

2.1 Approval for the Markets in USA and Canada

Using products in public buildings or industrial environments in the USA or Canada must be conform with the applicable national regulations. In particular electric products and machines are subject to testing and certification obligations and shall be labeled specifically.

The Occupational Safety and Health Administration (OSHA) only accepts devices that have been approved by an authorized NRTL laboratory (Nationally Recognized Testing Laboratory) and labeled with an appropriate test mark. An NRTL authorized by OSHA checks the legitimate status of the test mark by inspectors of the manufacturing sites, for example.

TÜV SÜD Product Service is an NRTL approved by OSHA and undertakes product certifications for industrial controls, electric drives and other products. The following link lists the approved NRTL laboratories:

<https://www.osha.gov/dts/otpca/nrtl/nrtllist.html>

The tested devices are labeled with the following symbol:



The device series SD2S is tested according to the harmonized standard IEC / UL 61800-5-1: "Standard for Adjustable Speed Electrical Power Drive Systems - Part 5-1: Safety Requirements - Electrical Thermal and Energy"

- ▶ Date: 2023-02-03
- ▶ Device variants:
 - 0362148MF / 0362248MF
 - 0362148OF / 0362248OF
 - 0362149EF / 0362249EF / 0362129EF
 - 0362149IF / 0362249IF / 0362129IF
 - 0362149EC / 0362249EC / 0362129EC
 - 0362149IC / 0362249IC / 0362129IC
 - 0369853EF / 0369853FF
 - 0369878MF / 0369878OF
- ▶ Certificate number: U10 096098 0009 Rev. 00
- ▶ Certificate data base:
 - <https://www.tuvsud.com/en/services/product-certification/ps-cert>
(Enter the certificate number or "SIEB & MEYER AG" in the search field.)
 - <https://www.tuvsud.com/en/services/testing>

2.2 NRTL Requirements

Points of Exceptions of the Test Procedure and Conditions of Acceptability

Conditions of Acceptability:

- ▶ When installing, requirements of mentioned Test Standards and Installation Guide have to be fulfilled.
- ▶ The equipments are intended for use in end-use application within final enclosure to maintain a Pollution Degree 2 or equivalent environment.
- ▶ The final enclosure has to fulfill the requirements for the protection in case of direct contact.
- ▶ The maximum ambient temperature is +40 °C.
- ▶ The Terminal blocks are suitable for factory wiring only.
- ▶ The end-use application must be equipped with a Branch Circuit Protection that meets the requirements of the NRTL certificate.
- ▶ All Branch Circuit Protection shall have characteristic B.
- ▶ The cross-section of the protective conductor (S_p) of the power drive system must be selected in relation to the conductor cross-section of a motor phase (S):
 - $S \leq 16 \text{ mm}^2$: $S_p = S$
 - $16 \text{ mm}^2 < S \leq 35 \text{ mm}^2$: $S_p = 16 \text{ mm}^2$
 - $S > 35 \text{ mm}^2$: $S_p = S/2$

Other protective conductors must have a minimum cross-section of 2.5 mm² with mechanical protection or 4 mm² without mechanical protection.

Technical Considerations:

- ▶ The equipment under test was tested for use at the maximum ambient temperature permitted by the manufacturer's specification of +40 °C.
- ▶ The units can be loaded to their maximum up to a height of 1000 m above MSL (3281 ft above MSL). For an operation in areas higher than 1000 m (3281 ft) above MSL the capacity must be reduced by 1.5 % per 100 m (328 ft).
The maximum site altitude is 2000 m (6562 ft) above MSL.
- ▶ The equipment under test was tested with the maximum version (three-phase version).