

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000BV
Revision No:
10

This is to certify:

That the DC Power Supply

with type designation(s)
QUINT4-PS AC /DC Series, QUINT4-PS DC/DC Series and QUINT4-SYS

Issued to

Phoenix Contact GmbH & Co. KG
Blomberg, Nordrhein-Westfalen, Germany

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

* see EMC & Vibration class under Product description and Temperature remark under Application/Limitation

Issued at **Hamburg** on **2024-03-22**

for **DNV**

This Certificate is valid until **2026-06-22**.

DNV local station: **Essen**

Approval Engineer: **Heinz Scheffler**

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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 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 300,000 USD.



Product description

Primary-switched power supply with SFB and NFC Interface.

- SFB: Selective Fuse Breaking for standard circuit breakers. Circuit breakers can be tripped reliably and quickly with SFB technology and six times the nominal current for 15 ms.
- NFC Interface allows sending data providing user defined parameter, for example: signaling threshold level, output voltage between and output characteristic. Implemented NFC Interface for adaptive configuration to application needs.

QUINT4-PS AC/DC					
Mat.-No.	Designation	Nominal input voltage (wide-range input):	Nominal output voltage / current:	Vibration Class	EMC Class
2904595	QUINT4-PS/1AC/5DC/5/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	5 V DC / 5A	A&C	B
1092852	QUINT4-PS/1AC/5DC/5/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	5 V DC / 5A	A&C	B
2904605	QUINT4-PS/1AC/12DC/2.5/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	12 V DC / 2.5A	A&C	B
1092850	QUINT4-PS/1AC/12DC/2.5/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	12 V DC / 2.5A	A&C	B
2904607	QUINT4-PS/1AC/12DC/7.5/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	12 V DC / 7.5A	A&C	A
1092848	QUINT4-PS/1AC/12DC/7.5/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	12 V DC / 7.5A	A&C	A
2904608	QUINT4-PS/1AC/12DC/15	100 V AC - 240 V AC 110 V DC - 250 V DC	12 V DC / 15 A	A&C	B
2904596	QUINT4-PS/1AC/2X15DC/2/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	± 15 V DC / 2 A	A&C	A
1092847	QUINT4-PS/1AC/2X15DC/2/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	± 15 V DC / 2 A	A&C	A
2904597	QUINT4-PS/1AC/24DC/1.3/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 1.5A	A&C	B
2909575	QUINT4-PS/1AC/24DC/1.3/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 1.5A	A&C	B
2904598	QUINT4-PS/1AC/24DC/2.5/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 2.5A	A&C	A
2909576	QUINT4-PS/1AC/24DC/2.5/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 2.5A	A&C	A
2904614	QUINT4-SYS-PS/1AC/24DC/2.5/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 2.5A	A&C	A
2904599	QUINT4-PS/1AC/24DC/3.8/SC	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 3.8A	A&C	A
2909577	QUINT4-PS/1AC/24DC/3.8/PT	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 3.8A	A&C	A
2904600	QUINT4-PS/1AC/24DC/5	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 5 A	A&C	B
2904601	QUINT4-PS/1AC/24DC/10	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 10 A	A&C	A
2904625	QUINT4-PS/1AC/24DC/10/CO	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 10 A	A&C	A
2904616	QUINT4-PS/1AC/24DC/10/+	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 10 A	A&C	B
2904602	QUINT4-PS/1AC/24DC/20	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 20 A	A&C	A
2904617	QUINT4-PS/1AC/24DC/20/+	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 20 A	A&C	A
2904603	QUINT4-PS/1AC/24DC/40	100 V AC - 240 V AC 110 V DC - 250 V DC	48 V DC / 40 A	A&C	A

