



CERTIFICATE NUMBER
17-SG1631074-PDA

DATE
29 May 2017

ABS TECHNICAL OFFICE
Singapore Engineering Services

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

DELTA ELECTRONICS (THAILAND) PUBLIC CO LTD

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Power Supply Unit**

Model: **DRM-24V960W1PX(y)**

This Product Design Assessment (PDA) Certificate 17-SG1631074-PDA, dated 29/May/2017 remains valid until 28/May/2022 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING



Vibin Chandrabose
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Tier: 2 - PDA Issued

Product: Power Supply Unit
Model: DRM-24V960W1PX(y)
Intended Service:

CliQ M DIN-rail mounting power supply units for automation systems on Ships and Offshore Units.

Description:

DIN-rail mounted power supply modules for installation in consoles and cabinets, located in general power distribution zones.

Rating:

Nominal Input Voltage: single-phase: 100-240VAC
Nominal Input Frequency: 50-60Hz
Nominal Output Voltage: 24VDC
Output Continuous Current: 40A
Degree of Protection: IP 20

Service Restriction:

Unit Certification is not required for this product.

Comments:

1. Safe area application only, not to be used in hazardous location.
2. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. DRM-24V960W1PN(y)_1, Product specification, Revision: 0, Pages: 3
Drawing No. DRM-24V960W1PN(y)_2, Schematic circuit, Revision: S1, Pages: 18
Drawing No. DRM-24V960W1PN(y)_3, Environment test report from Delta, Date: 14-Nov-2016, In-house testing, Revision: S2, Pages: 13
Drawing No. DRM-24V960W1PN(y)_4, Spec label, Revision: 0, Pages: 2
Drawing No. DRM-24V960W1PN(y)_5, Installation instruction, Revision: 0, Pages: 2
Drawing No. DRM-24V960W1PN(y)_6, Front label, Revision: 01, Pages: 3
Drawing No. DRM-24V960W1PN(y)_7, PCB Layout, Revision: 5, Pages: 29
Drawing No. DRM-24V960W1PN(y)_8, Physical drawing, Revision: 0, Pages: 2
Drawing No. DRM-24V960W1PN(y)_9, ABS Surveyor Witness Test, Revision: S4, Pages: 21
Drawing No. T211-0062-17, SIQ Environment test report for GL, Lab: SIQ Ljubljana, Date: 14-Feb-2017, Revision: 0, Pages: 36
Drawing No. T211-0062/17, SIQ EMC test report, Lab: SIQ Ljubljana, Date: 14-Feb-2017, Revision: 0, Pages: 52

Terms of Validity:

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Tier: 2 - PDA Issued

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STANDARDS

ABS Rules:

ABS Steel Vessel Rules (2017): 1-1-4/7.7, 1-1-A3 and A4, 4-9-2/5.3, 4-9-3/11.9, 4-9-8/7, 4-9-8/13, 4-9-8/Table 1;
ABS Offshore Support Vessel Rules (2017): 1-1-4/7.7, 1-1-A3 and A4, 4-9-2/5.3, 4-9-3/11.9, 4-9-8/7, 4-9-8/13, 4-9-8/Table 1;
ABS Steel Vessel Rules Under 90 Meters in Length (2017): 1-1-4/11.9, 1-1-A2 and A3, 4-7-2/11.3.1; 4-7-2/15.3; 4-7-2/Table 1; 4-7-4/3.7; 4-7-4/3.9.1;
ABS High Speed Craft Rules (2017): 1-1-4/11.9, 1-1-A2 and A3, 4-7-1/11.3; 4-7-8/9.3.2; 4-7-9/7; 4-7-9/15.1; 4-7-9/Table 1
ABS Mobile Offshore Drilling Unit Rules (2017): 1-1-4/9.7, 1-1-A2 and A3;
ABS Facilities on Offshore Installation Rules (2017): 1-1-4/9.7, 1-1-A2 and A3, 3-7/3.3;
ABS Steel Barge Rules (2017): 1-1-4/7.7, 1-1-A3 and A4;
ABS Rivers and Intracoastal Waterways Rules (2017): 1-1-4/7.7, 1-1-A3 and A4;

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

IACS UR E10 Rev. 6: Oct 2014