



Marine & Offshore

Certificate number: 59435/A0 BV

File number: AP 4920

Product code: 4483H

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

LS ELECTRIC Co.,Ltd. (CHEONAN PLANT)
CHEONAN - KOREA (REPUBLIC OF)

for the type of product

DISPLAY MONITORS / VIDEO SCREENS / TERMINALS
iXP2 Series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code : 31

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: 07 Sep 2025

For Bureau Veritas Marine & Offshore,

At BV PUSAN, on 07 Sep 2020,

Chang-Uk HONG



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.

The electronic version is available at: <http://www.veristarp.com/veristamb/jsp/viewPublicPdfTypepec.jsp?id=wizumreq1b>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The iXP 2 series are human machine interfaces for Marine applications.

1.1 - Approval range:

| Type | iXP2-0800D, MR | iXP2-1000D, MR | iXP2-1200D, MR | iXP2-1500D, MR |
|---------------------|---|----------------|----------------|----------------|
| Display type | TFT color LCD | | | |
| Screen Size | 8.4" | 10.4" | 12.1" | 15" |
| Display resolution | 800 x 600 | 1024 x 768 | | |
| Touch panel | Capacitive Touch | | | |
| Processsor | 1Ghz, Dual core | | | |
| Memory | 1GB Flash, 1GB Operating RAM, 1Mbyte Backup RAM | | | |
| I/O ports | HDMI, Ethernet, USB 2.0, RS-232C, RS-422/485 | | | |
| Power | Rated voltage : DC24V | | | |
| Protection standard | IP66(Front) | | | |

2. DOCUMENTS AND DRAWINGS :

LS ELECTRIC:

- Specification and Technical Data, No. 2019-KD007-630-0003 Version 1.2, dated 06-04-2020.
- Type Test Program for HMI iXP2 series, No. 2019-KD007-630-0004 Version 1.5, dated 06-04-2020.
- Drawings No. 2019-KD007-630-005.01/02/03/04 Version 1.1, dated 02-10-2019.
- iXP2 Series User's Manual Version 1.1, dated Aug. 2018.

3. TEST REPORTS :

DT&C Co., Ltd.:

- Environment Test Report No. DRCREL2007-0563, dated 15-07-2020.
- Environment Test Report No. DRCREL2007-0566, dated 15-07-2020.
- EMC Test Report No. DREETC2007-0100, dated 16-07-2020.
- EMC Test Report No. DREETC2007-0099, dated 16-07-2020.

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.
- 4.2 - BUREAU VERITAS Environmental Category, EC Code: 31
- 4.3 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.4 - The above products comply with the test requirements of IACS E10 Rev.7.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The iXP2 series are to be supplied by LS ELECTRIC Co.,Ltd. (CHEONAN PLANT) 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 - LS ELECTRIC Co.,Ltd. (CHEONAN PLANT) 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, LS ELECTRIC Co.,Ltd. (CHEONAN PLANT) has declared to Bureau Veritas the following production site(s):

LS ELECTRIC Co.,Ltd. (CHEONAN PLANT)
#56, Samsung 4-gil, Mokcheon-eup
CHEONAN
KOREA (REPUBLIC OF)

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 **LS ELECTRIC Co.,Ltd. (CHEONAN PLANT)** 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 ***