TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA00001WV
Revision No:
5

This is to certify:

that the Solid State Relays

with type designation(s)
RGC 15, 20, 25, 30 RGS 50

issued to
Carlo Gavazzi Ltd.
Zejtun, **Malta**

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

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

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A/B***
EMC	**B**
Enclosure	**A**

***Location class A for Vibration: RGC slot type Heatsink**

Issued at **Hamburg** on **2025-08-26**

This Certificate is valid until **2028-06-26**.
DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Torsten Dzillak**

for **DNV**

Digitally signed by: Dariusz Lesniewski
Location: DNV SE, Germany

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Solid State Relays

Nomenclature breakdown: RGC/S(I) II III IV V VI VII VIII IX X

I - Designated basic series
RGC – 1 Phase SSR with heatsink
RGS – 1 Phase SSR with no heatsink
II - Construction Type
1 – 1 Phase
III - Switching Type
A – Zero Switching
B – Instant On
IV - Rated Operational Voltage
23 – 230 Vac (24÷240 Vrms)
40 – 400 Vac (42÷400 Vrms)
48 – 480 Vac (42÷480 Vrms)
60 – 600 Vac (42÷600 Vrms)
V - Control Voltage
D – DC control, 3÷32 Vdc, Class 2 [RGC/S1x23/40]
D – DC control, 4÷32 Vdc, Class 2 [RGC/S1x48/60]
A – AC control, 20÷275 Vac 50/60Hz (±10%), (24÷190 Vdc)
VI - Rated Current @ 40°C Surrounding Air Temperature
15 – 23.8 A (RGC)
20 – 23.0 A (RGC)
25 – 25.0 A (RGC)
30 – 30.0 A (RGC)
50 – 50.0 A (RGS)
VII - Control connection type
K – Screw
M – Spring (Pluggable)
G – Screw (Pluggable)
VIII Power connection type
K – Screw
G – Clamp
IX - Connection configuration
E – Contactor
U – SSR
XI - Option:
Z – Transil
Hxx – mounted on heatsink Hxx [RGS]
Pxx – private label branding

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Application/Limitation

Equipment for installation and/or use outside a distance of 5 m from a standard or a steering magnetic compass.

Type Approval documentation

Test reports:
No: GL_Test2_2011_6.0
No: GL_Test9_2011_2.0
No: TRA-006010-01
No: GL_Test2_2013
No: GL_Test9_2013_3.0
No. 3C Test Limited 3C20/14267/1 Issue 2

Part Numbers for RG Series; Schematic & Layout for RG Series
Data sheets: RGS(090311), RGC_E(170613), RGC_U(170613)

Type approval renewal assessment report issued at place Zejtun/Gzira on 2024-05-15.

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:
- model name
- manufacturer name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the 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.

Manufactured by:

Carlo Gavazzi Automation (Kunshan) Co., Ltd.

Carlo Gavazzi Ltd. Zejtun, Malta

END OF CERTIFICATE