QUINT4-PS AC/DC					
Mat.-No.	Designation	Nominal input voltage (wide-range input):	Nominal output voltage / current:	Vibration Class	EMC Class
2904618	QUINT4-PS/1AC/24DC/40	100 V AC - 240 V AC 110 V DC - 250 V DC	48 V DC / 40 A	A&C	A
2904610	QUINT4-PS/1AC/48DC/5	100 V AC - 240 V AC 110 V DC - 250 V DC	48 V DC / 5 A	A&C	B
2904611	QUINT4-PS/1AC/48DC/10	100 V AC - 240 V AC 110 V DC - 250 V DC	24 V DC / 10 A	A&C	A
2904626	QUINT4-PS/1AC/48DC/10/CO	100 V AC - 240 V AC 110 V DC - 250 V DC	48 V DC / 10 A	A&C	A
2904612	QUINT4-PS/1AC/48DC/20	100 V AC - 240 V AC 110 V DC - 250 V DC	48 V DC / 20 A	A&C	A
2904613	QUINT4-PS/1AC/110DC/4	100 V AC - 240 V AC 110 V DC - 250 V DC	110 V DC / 4 A	A&C	A
2904620	QUINT4-PS/3AC/24DC/5	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 5 A	A&C	A
2904621	QUINT4-PS/3AC/24DC/10	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 10 A	A&C	A
2904622	QUINT4-PS/3AC/24DC/20	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 20 A	A&C	A
1151048	QUINT4-PS/3AC/24DC/20/IOL	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 20 A	A&C	A
2904623	QUINT4-PS/3AC/24DC/40	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 40 A	A&C	A
1151047	QUINT4-PS/3AC/24DC/40/IOL	400 V AC - 500 V AC +/- 300 V DC	24 V DC / 40 A	A&C	A
2904627	QUINT4-PS/3AC/48DC/20	400 V AC - 500 V AC +/- 300 V DC	48 V DC / 40 A	A&C	A

SC: Screw connection
 PT: Push-in connection

QUINT4-PS DC/DC					
Mat.-No.	Designation	Nominal input voltage	Nominal output voltage / current:	Vibration Class	EMC Class
2910124	QUINT4-PS/12DC/24DC/5/PT	12 V DC	24 V DC / 5 A	A&C	B
1046859	QUINT4-PS/12DC/24DC/5/SC	12 V DC	24 V DC / 5 A	A&C	B
1066703	QUINT4-PS/12-24DC/24DC/1.3/SC	12 V DC - 24 V DC	24 V DC / 1.3 A	A&C	B
1066716	QUINT4-PS/12-24DC/24DC/1.3/PT	12 V DC - 24 V DC	24 V DC / 1.3 A	A&C	B
1066718	QUINT4-PS/12-24DC/24DC/2.5/SC	12 V DC - 24 V DC	24 V DC / 2.5 A	A&C	B
1066714	QUINT4-PS/12-24DC/24DC/2.5/PT	12 V DC - 24 V DC	24 V DC / 2.5 A	A&C	B
1066704	QUINT4-PS/12-24DC/5-15DC/2.5/PT	12 V DC - 24 V DC	5 V DC - 15 V DC / 2.5 A	A&C	B
1206357	QUINT4-PS/12-24DC/5-15DC/2.5/SC	12 V DC - 24 V DC	5 V DC - 15 V DC / 2.5 A	A&C	B
2910122	QUINT4-PS/24DC/12DC/8/PT	24 V DC	12 V DC / 8 A	A&C	B

