DNV·GL

Certificate No:
TAA00002VZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
PSR-PC50-1NO-1DO-24DC-SC/SP, PSR-MC30-2NO-1DO-24DC-SC/SP, PSR-PC40-2NO-1DO-24DC-SC/SP, PSR-PC20-1NO-1NC-24DC-SC/SP, PSR-PC20-1NO-1NC-24DC-SC, PSR-PS21-1NO-1NC-24DC-SC, PSR-PS40-1NO-1DO-24DC-SC

Issued to
Phoenix Contact GmbH & Co. KG
Blomberg, Nordrhein-Westfalen, 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.
Location classes:

Temperature	**B***
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**Required protection according to the Rules shall be provided upon installation on board.**

***see Application/Limitation**

Issued at **Hamburg** on **2020-10-28**
This Certificate is valid until **2025-10-27**. for **DNV GL**
DNV GL local station: **Hamburg – CMC North/East**

Approval Engineer: **Heinz Scheffler**

Joannis Papanuskas
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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 300,000 USD.

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Product description

Coupling relay for safety-related switch on and safety-related switch off
PSR-PC50-1NO-1DO-24DC-SC/SP
Coupling relay can be used for power adaptation and electrical isolation in Safe-State-ON applications

- Contact type: 1 signalling current path
- Nominal input voltage UN: 24 V DC
- Maximum switching voltage NO Output: 250 V AC / 125 DC
- Minimum switching voltage NO Output: 15 V AC/DC, 20 V AC/DC with diagnostics
- Limiting continuous current (N/O contact, N/C contact): 6 A
- Minimum / Maximum inrush current: 100mA / 5 A
- 1 Alarm Output (digital), 23 V DC, max. 100 mA
- SC: with screw connection/SP: with spring-cage connection

Derating curve is to be observed

PSR-MC30-2NO-1DO-24DC-SC/SP
Safety relay for emergency stop and safety doors.

- Contact type: 2 enabling current path, 2x two contacts in series
- Cross circuiting detection
- 1 two channel sensor circuit
- Nominal input voltage UN: 24 V DC
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- 1 Alarm Output (digital, PNP), 22 V DC, max. 100 mA
- SC: with screw connection/SP: with spring-cage connection

PSR-PC40-2NO-1DO-24DC-SC/SP
Safety Coupling relay high- and low-demand applications

- Contact type: 2 enabling current path, 2x two contacts in series
- Integrated DCS test pulse filter, Low inrush current
- Nominal input voltage UN: 24 V DC
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- 1 Alarm Output (digital, PNP), 22 V DC, max. 100 mA
- SC: with screw connection/SP: with spring-cage connection

PSR-PC20-1NO-1NC-24DC-SC/SP
coupling relay can be used for power adaptation and electrical isolation in high and low-demand applications

- Contact type: 1 enabling current path
- Nominal input voltage UN: 24 V DC
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- 1 Alarm Output (digital, PNP), 22 V DC, max. 100 mA
- Contact type: 1 confirmation current path (NC-Contact)
- Minimum switching voltage NC-Contact: 20V DC
- Maximum switching voltage NC-Contact: 26,4V DC
- Limiting continuous current NC-Contact: 100mA
- Minimum/Maximum inrush current NC-Contact: 1mA/100mA
- SC: with screw connection/SP: with spring-cage connection

PSR-PS20-1NO-1NC-24DC-SC
coupling relay can be used for power adaptation and electrical isolation in high and low-demand applications
- Contact type: 1 enabling current path, two NO contacts in series
- 1 undelayed confirmation current path
- Nominal input voltage UN: 24 V DC
- 1 digital signal output 24V/100mA
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- Active error acknowledgment via A1
- 1 Alarm output (digital, PNP), 22 V DC, max. 100 mA
-Contact type: 1 confirmation current path (NC-Contact)
 -Minimum switching voltage NC-Contact: 20V DC
 -Maximum switching voltage NC-Contact: 26,4V DC
 -Limiting continuous current NC-Contact: 100mA
 -Minimum/Maximum inrush current NC-Contact: 1mA/100mA
- SC: with screw connection

PSR-PS21-1NO-1NC-24DC-SC
coupling relay can be used for power adaptation and electrical isolation in high and low-demand applications
- Contact type: 1 enabling current path, one NO contact
- 1 undelayed confirmation current path
- Nominal input voltage UN: 24 V DC
- 1 digital signal output 24V/100mA
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- 1 Alarm Output (digital, PNP), 22 V DC, max. 100 mA
-Contact type: 1 confirmation current path (NC-Contact)
 -Minimum switching voltage NC-Contact: 20V DC
 -Maximum switching voltage NC-Contact: 26,4V DC
 -Limiting continuous current NC-Contact: 100mA
 -Minimum/Maximum inrush current NC-Contact: 1mA/100mA
- SP: with spring-cage connection

PSR-PS40-1NO-1DO-24DC-SC
coupling relay can be used for power adaptation and electrical isolation in high and low-demand applications
- Contact type: 1 enabling current path, two NO contacts in series
- Nominal input voltage UN: 24 V DC
- one digital signal output 24VDC/100mA
- DCS test pulse filter
- Maximum switching voltage NO Output: 250 V AC/DC
- Minimum switching voltage NO Output: 20V AC/DC
- Limiting continuous current NO contact: 6 A
- Minimum / Maximum inrush current NO contact: 3mA / 6 A
- 1 Alarm Output (digital, PNP), 22 V DC, max. 100 mA
- SC: with screw connection

Application/Limitation

Location class Temperature: Derating curve (see Data Sheet) depends on the mounting position is to be observed.

SIL 3 according to IEC 61508 as well as EN 61511 is not covered by this certificate. SIL3 is to be issued by a notified/recognized Certification Body.

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Test Report: U140831E2; U151615E1, 2nd Version, S140831E1; E140831E2, E140831E3, E151615E1, 2nd Version, E200884E1
Documents: TAA00002VZ Overview_Documents_Rev.00

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019

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.

END OF CERTIFICATE