

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)

Managed Ethernet Switches INS-8528 series, INS-8648 series, INS-8005 series and INS-8405 series

Issued to

Volktek Corporation
New Taipei City, Taiwan

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Location classes:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Temperature	D
Humidity	B
Vibration	C
EMC	B
Enclosure	A / IP20

This Certificate is valid until **2023-10-31**.

Issued at **Hamburg** on **2018-11-01**

DNV GL local station: **Kaohsiung**

for **DNV GL**

Approval Engineer: **Didier Girardin**

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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.

Certificate No: **TAA000022R**
File No: **899.60**
Job Id: **262.1-017969-2**

Product description

Managed Ethernet Switches INS-8528 series, INS-8648 series, INS-8005 series and INS-8405 series

INS-8528 series	Wide Temperature Managed Switch
INS-8528M	
INS-8528MW	
INS-8648 series	
INS-8648M	
INS-8648MW	
INS-8005 series	
INS-8005M	
INS-8005MW	
INS-8405 series	
INS-8405M	
INS-8405MW	

Power Supply: INS-8528 series and INS-8648 series: 12-60 Vdc
INS-8005 series: 18-30 Vdc
INS-8405 series: 9-48 Vdc

Place of manufacture

Volktek Corporation,
4F, 192, Lien Cheng Road,
ZhongHe District, New Taipei,
23553, Taiwan

Application/Limitation

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 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.

	INS-8528	INS-8648	INS-8005	INS-8405
Standard Compass Safe Distance 0.3 Degree deflection	750mm	750mm	1000mm	450mm
Steering, Standby, Emergency Compass Safe Distance 1.0 Degree deflection	450mm	500mm	650mm	300mm

Type Approval documentation

See Annex

Tests carried out

Applicable tests according DNVGL-CG-0339 Ed. 2016

Applicable tests according to IACS Unified Requirements E10, rev. 5.

Applicable tests for protected equipment according to IEC 60945, 4th edition (2002), except test 8.12 Corrosion.

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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

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ANNEX

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