DNV·GL

Certificate No:
TAE00003AZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Motor Starter

with type designation(s)
RVS-DN

Issued to
Solcon Industries Ltd.
Yoqneam Illit, Israel

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Soft starter for Asyncronous Motors.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Rated voltage (V)	**230 - 690**
Rated current (A)	**8 - 3000**
Frequency (Hz)	**50 -60**

Issued at **Høvik** on **2019-02-20**
This Certificate is valid until **2023-12-31**.
DNV GL local station: **Haifa**

Approval Engineer: **Georgy Abramenko**

for **DNV GL**

Marta Alonso Pontes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id: **262.1-017780-3**
Certificate No: **TAE00003AZ**

Product description
Soft starter for asynchronous motors.

Type designation		Motor power (kW)			
		230V	400V	500V	690V
RVS-DN	8 - 210	2.3 - 60	4 – 110	5.5 – 132	7.5 - 210
	310 - 3000	-	160 – 1700	220 – 2200	300 - 3000

Application/Limitation
Supply voltage range: 220-690 V, 50/60 Hz
Voltage variation: - 15 %/ + 10 %
Frequency variation: 45 – 65 Hz
Temperature range in operation: -10 - +50 °C
Max starting current: 500 % of FLC
Max. starts pr. hour: 4 - 10 depending of application
DNV Temperature class: A
DNV Vibration class: A
DNV Humidity class: A
EMC: EMC Directive
To be used on DNV class A locations.

The Type Approval is based on rated current with use of a by-pass contactor (from size 950 A and above).

The RVS-DN must be regarded as a component. The actual installation is to be designed according to SOLCON RVS-DN Instruction Manual and according to the applicable DNV Rules for the actual application. To be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location.

Type Approval documentation

Tests carried out
Type tests in accordance with 60947-1 & 60947-4-1 (partly). Heat run test in accordance with UL 508.

Visual inspection, Performance, Power Frequency Dielectric Tests, Damp heat, Insulation resistance, High voltage.

EMC: The following tests are in accordance with the EMC directive / IEC 60947-4-1: Electrical fast transient (Burst), electrical slow transient (Surge),
RF-common mode Voltage, radiated RF-electromagnetic fields, electric discharge (ESD), radiated and conducted emission.

Marking of product
RVS-DN – Type designation – Current – Voltage – Control Voltage – Options

Periodical assessment
The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance

- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE