

TYPE APPROVAL CERTIFICATE

This is to certify:**That the DC Power Supply**with type designation(s)
S8VK-S24024/S48024

Issued to

**Omron Corporation IAB Company
Kusatsu-City Shiga Pref, Japan**

is found to comply with

**DNV GL rules for classification – Ships and offshore units
DNV GL rules for classification – High speed and light craft****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	A

This Certificate is valid until **2021-07-31**.Issued at **Busan** on **2016-08-01**DNV GL local station: **Kobe**Approval Engineer: **Dong Ho Park**for **DNV GL**

**Baeg Soon Choi
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

DC Power Supply

Type	S8VK-S24024	S8VK-S48024
Power rating	240W	480W
Input voltage	100 to 240 Vac 90 to 350 Vdc	
Output voltage	24V	
Output current	10A	20A
Mounting	Standard vertical mounting	

Application/Limitation

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.

In case of DIN rail installation, end plate "PFP-M" manufactured by OMRON Corp. or equivalent is to be installed in the both ends of the unit.

A noise filter, 'FN2080-10-06' manufactured by Schaffner or equivalent, is to be connected to the input terminals.

Clamp filters, 'ZCAT2035-0930' manufactured by TDK or equivalent, are to be respectively used at input and output lines.

Type Approval documentation

Technical document

Circuit Diagram Drawing_S8VK-S24024	9606134-4B	dated 2016-06-30
Circuit Diagram Drawing_S8VK-S48024	9606137-9B	dated 2016-06-22
Outline Drawing_S8VK-S240W	9610080-3A	dated 2016-03-26
Outline Drawing_S8VK-S480W	9607226-5A	dated 2016-04-01
Instrunction manual	3102116-7A	dated 2016-06-14

Test report

Vibration test report	TS1606-022	dated 2016-07-05
Environmental test report	154172872-00	dated 2016-07-15
EMC Test Report	15098306 001	dated 2016-07-18

Type approval assessment report dated 2016-06-24

Tests carried out

Applicable tests according to DNV GL Class Guideline 0339, November 2015.

Marking of product

- Manufacturer
- Model identification
- serial number
- Input voltage and output rating

Job Id: **262.1-022466-1**
Certificate No: **TAA00000FX**

Periodical assessment

The scope of the retention/renewal survey 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 survey 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
- Retention survey is to be performed at renewal of this certificate.

END OF CERTIFICATE