

FUNCTIONAL SAFETY CERTIFICATE

CERTIFICATO – ZERTIFIKAT – CERTIFICADO – CERTIFICAT

The product:

*Adjustable speed electrical power drive system with STO function
xMD1204*

Manufactured by:

*AEC S.r.l.
Via Zambon, 33/A (z.a.) - Località Spessa
Italy - 36051 Creazzo (Vicenza)*

suitable for the following safety function(s):

Safe Torque Off (STO)

Power, that can cause rotation (or motion in the case of a linear motor),
is not applied to the motor

has been assessed per the relevant requirements of

IEC 61508:2010 Parts 1 to 2

and meets the requirements providing the following:

Systematic Capability:

The compliance with the requirements for the avoidance of systematic faults and the requirements for the control of systematic faults have been achieved following the compliance route 1_S.

SC 3

Hardware Safety Integrity:

The constraints on hardware safety integrity have been verified in order to achieve a sufficiently robust architecture taking into account the level of element and subsystem complexity following the compliance route 1_H.

Type
A

Random Safety Integrity:

The estimated safety integrity, for each safety function, due to random hardware safe and dangerous failures rates (excluding "no part" and "no effect" contribution).

See
page
2

The architectural constraints and the effects of random failures (PFH/PFD_{AVG}) must be verified for each specific application and safety function implemented by the E/E/PE safety-related system.

Certified by:

BYHON

BYHON Certification Director:

Franco Rosati

Rosati Francesco

CERTIFICATE No:

AECX-SMD12-ENS-A01

Revision: A

Issued:

April 2nd, 2024

Valid until:

April 1st, 2027

The owner of a valid certificate for an assessed product is authorized to affix the following mark and relative ID number, to all recognized devices which are identical to the product assessed.

BYHON
SIL ✓

ID.N° 567124EN01A



#8914
ISO/IEC 17065
Product Certification Body

The design of each Safety Instrumented Function (SIF) shall meet the requirements listed in the reference standards that shall be selected by taking into account the specific application. Specific activities necessary to investigate and reach a judgment on the adequacy of the functional safety achieved by the E/E/PE safety-related system or compliant items (elements/subsystems) has been conducted by an independent assessor.

The following failure rates data shall be used to the PFH/PFD_{AVG} estimation, taking into consideration all parameters such as redundancy, architectural constraints, diagnostic capability, also introduced by the whole system, including the considerations about the proof test and its effectiveness, mean time of restoration, up to the maintenance capability and its minimum characteristics.

Device failure rates

Product	Safety Function	λ_s	λ_{DU}	λ_{DD}
Adjustable speed electrical power drive system with STO function xMD1204	Safe Torque Off (STO)	330	17	2

Note:

- All failure rates are in FIT (Failure In Time 1 FIT = 1 failure / 10⁹ hours).
- The product is capable to be used in Safety Instrumented Systems (SIS) when properly designed into a Safety Instrumented Function (SIF) and configured according to the Safety Manual. The product is SIL 3 capable in simplex configuration (HFT = 0).
- The product has been also assessed against the requirements of IEC 61800-5-2:2007 and has been found in compliance with them.

The prescriptions contained in the Safety Manual xMD1204 shall be followed.

CERTIFICATE NO:
AECX-SMD12-ENS-A01

Revision: A

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April 2nd, 2024

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The Functional Safety
Assessment report no.

24-AEC-SMD12-FSA-01

dated:
April 2nd, 2024

is an integral part of this
certificate



Mod_12_CB Rev05

BYHON
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Prato (PO)
ITALY

*The Certificate shall be reproduced
only in its original entirety.