

CERTIFICATE NO FS/71/220/25/1767

PAGE 1/2

ZERTIFIKAT NR.:

SEITE(N)

LICENCE HOLDER

GENEHMIGUNGSINHABER

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

Specific Requirements

Spezifische Anforderungen

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.

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**

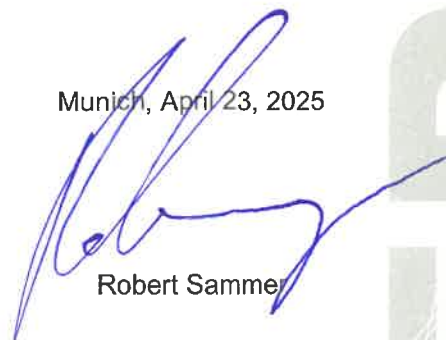


The validation status is documented via SGS Certification Database.



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

Munich, April 23, 2025



Robert Sammer

SGS-TÜV Saar GmbH, Benzstr. 28,
D-82178 Puchheim near Munich, Deutschland /
Germany.

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APPENDIX I

PAGE 2/2
SEITE(N)

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 ≥ 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 ≥ 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 ≥ 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 ≥ 60%	353.63	5.28×10 ⁻⁷	Switch off the MOS to terminate laser emission.
<p>Note: All Safety function CCF are 75 scores.</p> <p>All safety functions demonstrate a response time ≤ 300ms.</p>					