DNV·GL

Certificate No:
TAA00001VB

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
X2 extreme HMI Panels

Issued to
Beijer Electronics AB
Malmö, Skåne Län, Sweden

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.

Temperature	**D**
Humidity	**B**
Vibration	**B**
EMC	**B**
Enclosure	**B (rear side) / C (front side)**

Issued at **Hamburg** on **2018-05-24**
This Certificate is valid until **2023-05-23**.
DNV GL local station: **Long Beach**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

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.

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Product description

HMI Panel type designations (Touch screen with sizes: 7, 12 and 15 inch):

X2 extreme 7
X2 extreme 7 12V
X2 extreme 7 HP
X2 extreme 7 HP SC
X2 extreme 7 HP SM
X2 extreme 12
X2 extreme 12 HP
X2 extreme 12 HP SC
X2 extreme 12 HP SM
X2 extreme 15
X2 extreme 15 HP
X2 extreme 15 HP SC
X2 extreme 15 HP SM

Legend:
12 V = 12 Volt
HP = High Performance
SC = Soft Control (SW option)
SM = Soft Motion (SW option)

CPU:
i.MX6 DualLite, Dual ARM Cortex-A9Core, 800MHz, 512kBL2cache,
i.MX6 Quad, Quad ARM Cortex-A9 Core, 1.0 GHz, 1 MBL2cache (HP models).

RAM:
1GB DDR3,
2GB DDR3 (HP models).

Display:
7“ models: TFT-LCD with LED backlight, 800x480 pixel, 262k colors,
12”models: TFT-LCD with LED backlight, 1280x800 pixel, 16.7M colors,
15”models: TFT-LCD with LED backlight, 1280x800 pixel, 16.7M colors.

Interfaces:
Serial Port COM A/B, 9 Pin, female (COM B for HP models only):
1×RS-232RX/TX with RTS/CTS, 1×RS-422, or 2×RS-485 or 2×CAN 2.0B,
Ethernet LAN A/LAN B (LAN B for HP models only): RJ45, 10/100Mbit.

USB A/B: USB 2.0 HighSpeed

Power supply: 24V DC (except 12V model)
Degree of protection: IP66 (front), IP20 (rear).

Compass Safe Distance:	Standard compass	Steering compass

X2 extreme 7	40cm	25cm
X2 extreme 7 12V	40cm	25cm
X2 extreme 7 HP	30cm	20cm
X2 extreme 12	70cm	50cm
X2 extreme 12 HP	80cm	55cm
X2 extreme 15	80cm	60cm
X2 extreme 15 HP	70cm	50cm

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 RU SHIP Pt. 4 Ch. 9 Sec. 1.

Tests carried out

Applicable tests according to DNV GL CG-0339, edition Nov. 2016;
Applicable tests according to section 9, 10 and 11 of IEC60945 (2002),
IACS UR E10 (Rev. 6, Oct. 2014).

Marking of product

Maker, type designation, power supply, 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 this certificate.

END OF CERTIFICATE