop category 1
SF17	Joint Speed Limit	108	1.01×10^{-7}	Stop category 1
SF18	TCP Speed Limit	59	2.52×10^{-7}	Stop category 1
SF19	TCP Speed Limit in Teaching Mode	59	2.52×10^{-7}	Stop category 1
SF20	Momentum Limit	59	2.52×10^{-7}	Stop category 1
SF21	Stopping time limiting	49	3.35×10^{-7}	Stop category 0

APPENDIX II

Supplementary of Functional Safety Certificate

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Detail technical safety parameters for each safety functions are listed in the following table:

SF	Safety Functions Name	MTTF _D (years)	PFH (1/h)	Safe State
SF22	Stopping Distance Limit	49	3.35×10^{-7}	Stop category 0
SF23	Power Limit	65	2.13×10^{-7}	Stop category 1
SF24	TCP Force Limit	65	2.13×10^{-7}	Stop category 1
SF25	Force torque Limit	65	2.13×10^{-7}	Stop category 1
SF26	TCP Position Deviation Limit	59	2.52×10^{-7}	Stop category 1
SF27	Start/Restart Interlock	59	2.52×10^{-7}	Stop category 1
SF28	Speed and Separation Monitoring (SSM)	62	2.13×10^{-7}	Stop category 2

Model description of product:

Robot System Model	Manipulator Model	Control Cabinet Model	Teach Pendant Model
CR 30H	DT-CR300HT-0	DT-CC365-0A	DT-TP10-3PE-N
CR 30HT	DT-CR300H-0	DT-CC365-0A	DT-TP10-3PE-N
CR 30H-Food	DT-CR300H-0FD	DT-CC365-0A	DT-TP10-3PE-N