

CERTIFICATE NO **FS/71/220/25/1767**

ZERTIFIKAT NR.:

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SEITE(N)

LICENCE HOLDER
GENEHMIGUNGSHABER

Shenzhen Dynalasers Technology Co., LTD.
Room 301, Building F, Hongwei Industrial Park,
No. 6, Liuxian 3rd Road, Xingdong Community,
Xinan Street, Bao'an District, Shenzhen,
Guangdong, China.

MANUFACTURING PLANT
FERTIGUNGSSTÄTTE

Shenzhen Dynalasers Technology Co., LTD.
Room 301, Building F, Hongwei Industrial Park,
No. 6, Liuxian 3rd Road, Xingdong Community,
Xinan Street, Bao'an District, Shenzhen,
Guangdong, China.

PROJECT NO/-ID
PROJEKT-NR./ID

V28C-AU01

LICENSED TEST MARK
GENEHMIGTES PRÜFZEICHEN**Technical REPORT NO.**
TECHNISCHER BERICHT NR.

V28C0001

Tested according to
Geprüft nach

ISO 13849-1:2023/ ISO 13849-2:2012

Certified product(s)
Zertifizierte(s) Produkt(e)

Handheld Laser Welding safety functions

Model(s)
Modell(e)

D50P, D60P, D70P

Technical Data and Parameter
Technische Daten und Parameter

The product fulfils the requirements of functional safety according to above standards in accordance with PL e with Cat. 3 for SF1-SF3 and PL d with Cat. 2 for SF4.

Specific Requirements
Spezifische Anforderungen

This certificate confirms the achievement of the requirements based on the following proofs:

- Proof of systematic safety integrity for defined phases of the life cycle and techniques and measures acc. ISO 13849-1/-2.
- SF's defined according to C-Standard, refer V28C0001.
- Proof of the required safety-related parameters (Failure rate, MTTF_D, DC, CCF, Category, PFH)
- Proofs that process and methods are established at the manufacturer guaranteeing that unexceptionable processes in terms of risk analysis, design, production, validation, change management and quality management comply with the safety-related standard.

Certification Body
for Functional Safety
SGS-TÜV Saar GmbH



The validation status is
documented via SGS
Certification Database.



The test mark regulation
is an integral part
of this certificate.

Munich, April 23, 2025

Robert Sammer

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D-82178 Puchheim near Munich, Deutschland /
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APPENDIX I

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Supplementary of Functional Safety Certificate

Summary of Assessment in V28C0001 Report:

SF	Safety Function Name	PL Achieved	MTTF _D (years)	PFH (1/h)	Safe State
SF1	Emergency Stop	PL e with Cat. 3 DC \geq 90%	381.51	4.29×10^{-8}	Switch off the MOS to terminate laser emission.
SF2	Interlock Input Protection	PL e with Cat. 3 DC \geq 90%	398.26	4.29×10^{-8}	Switch off the MOS to terminate laser emission.
SF3	Hold to Run Protection	PL e with Cat. 3 DC \geq 90%	121.26	4.29×10^{-8}	Switch off the MOS to terminate laser emission.
SF4	Safety Loop Protection	PL d with Cat. 2 DC \geq 60%	353.63	5.28×10^{-7}	Switch off the MOS to terminate laser emission.

Note: All Safety function CCF are 75 scores.
All safety functions demonstrate a response time \leq 300ms.