



Marine & Offshore

Certificate number: 66791/A0 BV

File number: MPA2102701

Product code: 4502H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

*This certificate is issued to***Hatteland Technology**

Akdsdal - NORWAY

*for the type of product***NETWORK COMMUNICATION SYSTEMS**HN G1080A, HN G9084-LA, HN G9812, HN GP1080A, HN GP9084-LA
with SDR-120 series, SDR-240 series and SDR-480 series**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 21B

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.***This certificate will expire on: 25 Jan 2027****For Bureau Veritas Marine & Offshore,**

At BV OSLO, on 25 Jan 2022,

Rune MARSTEIN

Rune Marstein

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 5 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Hatteland Maritime Network Switches include following types:

1.1 - HN G1080A

- slim type unmanaged Gigabit Ethernet switch with 8 x 10/100/1000 Base-T(X) ports.

Specification:

Power Supply	: Dual DC inputs 12 -48 VDC
Power consumption	: 5.5 W
Physical port	: 8 x 10/100/1000 Base-T(X) in RJ45 Auto MDI/MDIX
Operating temperature	: -15°C to 55°C
Enclosure	: IP 30
Compass safe distance	: Standard : 30 cm Steering : 15 cm

1.2 - HN G9084-LA

- slim type unmanaged Gigabit Ethernet switch with 8 x 10/100/1000 Base-T(X) ports and 4 x 100/1000 Base-X SFP ports.

Specification:

Power Supply	: Dual DC inputs 12 -48 VDC
Power consumption	: 13 W
Physical port	: 8 x 10/100/1000 Base-T(X) ports in RJ45 Auto MDI/MDIX 4 x 100/1000 Base-X with SFP port
Operating temperature	: -15°C to 55°C
Enclosure	: IP 30
Compass safe distance	: Standard : 25 cm Steering : 15 cm

1.3 - HN G9812

- managed redundant ring Ethernet switch with 8x10/100/1000 Base-T(X) ports and 12x100/1000 Base-X SFP ports.

Specification:

Power Supply	: Dual DC inputs 12 -48 VDC
Power consumption	: 10 W
Physical port	: 8 x 10/100/1000 Base-T(X) ports in RJ45 Auto MDI/MDIX 12 x 100/1000 Base-X with SFP port
Operating temperature	: -15°C to 55°C
Enclosure	: IP 30
Compass safe distance	: Standard : 40 cm Steering: 25 cm

1.4 - HN GP1080A

- unmanaged, active PoE Ethernet switch with P.S.E function.

Specification:

Power Supply	: Dual DC inputs 50-57 VDC
Power consumption	: 180W
Physical port	: 8 x 10/100/1000 Base-T(X) in RJ45 with P.S.E
Operating temperature	: -15°C to 55°C
Enclosure	: IP 30
Compass safe distance	: Standard : 40 cm Steering : 20 cm

1.5 - HN GP9084-LA

- layer2 managed and active PoE Ethernet switch with 8x10/100/1000 Base-T(X) P.S.E ports and 4x100/1000 Base-X SFP ports.

Specification:

Power Supply	: Dual DC inputs 50-57 VDC
Power consumption	: 13.2 W
Physical port	: 8 x10/100/1000 Base-T(X) ports in RJ45 Auto MDI/MDIX 4 x100/1000 Base-X with SFP port
Operating temperature	: -15°C to 55°C
Enclosure	: IP 30
Compass safe distance	: Standard : 55 cm Steering : 40 cm

1.6 - SDR-120 series:

- 120W Single Output Industrial DIN RAIL with PFC Function.

Specification:	SDR-120-12	SDR-120-24	SDR-120-48
Input	100 - 240 VAC, 47-63 Hz	100 - 240 VAC, 47-63 Hz	100 - 240 VAC, 47-63 Hz
Output	12V DC	24V DC	48V DC
Rated Current	10A - 120W	5A - 120W	2.5A - 120W
Peak Current	15A - 180W	7.5 A - 180W	3.75 A - 180W

1.7 - SDR-240 series:

- 240W Single Output Industrial DIN RAIL with PFC Function.

Specification:	SDR-240-24	SDR-240-48
Input	100 - 240 VAC, 47-63 Hz	100 - 240 VAC, 47-63 Hz
Output	24V DC	48V DC
Rated Current	10A - 240W	5A - 240W
Peak Current	15A - 360W	7.5A - 360W

1.8 - SDR-480 series:

- 480W Single Output Industrial DIN RAIL with PFC Function.

