DNV·GL

Certificate No:
TAA00000UF

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Network and Communication Components

with type designation(s)
ISON switch series

Issued to
Data Respons Norge AS
HØVIK, Norway

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 GL.

Location classes:

Temperature	**B***
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**A**

*** Tested at -15°C**

This Certificate is valid until **2021-10-31**.

Issued at **Høvik** on **2016-11-01**

for **DNV GL**

DNV GL local station: **Station Oslo Maritime and CAP**

Approval Engineer: **Nils Jarem**

Odd Magne Nesvåg
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.

Job Id: **262.1-024054-1**
Certificate No: **TAA00000UF**

Product description

Network and Communication Components (Industrial Ethernet Switch Series)

Type:
Unmanaged Switches:

IS-DG308-DR series 8-port Gigabit Unmanaged Layer 2 Industrial Ethernet Switch
- IS-DG308-DR (8 x 10/100/1000Mb Tx Ports)
- IS-DG308-2F-DR (6 x 10/100/1000Mb Tx Ports + 2x 100/1000 Base SFP Ports)

IS-DF308-DR series 8-port Fast Ethernet Unmanaged Layer 2 Industrial Ethernet Switch
- IS-DF308-DR (8 x 10/100Mb Tx Ports)
- IS-DF308-2F-DR (6 x 10/100Mb Tx Ports + 2x 100 Base SFP ports)

IS-DG305-DR Series 5-port Gigabit Unmanaged Layer 2 Industrial Ethernet Switch
- IS-DG305-DR (5 x 10/100/1000Mb Tx Ports)
- IS-DG305-F-DR (4 x 10/100/1000Mb Tx Ports + 1x 100/1000 Base SFP ports)

IS-DF305-DR series 5-port Fast Ethernet Unmanaged Layer 2 Industrial Ethernet Switch
- IS-DF305-DR (5 x 10/100Mb Tx Ports)
- IS-DF305-M-DR (4 x 10/100Mb Tx Ports + 1x 100 Base FX MultiMode)
- IS-DF305-S-DR (4 x 10/100Mb Tx Ports + 1x 100 Base FX SingleMode)

Managed Switches:

IS-DG514-DR Series 14-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch
- IS-DG514-4F-DR (10 x 10/100/1000Mb Tx Ports + 4x 100/1000 Base SFP Ports)

IS-DG512-DR series 12-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch
- IS-DG512-4F-DR (8 x 10/100/1000Mb Tx Ports + 4x 100/1000 Base SFP Ports)

IS-DG510-DR Series 10-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch
- IS-DG510-DR (10 x 10/100/1000Mb Tx Ports)
- IS-DG510-2F-DR (8 x 10/100/1000Mb Tx Ports + 2x 100/1000 Base SFP Ports)
- IS-DG510-4F-DR (6 x 10/100/1000Mb Tx Ports + 4x 100/1000 Base SFP Ports)

IS-DG508-DR Series 8-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch
- IS-DG508-DR (8 x 10/100/1000Mb Tx Ports)
- IS-DG508-2F-DR (6 x 10/100/1000Mb Tx Ports + 2x 100/1000 Base SFP Ports)

IS-DG506-DR Series 6-port Gigabit Din-Rail Managed Layer 2/4 Industrial Ethernet Switch
- IS-DG506-DR (6 x 10/100/1000Mb Tx Ports)
- IS-DG506-2F-DR (4 x 10/100/1000Mb Tx Ports + 2x 100/1000 Base SFP Ports)

Power supply: 24V DC

Place of manufacture

ISON Technology Co. L td.
Room 2, 5F, No.77, Sec. 1, Xintai 5th Rd.
Xizhi Dist., New Taipei City 22101
Taiwan, R.O.C

Approval conditions

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.

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Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2015.
Applicable tests for protected equipment according to IEC 60945, 4th edition (2002), except salt mist test (8.12).

Marking of product

Manufacture:	ISON Technology Co. Ltd.
Model number:	As listed under product description
Serial number:	Unique for each delivered item
Power supply:	24V DC

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE