

Servo drive CMMT-AS-C2-11A-P3-MP-S1

Part number: 8143165



 [General operating condition](#)

Datasheet product reliability

The information in this "Product reliability data sheet" is based on products being used as intended. This includes complying with all specifications in data sheets, catalogues, user documentation and the general operating conditions. The user alone is responsible for determining whether a product is suitable for a particular application.

Feature	Value
Safety Integrity Level (SIL) ¹⁾	Safe brake control (SBC) / Safety Integrity Level 3 / SILCL 3 Safe torque off (STO)/ Safety Integrity Level 3 / SILCL3
Certified for safety functions to ISO 13849 (PL) ²⁾	Product can be used in SRP/CS up to category 4, PL e
Certified for safety function to ISO 13849 and IEC 61508 (SIL) ³⁾	Up to Safety Integrity Level 3 high demand mode
Certificate issuing authority	UL E331130 TÜV Rheinland 01/205/5640.01/23 TÜV Rheinland UK Ltd. 01/205U/5640.01/23
Mean number of annual operations nop (assumed) ⁴⁾	> 100000000
Mean time to dangerous failure (MTTF _d) ⁵⁾	Safe torque off (STO) / 2400 years SBC / 1400 years
SFF Safe Failure Fraction	99 %
Hardware fault tolerance	1
Diagnostic coverage ⁶⁾	97 %
Duration of use T _m	20 Year
Vibration resistance	To EN 61800-5-1: frequency 10-57 Hz, amplitude 0,075 mm; frequency 57-150 Hz, 1 g To EN 61800-2 Transport application test with severity level 1 in accordance with FN942017-4 and EN 60068-2-6
Shock resistance	To EN 61800-2 Shock test with severity level 1 in accordance with FN 942017-5 and EN 60068-2-27
Max. positive test pulse with 0 signal	1000 µs
Max. negative test pulse with 1 signal	1000 µs
CE mark (see declaration of conformity)	To EU EMC Directive To EU RoHS Directive To EU Machinery Directive
Safety function ⁷⁾	Safe torque off (STO) Safe stop 1 (SS1) Safe brake control (SBC)
Performance Level (PL) ⁸⁾	Safe torque off (STO) / Category 4, Performance Level e Safe brake control (SBC) / Category 3, Performance Level e

- 1) Further measures can be necessary to fulfil the stated Safety Integrity Level (SIL). For these measures refer to the relevant documentation.
- 2) Further measures can be necessary to fulfil the stated Performance Level (PL). For these measures refer to the relevant documentation.
- 3) Further measures can be necessary to fulfil the stated Safety Integrity Level (SIL). For these measures refer to the relevant documentation.
- 4) The probability of failure is based on this mean number of annual operations (nop).

- 5) The ascertainment of the $MTTF_d$ value is based on the IEC 61709 "Electric components - Reliability - Reference conditions for failure rates and stress models for conversion" respectively on the SN 29500.
- 6) In compliance with the diagnosis measures which are specified in the relevant documentation the mentioned diagnostic coverage can be achieved.
- 7) Further measures can be necessary for realization of the mentioned safety function. For these measures refer to the relevant documentation.
- 8) Further measures can be necessary to fulfil the stated Performance Level (PL). For these measures refer to the relevant documentation.