NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA21182M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use" and the relevant Society's Rules.

This certificate is issued to

Manufacturer:	**Phoenix Contact GmbH & Co. KG**
Place of Manufacturing:	**Flachsmarktstrasse 8, 32825 Blomberg, Germany**
Product description:	**Primary switched DC/DC converter** **Primary switched QUINT POWER power supply**
Model:	**QUINT4-PS Series**
Approval No.:	**21A011**
Valid until:	**11 May 2026**

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 12 May 2021.

T. Shimada
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

Attached sheet -1/4 to the Certificate No. TA21182M

Specification & documents:

1. Particulars:

Designation	Input Voltage	Output Voltage	Output Current
QUINT4-PS/12DC/24DC/5/SC	12VDC	24VDC	5A
QUINT4-PS/12DC/24DC/5/PT			
QUINT4-PS/24DC/12DC/8/PT	24VDC	12VDC	8A
QUINT4-PS/24DC/12DC/8/SC			
QUINT4-PS/24DC/24DC/5/PT		24VDC	5A
QUINT4-PS/24DC/24DC/5/PT/CO			
QUINT4-PS/24DC/24DC/5/SC			
QUINT4-PS/24DC/24DC/10/SC			10A
QUINT4-PS/24DC/24DC/10/PT			
QUINT4-PS/24DC/24DC/10/PT/CO			
QUINT4-PS/24DC/24DC/20/PT			20A
QUINT4-PS/24DC/24DC/20/SC			
QUINT4-PS/24DC/24DC/20/PT/+			
QUINT4-PS/24DC/24DC/20/SC/+			
QUINT4-PS/24DC/48DC/5/PT		48VDC	5A
QUINT4-PS/24DC/48DC/5/SC			
QUINT4-PS/48DC/24DC/5/PT	48VDC	24VDC	
QUINT4-PS/48DC/24DC/5/SC			
QUINT4-PS/48DC/48DC/5/PT		48VDC	

SC: Screw connection, PT: Push-in connection,

- To be continued -

Attached sheet -2/4 to the Certificate No. TA21182M

1. Particulars:

Designation	Input Voltage	Output Voltage	Output Current
QUINT4-PS/1AC/12DC/15	1AC:100-240V AC DC:100 – 250V DC	12VDC	15A
QUINT4-PS/1AC/24DC/5		24VDC	5A
QUINT4-PS/1AC/24DC/10			10A
QUINT4-PS/1AC/24DC/10/CO			10A
QUINT4-PS/1AC/24DC/20			20A
QUINT4-PS/1AC/24DC/20/+			20A
QUINT4-PS/1AC/24DC/40			40A
QUINT4-PS/1AC/48DC/5		48VDC	5A
QUINT4-PS/1AC/48DC/10			10A
QUINT4-PS/1AC/48DC/10/CO			10A
QUINT4-PS/1AC/110DC/4		110VDC	4A
QUINT4-PS/3AC/24DC/5	3AC: 400-500V AC DC: ±300 V DC	24VDC	5A
QUINT4-PS/3AC/24DC/10			10A
QUINT4-PS/3AC/24DC/20			20A
QUINT4-PS/3AC/24DC/40			40A

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 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

- To be continued -

2. Documentation and Test Reports:

Data Sheet:

107099_en_01, 107100_en_02, 107101_en_01, 107103_en_01, 107104_en_01, 107105_en_01, 107771_en_03, 108475_en_01, 108476_en_01, 108751_en_01, 108827_en_01, 108828_en_00, 108833_en_00, 108834_en_00, 108835_en_00, 108836_en_00, 108837_en_01, 108863_en_01, 108883_en_00, 109175_en_00, 109176_en_00, 109242_en_00, 109243_en_00, 109251_en_01, 109252_en_00, 109530_en_00

Wiring diagram & Instruction Manual:

AB-201093_Overview_Documents_Rev.03b

Test Reports:

E153940E12, E153940E22, E153940E32, E153940E42_2nd version, E153940E62, E154047E2, E161387E2, E162177E2, E171556E2, E180612E11, E180612E12, E180612E22, E180612E32, E181028E12, E181028E13, E181028E22, E181028E23, E181028E32_2nd version, E181028E42, E181028E43, E181028E52, E181028E53, E191636E12_2nd version, E191636E22_2nd version, E191636E32_2nd version, E200161E12, E200161E22, E200754E1, E201407E2,
U154047E1_2nd version, U154047E2_2nd version, U154047E3_2nd version, U154047E4_2nd version, U154047E5_2nd version, U154047E6_2nd version, U181015E1, U1811028E1, U192221E2

2. Documentation and Test Reports:

Statements:

Statement 120W models QUINT 4 DC-DC, Statement 240W models QUINT 4 DC-DC, Statement 480W models QUINT 4 DC-DC, Statement QUINT4 Coated Version_24DC_10A, Statement QUINT4 Coated Version_48DC_10A,
Statement QUINT4_12_15 and QUINT4_48_5 and QUINT4_24_10,
Statement QUINT4_20+ and 20A Standard,
Statement QUINT4_48_10 and QUINT4_110_4 and QUINT4_24_20

Others:

Software Development Plan version 02 dated 18 April 2019

- To be continued -

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Attached sheet -4/4 to the Certificate No. TA21182M

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS (IACS E10 Rev.7 basis)		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 70℃×16 hours)		X
Damp heat test		X
Vibration test (±2.3g)		X
Inclination test		--
Cold test (Temperature -25℃×16 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Flame retardant test		X

2. Approval condition:

The product is not allowed to be installed on open deck.

- The End -