Specification:	SDR-480-24	SDR-480-48
Input	100 - 240 VAC, 47-63 Hz	100 - 240 VAC, 47-63 Hz
Output	24V DC	48V DC
Rated Current	20A - 480W	10A - 480W
Peak Current	30A - 720W	15A - 720W

2. DOCUMENTS AND DRAWINGS :**Hatteland:**

- HN G1080A Datasheet Rev.04, dated 04-03-2020.
- HN G9084-LA Datasheet Rev.04, dated 04-03-2020.
- HN G9812 Datasheet Rev.04, dated 04-03-2020.
- HN GP1080A Datasheet Rev.04, dated 04-03-2020.
- HN GP9084-LA Datasheet Rev.04, dated 04-03-2020.
- Sale Drawings of HN G1080A, HN G9084-LA, HN G9812, HN GP1080A, HN GP9084-LA.
- Quick Install Guide of HN GP1080A, No. INB 101593 Rev.1, dated 14-02-2020.
- Quick Install Guide of HN G1080A, No. INB 101594 Rev.1, dated 14-02-2020.
- User Manual of HN GP9084-LA, HN G9084-LA, HN G9812-LA, No. INB 101765-1 Rev.00_01, dated 21-07-2021.
- HN Gxxxxx -IEC 60945 & IACS E10 Statement No. DOC208236-1 Rev.01
- IACS E10 Rev.7 Compliance Statement No. DOC208787-1 Rev.02

Mean Well:

- SDR-120 series Specification SDR-120-SPEC, dated 24-06-2009.
- SDR-240 series Specification SDR-240-SPEC, dated 18-07-2008.
- SDR-480 series Specification SDR-480-SPEC, dated 22-04-2009.

3. TEST REPORTS :**Cal-Tech Technology Corp.:**

- Test Report No. 190725004T Rev.2, dated 06-03-2020.
- Test Report No. 190725001T Rev.1, dated 25-03-2020.
- Test Report No. 190725005T Rev.1, dated 06-03-2020.
- Test Report No. 190725003T Rev.2, dated 06-03-2020.
- Test Report No. 190725002T Rev.2, dated 06-03-2020.

Electronics Testing Center:

- Test Report No. 19-10-EAT-002-E04-A, dated 01-10-2019.
- Test Report No. 19-10-EAT-002-E01, dated 01-10-2019.
- Test Report No. 19-10-EAT-002-E05, dated 01-10-2019.
- Test Report No. 19-10-EAT-002-E03, dated 01-10-2019.
- Test Report No. 19-10-EAT-002-E02, dated 01-10-2019.

Bureau Veritas Consumer Products Services Taiwan:

- Partial IEC 60945 Test Report No. EN190814C22, dated 15-11-2019.
- Partial EN 55032 Test Report No. EN190814C22-1, dated 15-11-2019.
- Partial IEC 60945 Test Report No. EN190807C06, dated 18-12-2019.
- Partial EN 55032 Test Report No. EN190807C06-1, dated 18-12-2019.
- Partial IEC 60945 Test Report No. EN190814C21, dated 01-10-2019.
- Partial EN 55032 Test Report No. EN190814C21-1, dated 01-10-2019.
- Partial IEC 60945 Test Report No. EN191211C22, dated 06-02-2020.
- Partial EN 55032 Test Report No. EN191211C22, dated 06-02-2020.

Vibration Source Technology CO LTD:

- Test Report No. VS-TV-081008-05, dated 08-10-2019.
- Test Report No. VS-TV-081008-02, dated 08-10-2019.
- Test Report No. VS-TV-081008-03, dated 08-10-2019.
- Test Report No. VS-TV-081008-04, dated 08-10-2019.
- Test Report No. VS-TV-081008-01, dated 08-10-2019.

International Certification Corporation:

- CE EMI Partial Test report No. EI980801 Rev.01, dated 24-12-2019.
- CE EMC Partial Test report No. ME980801 Rev.01, dated 04-03-2020.
- CE EMC Partial Test report No. ME980802 Rev.01, dated 25-12-2019.

BV:

- IEC 61000-4-3 Test Report No. CEBDLB-WTW-P21090106, dated 26-10-2021.
- IEC 61000-4-3 Test Report No. CEBDLB-WTW-P21090107, dated 26-10-2021.
- IEC 61000-4-3 Test Report No. CEBDLB-WTW-P21090108, dated 26-10-2021.
- IEC 61000-4-3 Test Report No. CEBDLB-WTW-P21090109, dated 26-10-2021.
- IEC 61000-4-3 Test Report No. CEBDLB-WTW-P21090110, dated 26-10-2021.

4. APPLICATION / LIMITATION :

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 21B.**
- 4.3 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.
- 4.4 - The equipments comply with the test requirements of IEC 60945 4th edition.
- 4.5 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The above products are to be supplied by **Hatteland Technology** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **Hatteland Technology** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - For information, **Hatteland Technology** has declared to Bureau Veritas the following production site(s):

Hatteland Technology
Eikeskogvegen 52
5570 Akسدal
NORWAY

6. MARKING OF PRODUCT :

- Trade name.
- Date of manufacture and serial number.
- Equipment type or model identification under which it was type-tested.

7. OTHERS :

It is **Hatteland Technology**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***