DNV·GL

Certificate No:
TAA00000VK

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Controller

with type designation(s)
Smart Relays Smart Relays Series Zelio Logic, Telemecanique Zelio Models SR2 & SR3

Issued to
Schneider Electric Automation GmbH
Marktheidenfeld, Germany

is found to comply with
DNV GL 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 GL.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
Smart Relays Smart Relays Series Zelio Logic	**B**	**B**	**A**	**A**	
Telemecanique Zelio Models SR2 & SR3	**B**	**B**	**A**	**A**	

This Certificate is valid until **2022-01-30**.
Issued at **Hamburg** on **2017-01-31**

DNV GL local station: **Augsburg**

Approval Engineer: **Andrea Grün**

Digitally Signed By: Rinkel, Marco
for **DNV GL**
Signing Date: 2017-02-07
Location: Hamburg - On behalf of

Duy Nam Le
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.

Product description

Compact Smart Relays with Display

12 V DC	SR2B121JD; SR2B201JD
24 V DC	SR2A101BD; SR2B121BD; SR2B122BD; SR2A201BD; SR2B201BD; SR2B202BD
24 V AC	SR2B121B; SR2B201B
100 … 240 V AC	SR2A101FU; SR2B121FU; SR2A201FU; SR2B201FU

Compact Smart Relays without Display

24 V DC	SR2D101BD; SR2E121BD; SR2D201BD; SR2E201BD
24 V AC	SR2E121B; SR2E201B
100 … 240 V AC	SR2D101FU; SR2E121FU; SR2D201FU; SR2E201FU

Firmware Version : V Z2DC27_4_03_1_2_012345----.bz2 and Z2DC2a_4_03_1_1_012345----.bz2

Modular Smart Relays with Display

12 V DC	SR3B261JD
24 V DC	SR3B101BD; SR3B102BD; SR3B261BD; SR3B262BD
24 V AC	SR3B101B; SR3B261B
100 … 240 V AC	SR3B101FU; SR3B261FU

Analogue I/O extension modules	4 I/Os SR3XT43BD
Discrete I/O Extension Module	SR3XT
12 V DC for SR3B261JD	SR3XT61JD; SR3XT101JD; SR3XT141JD
24 V DC for SR3B…BD	SR3XT61BD; SR3XT101BD; SR3XT141BD
24 V AC for SR3B…B	SR3XT61B; SR3XT101B; SR3XT141B
100 … 240 V AC for SR3B…FU	SR3XT61FU; SR3XT101FU; SR3XT141FU

Modubus network communication module	SR3NET01BD
Modbus network slave communication module	SR3MBU01BD
Memory Cartridge	SR2MEM01; SR2MEM02
Connecting Cable; Interface	SR2CBL01; SR2USB01; SR2CBL06

Inputs

Discrete DC Input Ratings (I1…IA & ICH…IR)	SR…..JD 12 V DC / 4 mA; SR…..BD 24 V DC / 4 mA
Discrete or Analog DC Input Ratings (IB…IG)	SR…..JD 12 V DC / 4 mA; SR…..BD 24 V DC / 4 mA
Analog DC Input Ratings	SR…..JD 0…10 V or 0…12 V; SR…..BD 0…10 V or 0…24 V
Analog DC Input Ratings (IH, IJ & Pt)	IH, IJ 0…10 V DC, 0…20 mA; Pt -25°C … +125°C
Discrete AC Input Ratings	SR…..B 24 V AC / 4.4 mA; SR…..FU 100 … 240 V AC / 0.6 mA

Outputs

Relay Output Ratings	8x Outputs Ith 8A SR2…/ SR3B101../ SR3XT61.. / SR3XT101.. 8x Outputs Ith 8A +2x Outputs Ith 5A SR3B261.. 4x Outputs Ith 8A +2x Outputs Ith 5A SR3XT141..
	DC12 24 V DC / 1.5 A; DC13 24 V DC / 0.6 A
	AC12 230 V AC / 1.5 A; AC15 230 V AC / 0.9 A
Transistor Output Ratings	24 V DC / 0.5 A SR.B..2BD

Supplies

Supply Ratings	12 V DC	SR2B121JD 120 mA; SR2B201JD 200 mA; SR3B261JD 250 mA, 400 mA with extension
Supply Ratings	24 V DC	SR2.1.1BD 100 mA; SR2B122BD 100 mA; SR2.201BD 100 mA; SR2B202BD 100 mA; SR3B101BD 100 mA with extension; SR3B102BD 50 mA, 160 mA with extension; SR3B261BD 190 mA, 300 mA with extension; SR3B262BD 70 mA, 180 mA with extension
Supply Ratings	24 V AC	SR2B121B 145 mA; SR2.201B 233 mA; SR3B101B 160 mA, 280 mA with extension; SR3B261B 280 mA, 415 mA with extension
Supply Ratings	100…240 V AC	SR2.101FU, SR2.121FU 80-30 mA; SR2.201FU 100-50 mA; SR3B101FU 80-30 mA, 80-40 mA with extension; SR3B261FU 100-50 mA, 80-60 mA with extension

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Test reports :	1505568	dated 09-11-2005
	EMC RC-03-40777-A	dated 28-01-2004
	RC-03-40134-1-A	dated 25-03-2003
	No. 030212	dated 20-05-2003
	No 030395 and No. 040276	dated 20-02-2006
	NE110 015P05001 V 00.02	dated 29-11-2005
	NE110 023P05000 V 00	dated 21-03-2005
	NE112 031P05000 V 00	dated 30-09-2005
	NE112 033P05000 V 00.00	dated 20-04-2006
	NE112 034P05000 V 00.00	dated 31-31-2006
	R-032-C45-07-100812-1-A-FL-PH	dated 27-03-2007
Documentation	Qualification Plan	dated 20-02-2006
	Zelio CD Qualif. GL Zelio	

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

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.

END OF CERTIFICATE