EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRE0000015

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

Schneider Electric Industries S.A.S.

Rueil Malmaison, Hauts de Seine, **France**

for
Electrical/Electronic Relays

with type designation(s)
TeSys Giga - LR9G

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Electrical/Electronic Relays

Intended service
3 poles electronical type thermal overload relays for installation in enclosures onboard ship and offshore units

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2027-02-17**.

Issued at **Høvik** on **2022-02-18**

DNV local station: **France CMC**

Approval Engineer: **Nicolay Horn**

for **DNV**
Digitally Signed By: Sjåvåg, Trond
Location: DNV Høvik, Norway

Trond Sjåvåg
Head of Section

Product description

3 poles electronical type thermal overload relays of the differential Type (Phase loss sensitive) with two integrated auxiliary contacts of an integrated aux. relay (1 NO, 1NC), with the following settings :

- Ir setting: 64 positions from Irmin to Irmax.
- Trip class: Class 5E, 10E, 20E and 30E
- Protection enable/disable, manual/auto reset

- Main functions of product are :
  - Current Overload Protection (done electronically,)
  - Phase loss sensitive (in case of phase loss the tripping occurs with lower currents)
  - Ground fault protection CI-A type (acc.to IEC standard)
  - Auto Reset function
  - Pre-alarm indication (LED)
  - Current flowing indication (LED)
  - Phase imbalance protection IEC 60947-1 Annex T 5.5

Commercial Reference	Electronic Overload relay Setting range (A)	Frame	Trip Class	Aux Terminal Type 95-96, 97~98
LR9G115	28…115	5	5E, 10E, 20E, 30E	Spring
LR9G225	57…225	5		
LR9G500	125…500	6		
LR9G630	160…630	7		
LR9G115C	28…115	5		Screw
LR9G225C	57…225	5		
LR9G500C	125…500	6		
LR9G630C	160…630	7		

Rated impulse withstand voltage U_{imp}: 8 kV
Rated insulation voltage U_i: 1000 V AC
Rated frequency: 50/60 Hz

Manufactured by

Schneider Shanghai Apparatus Parts Manufacturing Co,
Ltd Putuo branch, Putuo district,
Shanghai, China

Application/Limitation

For installation inside switchboards/ enclosures onboard ships and offshore units.

Type Approval documentation

Name	Number	Date
TeSys Control - Giga Relays – Catalogue 2022		
Product Identification File Overload Relays OLR Fr 5-6-7 - Marine		
Test report IEC 60947-4-1	2011990047	2021-03-17
Test report IEC 60947-4-1	2011990050	2021-05-11
Test report IEC 60947-4-1	2011990051	2021-05-17
Test report IEC 60947-4-1	2011996005	2021-11-16
Test report IEC 60947-4-1	2011990050 Amendment no. 1	2021-10-28
Test report IEC 60947-4-1	2011990051 Amendment no. 1	2021-11-06
CNAS Environmental Test report	2111930124	2021-10-05
CNAS Environmental Test report	2111930125	2021-10-05
CNAS Environmental Test report	2111930126	2021-10-05

Marking of product

Schneider Electric – Type designation – Manufacturing place

Other Conditions

Electrical tests after EU RO MR Technical Requirements – Electrical/Electronic Relays. Type tests in accordance with IEC 60947-4-1 (2018) and IEC 60947-5-1 (2016), Environmental tests in accordance with DNV-CG-0339, August 2021 (Power supply variation, Power supply failure, Vibration, Dry heat, Damp heat, Cold Inclination)

Environmental test parameters:

Temperature:	-25 ºC and 55 ºC
Humidity:	Relative humidity up to 100% at all relevant temperatures
Vibration:	± 1mm / 0.7g
EMC:	General power zone
Enclosure:	IP20

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is 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 Routines tests (RT) checked (if not available tests RT to be carried out).
- Review of type approval documentation.
- Review of possible change in design, materials and performance.
- Ensure traceability between manufacturer's product marking and the DNVGL EU MR Type Approval Certificate.

Assessment to be performed annually.

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).