



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000014E
Revision No:
3

This is to certify:

That the DIN-Rail Power Supply

with type designation(s)

**DRM-24V80W1PN(y), DRM-24V120W1PN(y), DRM-24V240W1PN(y), DRM-24V480W1PN(y), DRM-24V960W1PN(y),
DRM-24V480W3PN(y), DRM-24V960W3PN(y)**

Issued to

**Delta Electronics (Thailand) Public Company Limited
Samutprakarn, Thailand**

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.

Location classes:

Temperature	B
Humidity	B
Vibration	A
EMC	A
Enclosure	A

Issued at **Hamburg** on **2021-09-02**

for **DNV**

This Certificate is valid until **2026-08-31**.

DNV local station: **Bangkok**

Approval Engineer: **Dariusz Lesniewski**

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

Model code DRM-24VxW1PN(y) 1-Phase:

- x : 80, 120, 240, 480, 960
- (y) : any capital letter A-Z (excluding I, L, O, Q) or any digit 2~9 or blank

Input Rating:

- AC 100-240V, 50-60Hz; 1.0A (80), 1.4A (120), 2.75A (240), 5.5A (480), 12A (960)
 - DC 110-300V*; 0.8A (80), 1.25A (120), 2.37A (240), 5.0A (480)
- *not for DRM-24V960W1PN(y)

Output Rating:

- Voltage: 24V DC nominal (adjustable 24...28V DC)
- Current: 3.4A (80), 5A (120), 10A (240), 20A (480), 40A (960) for voltage nominal

Model code: DRM-24VxW3PN(y) 3-Phase / 2-Phase:

- x : 480, 960
- (y) : any capital letter A-Z (excluding I, L, O, Q) or any digit 2~9 or blank

Input Rating:

- 3 x AC 400-500V, 50-60Hz; 0,95A (480), 1.7A (960)

Output Rating:

- Voltage: 24V DC nominal (adjustable 24...28V DC)
- Current: 20A (480), 40A (960)

All models:

Output current/power:

De-rating of the output current/power to be observed according to the manufacturer's specification

LED Signals / Output contact:

- Green LED 'DC OK'
 - Red LED 'Overload'
 - Output Relay Contact 'DC OK'
- (max. contact rating: 30V / 1A, resistive load)

Mounting: DIN-Rail

Degree of protection: IP 20

Application/Limitation

De-rating of the output current/power to be observed according to the manufacturer's specification

Mounting in a separate metallic cabinet required for:

DRM-24V960W1PN(y), DRM-24V480W3PN(y) and DRM-24V960W3PN(y)

Place of manufacture

Delta Electronics (Thailand) Public Co., Ltd.
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1
Road, Tambol Phraksa, Amphur Muang, Samutprakarn
TH-10280, Thailand

Type Approval documentation

Test Reports: SIQ No. T211-0117/15, SIQ No. T251-0224/15
Test Reports: SIQ No. T211-0504/15, SIQ No. T251-0568/15
Test Reports: SIQ No. T211-0323/16, SIQ No. T251-0526/16
Test Reports: SIQ No. T251-0068/17, SIQ No. T211-0062/17
Test Reports: SIQ No. T251-0473/19 M1 A1, SIQ No. T211-0356/19 A1
Test Reports: SIQ No. T251-0640/19 A1, SIQ No. T211-0660/19 A1
Test Reports: SIQ No. T223-0066/15, SIQ No. T223-0316/15 (acc. to IEC 60950-1)
Test Reports: SIQ No. T223-0244/15, SIQ No. T223-0535/15 (acc. to IEC 60950-1)
Test Report: SIQ No. T223-0303/16 (acc. to IEC 60950-1)
Test Report: SIQ No. T223-0026/17 (acc. to IEC 60950-1)
Test Report: SIQ No. T223-0217/19 (acc. to IEC 60950-1)
Test Report: SIQ No. T223-0324/19 (acc. to IEC 60950-1)
Test Reports: SIQ No. T251-0435/21, SIQ No. T251-0439/21
Test Reports: SIQ No. T251-0412/21, SIQ No. T251-0440/21

Test Reports: SIQ No. T251-0535/21, SIQ No. T251-0536/21
Data Sheets, Construction Drawings; Circuit Diagrams; Installation Notes; Instruction Manuals
Type approval assessment report issued at Samutprakarn, Thailand on 2021-08-25

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.
IEC 60950-1:2005 (Second Edition) + A1:2009 + A2:2013

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

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