QUINT4-PS DC/DC					
Mat.-No.	Designation	Nominal input voltage	Nominal output voltage / current:	Vibration Class	EMC Class
1046806	QUINT4-PS/24DC/12DC/8/SC	24 V DC	12V DC / 8 A	A&C	B
2910119	QUINT4-PS/24DC/24DC/5/PT	24 V DC	24 V DC / 5 A	B fixed mounting	B
1046800	QUINT4-PS/24DC/24DC/5/SC	24 V DC	24 V DC / 5 A	A&C	B
2910132	QUINT4-PS/24DC/24DC/5/PT/CO	24 V DC	24 V DC / 5 A	A&C	B
1046872	QUINT4-PS/24DC/24DC/5/SC/CO	24 V DC	24 V DC / 5 A	A&C	B
1046803	QUINT4-PS/24DC/24DC/10/SC	24 V DC	24 V DC / 10 A	A&C	B
2910120	QUINT4-PS/24DC/24DC/10/PT	24 V DC	24 V DC / 10 A	B fixed mounting	B
2910133	QUINT4-PS/24DC/24DC/10/PT/CO	24 V DC	24 V DC / 10 A	A&C	B
1046880	QUINT4-PS/24DC/24DC/10/SC/CO	24 V DC	24 V DC / 10 A	A&C	B
1046805	QUINT4-PS/24DC/24DC/20/SC	24 V DC	24 V DC / 20 A	A&C	B
1046881	QUINT4-PS/24DC/24DC/20/SC/+	24 V DC	24 V DC / 20 A	A&C	B
2910121	QUINT4-PS/24DC/24DC/20/PT	24 V DC	24 V DC / 20 A	A&B&C	B
2910134	QUINT4-PS/24DC/24DC/20/PT/+	24 V DC	24 V DC / 20 A	A&B&C	B
2910123	QUINT4-PS/24DC/48DC/5/PT	24 V DC	48 V DC / 5 A	A&C	B
1046855	QUINT4-PS/24DC/48DC/5/SC	24 V DC	48 V DC / 5 A	A&C	B
1098676	QUINT4-PS/24-48DC/48DC/2/PT	24 V DC - 48 V DC	48 V DC / 2 A	A&C	A
1231546	QUINT4-PS/24-48DC/48DC/2/SC	24 V DC - 48 V DC	48 V DC / 2 A	A&C	A
2910125	QUINT4-PS/48DC/24DC/5/PT	48 V DC	24 V DC / 5 A	A&C	B
1046860	QUINT4-PS/48DC/24DC/5/SC	48 V DC	24 V DC / 5 A	A&C	B
1066708	QUINT4-PS/48-110DC/24DC/2.5/PT	48 V DC - 110 V DC	24 V DC / 2.5 A	A&C	B
1206356	QUINT4-PS/48-110DC/24DC/2.5/SC	48 V DC - 110 V DC	24 V / 2.5 A	A&C	B
2910128	QUINT4-PS/48DC/48DC/5/PT	48 V DC	48 V DC / 5 A	A&C	B
1046867	QUINT4-PS/48DC/48DC/5/SC	48 V DC	48 V DC / 5 A	A&C	B

SC: Screw connection
 PT: Push-in connection

The QUINT 4 PS can be configured or directly delivered with customer specific parameterizations such as output current limitation, voltage adjustment or signaling, identified by a 1 to 30 character alphanumeric suffix (any combination of letters/numbers) behind the type designation:

- Output characteristic (Alternative to default U/I Advanced characteristic available)
 - limitation of short circuit current (Smart HICCUP)
 - functionality to switch off output voltage 24 V DC if output power exceeds a adjustable level (FUSE MODE)
- Signals
 - signal contacts can be used for different outputs (for example: output current, output power) with
 - adjustable thresholds
- Control input
 - switch on and off signal of Remote Control input can be inverted
- Output voltage
 - output voltage can be adjusted by using the front buttons of the device or the NFC Interface
 - voltage drop over output power can be adjusted (e.g. PARALLEL MODE)
 - front buttons for output voltage can be locked

Application/Limitation

Location class Temperature D:

- Temperature-dependent derating; at ambient temperatures above +60 °C, the output power must be decreased by 2.5 % per Kelvin increase in temperature.

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 classification of ships Pt.4 Ch.9 Control and monitoring systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-Certificate issued by a notified/recognized Certification Body

Type Approval documentation

Test Reports and Documents: TAA00000BV_Overview_Documents_Rev.07

Tests carried out

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

Applicable tests for protected equipment according to IEC 60945, 4th edition 2002:

only Article No. 2910119; 1046800; 2910120;1046803; 2910122; 1046806; 2910125; 1046860; 1066704; 1206357; 1066716; 1066703; 1066714; 1066718; 1066708;1206356; 2904600; 2910119; 1046803; 2904601

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