DNV·GL

Certificate No:
TAA00002GC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the NMEA multiplexer and IEC 61162 series interface converter

with type designation(s)
8NMEAto8-E

Issued to
Veinland GmbH
Seddiner See, Brandenburg, Germany

is found to comply with
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids

Application :

Equipment category according to IEC 60945, Clause 4.4: Protected

Enclosure IP 54

Issued at **Hamburg** on **2019-12-09**
This Certificate is valid until **2021-12-08** .
DNV GL local unit: **Magdeburg**

Approval Engineer: **Jörg Rebel**

for **DNV GL**

Arne Schaarmann
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.

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Job Id: **262.1-031509-1**
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Product description

The multiplexer type 8NMEAto8-E (OEM Magicplex8 GIC PRO/LWE) is an IEC 61162-1/-2/-450 serial to network interface converter/gateway with

- 8 x RS-422 serial NMEA interfaces in/out according to IEC 61162-1/-2 (see note)
- 2 x RS-232 serial NMEA interfaces in/out according to IEC 61162-1, Clauses 6, 7 and 8 and according to IEC 61162-2, Clauses 4, 5 and 6
- 1 x Ethernet interface according to IEC 61162-450
- Power supply: 24 V DC (9..36 V DC)
- Firmware version: 4.x

Note: Two of the RS-422 serial interfaces can be configured to be fully compliant with IEC 61162-2 (1998), i.e. Channel 0 and Channel 1.

Further interfaces are used only by manufacturer or authorized technical staff for initial firmware flashing (USB) and as an alternative power supply (USB) or connecting equipment to RS-232 service port for read out of data.

Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)

The Type Approval certificate is valid for hardware and software listed under Product description.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

Software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board. Certification of modified functionality may be required for the particular vessel.

Type Approval documentation

DNV GL No	Document No	Rev.	Description
11	19/N0584	2.0	Report: Tests acc. to IEC 61162-1/-2/-450 and IEC 60945, Clauses 6.1 to 6.4, 11.1, 13 to 15
9	man_8NMEAto8-E_v2.1_eng	2.1	Manual: Installation and operation
8	NTMP8-020_GB.08	-	Manual: Installation and operation - magicplex8 GIC LWE
7	629	2009-10-27	Certificate on compass safe distance according to IEC 60945, Clause 11.2
6	-	2009-01-04	Declaration on corrosion resistance according to IEC 60945, Clause 8.12
5	409.160.3A	2009-11-11	Report: Environmental tests according to IEC 60945, Clauses 8.2 to 8.4
4	409.160.2A	2009-11-11	Report: Vibration tests according to IEC 60945, Clause 8.7
3	409.160.1A	2009-11-02	Report: EMC tests according to IEC 60945, Clauses 9 and 10

DNV GL No	Document No	Rev.	Description
2	BSH/4542/001/461622552/13-S3305	2013-05-13	Report: Tests according to IEC 61162-1/-2/ -450, Pt.2 - Hardware and communication
1	BSH/4542/001/461622552/13-S3305	2013-05-13	Report: Tests acc. to IEC 61162-1/-2/-450, Pt.1 - Basics

Tests carried out

- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Interface testing: IEC 61162-1 (2016), IEC 61162-2 (1998) and IEC 61162-450 (2018)

Marking of product

- Components are marked with product name and product type as listed under Product description.
- Each project application configuration is documented in a dedicated version log file which is specific for each vessel.

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 at renewal of this certificate.

END OF CERTIFICATE