

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Network and Communication Components**

with type designation(s)  
**Industrial Router Firewall DVG-IRF22x0 5xx-xx**

Issued to

**ads-tec GmbH**  
**Nürtingen, Germany**

is found to comply with  
**DNV GL rules for classification – Ships**  
**IEC 60945 Ed. 4 (2002-08) Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results**

## Application :

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

**Temperature B**

**Humidity B**

**Vibration A**

**EMC B**

**Enclosure Required protection according to DNV GL Rules shall be provided upon installation on board.**

Issued at **Hamburg** on **2017-03-02**

This Certificate is valid until **2022-03-01**.

for **DNV GL**

DNV GL local station: **Hamburg Control Systems**

Approval Engineer: **Andrea Grün**

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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.



## Product description

Industrial Router Firewall DVG-IRF22x0 5xx-xx

### Hardware revision

- DVG-IRF22x0 5xx-xx
- 22x0 because there is a 2200 (without LTE) and a 2220 (with LTE card) device
- 5xx-xx is the code for different variants (e.g. customized decices, bundels etc)

### Basic Functions:

- Integrated LTE / HSPA+ modem  
Quad band
- Ethernet connections  
LAN (1000 BaseTX), WAN (1000 BaseTX)
- USB 2.0  
for connecting peripherals with USB connection
- SIM Card reader  
The SIM card reader is used to store configuration data.
- Cut & Stop  
The Ethernet uplink can be disconnected via a 24 V input.  
This makes deliberate or inadvertent manipulation absolutely impossible.  
The uplink is reconnected via the same input.
- Alarming  
In the event of rule violation, the alarm signal is sent to the control system via an output.  
Necessary measures can be automated directly. Acoustic indicator lights can, for example, signal the alarm condition. Automatically sent emails can warn of rule violation.
- Eventlog  
If the firewall is disconnected from the power supply, a non-volatile event log saves all events.  
The event log can be read out both locally and via a central syslog server.

## 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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

### Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

### Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

## Type Approval documentation

### Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Tests carried out with the Firmware Revision: 3.1.0.

For the bridge mounted components the 'Acoustic noise and signals' and the 'Compass safe distance' were measured according to sections 11.1 and 11.2 of IEC 60945, 4<sup>th</sup> edition (2002).

## Marking of product

The products to be marked with:

Job Id: **262.1-025309-1**  
Certificate No: **TAA000012V**

- Model name
- Applicant name
- Serial number

### **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