

Type Examination Certificate

Certificate Number: FR-CRT-0011

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Intertek Testing Services NA hereby confirms the below listed Power driving controller on satisfactory evaluation is authorised to affix the Intertek Functional Safety Mark:

Model: E600 series (detail in appendix table)

Manufacturer: EURA DRIVES Electric Co., Ltd.

NO. 17 Fuzhou Rd, Economic & Technical Development Zone, Yantai,
Shandong 264006, CHINA

Has been evaluated in accordance to below listed Standards and deemed to provide a Performance Level (PL) Cat. 3 /PL d and Safety Integrity Level (SIL) 2.

Standard:	Title:
IEC/EN 61800-5-2:2007	Adjustable speed electrical power drive systems -Part 5-2: Safety requirements - Functional
IEC 61800-5-2:2016 and EN 61800-5-2:2017	Adjustable speed electrical power drive systems, Part 5-2: Safety Requirements – Functional
IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems–Part 1: General requirements
IEC 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems–Part 2: Requirements for electrical/electronic/programmable electronic safety- related systems
EN ISO 13849-1:2015	Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design
IEC 62061:2005 +A1:2012+A2:2015 and EN 62061:2005 +A1:2013 +A2:2015	Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

The decision to recommend affixing the Functional Safety Mark is based on satisfactory Certification Review of the following reports:

Report Number:	Issuing Body:
210601349SHA-001	Intertek Testing Services Ltd. Shanghai
210601349SHA-002	Intertek Testing Services Ltd. Shanghai
210601349SHA-003	Intertek Testing Services Ltd. Shanghai
210601349SHA-004	Intertek Testing Services Ltd. Shanghai
210601349SHA-005	Intertek Testing Services Ltd. Shanghai
210601349SHA-006	Intertek Testing Services Ltd. Shanghai

Safety Function:

Safety Function “Safety Torque Off” (STO) (Stop Cat. 0) for future integrations into other systems or products for industrial machinery applications. In combination with a suitable external safety module,

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the safety function complies with the requirements of relevant standards (SIL 2 of EN/IEC 61800-5-2, IEC 61508, SIL CL 2 of EN/IEC 62061, and PL d / Cat. 3 acc. to EN ISO 13849-1) and can be used in applications up to SIL 2 acc. to EN/IEC 62061 / IEC 61508 and PL d acc. to EN ISO 13849-1. The results of the SIS analysis for the mentioned product, based on manufacturer provided fault tree analysis (FTA), industrial accepted and manufacturer supplied failure data

Limitations:

An external module (e.g. Safety PLC, Safety Relay Module), which meets at least SIL 2 of IEC 61508, SIL CL 2 of EN/IEC 62061, and PL d / Cat. 3 acc. to EN ISO 13849-1, has to be applied in accordance with the Installation and Operating Manual. All further instructions of the associated Installation and Operating Manual must be considered.

Validity Date: 7 Dec. 2021

List of the technical documentation prepared by the manufacturer which is retained by the Certification Body – Technical Construction File (TCF) No: 210601349SHA supporting documents

- Trademark, model or reference of the equipment.
- General description and operation of the equipment.
- Operators instructions, copy of warnings.
- Detailed description with conceptual design and manufacturing drawings, including:
- List of components, materials, sub-assemblies and circuits.
- Explanations necessary for the understanding of the above.
- List of standards, if any, applied in full or in part, and descriptions of solutions adopted to meet the standards. (risk assessment, proposed solutions)
- Results of design calculations made, any examinations carried out, etc.
- Test reports or test certificates belonging to the manufacturer, if any.
- Documentation of the solutions adopted by the manufacturer to ensure conformity of the production with the equipment specified in this certificate.
- Description of the manufacturing / installation / commissioning procedure followed.



Signature
Kevin J. Wolf
Certification Officer
Issue Date: 7 December 2021



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Results Table:

SIL 2 (HFT=1 SFF>70% $\lambda_D < 2.2 \cdot 10^{-7}/h$)

PL d (MTTFd >100 years DC>60%)

Appendix:

Type	Input	Output
E600-0002S2	1~, 220-240VAC, 50/60Hz	3~, from 0 to 220-240V AC, 0,5-590Hz, 0,2kW
E600-0004S2		3~, from 0 to 220-240V AC, 0,5-590Hz, 0,4kW
E600-0007S2		3~, from 0 to 220-240V AC, 0,5-590Hz, 0,75 kW
E600-0015S2		3~, from 0 to 220-240V AC, 0,5-590Hz, 1,5 kW
E600-0022S2		3~, from 0 to 220-240V AC, 0,5-590Hz, 2,2kW
E600-0002T3	3~, 380-480VAC, 50/60Hz	3~, from 0 to 380-480V AC, 0,5-590Hz, 0,2kW
E600-0004T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 0,4kW
E600-0007T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 0,75 kW
E600-0015T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 1,5 kW
E600-0022T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 2,2kW
E600-0030T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 3,0 kW
E600-0040T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 4,0kW
E600-0055T3		3~, from 0 to 380-480V AC, 0,5-590Hz, 5,5 kW