

TYPE APPROVAL CERTIFICATE

This is to certify:

That the DC Power Supply

with type designation(s)
TRIO-PS-2G Series

Issued to

Phoenix Contact GmbH & Co. KG
Blomberg, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

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

This Certificate is valid until **2021-05-11**.

Issued at **Hamburg** on **2016-05-12**

for **DNV GL**

DNV GL local station: **Magdeburg**

Approval Engineer: **Heinz Scheffler**

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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

Primary-switched power supply.

TRIO-PS-2G/1AC/24DC/3/C2LPS

Nominal input voltage (wide-range input):

- 1AC: 100 - 240 V AC
- DC nominal: 110 – 250 V DC

Nominal output voltage / current:

- 24 V DC / 3 A

TRIO-PS-2G/1AC/24DC/5

Nominal input voltage (wide-range input):

- 1AC: 100 - 240 V AC
- DC nominal: 110 – 250 V DC

Nominal output voltage / current:

- 24 V DC / 5 A

TRIO-PS-2G/3AC/24DC/5

Nominal input voltage (wide-range input):

- 3AC: 400 - 500 V AC

Nominal output voltage / current:

- 24 V DC / 5 A

Application/Limitation

> 60 °C Derating: 2,5 %/K

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.

Type Approval documentation

Test Reports: E150925E2; E150923E2; E150918E2; U153866E1; S153866E1

Documents: Documents overview_153866_2016-05-02; 105899_de_00; 105900_de_01; 105904_de_00

Tests carried out

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

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

Job Id: **262.1-021107-1**
Certificate No: **TAA00000BM**

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE