



EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000001K
Revision No:
3

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

Exor International S.p.A.
San Giovanni Lupatoto, VR, Italy

for
Monitors, Terminals

with type designation(s)
eX705, eX707, eX707G, eX710, eX715, eX721

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Display Monitors, Video Screens, Terminals
EU RO Mutual Recognition Technical Requirements for Computers and Programmable Logic Controllers

Intended service

Application of the control, monitoring and safety systems which are subject for approval of the individual RO classing the vessel.

Temperature [°C]: -25°C and 55°C
Vibration: ±1 mm / 0,7 g
EMC: All locations including bridge and open deck
IP Code: front side –IP66, back side – IP20

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2028-06-19**.

Issued at **Hamburg** on **2023-07-18**

DNV local unit: **Venice**

for **DNV**

Approval Engineer: **Holger Jansen**

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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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Power supply voltage 24 Vdc

Model name	Description
eX705	<ul style="list-style-type: none"> - 5" TFT color display, resolution 800x480 pixel, 64K colors. - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 2 Ethernet ports - SD Card slot - 1 Plug-in module slot for system expansion - Standard Compass Safe Distance: Standard: 15 cm, Steering: 10 cm
eX707	<ul style="list-style-type: none"> - 7" TFT color display, resolution 800x480 pixel, 16M colors. - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 3 Ethernet ports - SD Card slot - 2 Plug-in module slots for system expansion - Standard Compass Safe Distance: Standard: 85 cm, Steering: 40 cm
eX707G	<ul style="list-style-type: none"> - 7" TFT color display, resolution 800x480 pixel, 16M colors, high brightness - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 3 Ethernet ports - SD Card slot - 2 Plug-in module slots for system expansion - Standard Compass Safe Distance: Standard: 30 cm, Steering: 20 cm
eX710	<ul style="list-style-type: none"> - 10.1" TFT color display, resolution 1280x800 pixel, 16M colors. - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 3 Ethernet ports - SD Card slot - 2 Plug-in module slots for system expansion - Standard Compass Safe Distance: Standard: 115 cm, Steering: 75 cm
eX715	<ul style="list-style-type: none"> - 15.6" TFT color display, resolution 1366x768 pixel, 16M colors. - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 3 Ethernet ports - SD Card slot - 2 Plug-in module slots for system expansion - Standard Compass Safe Distance: Standard: 180 cm, Steering: 130 cm
eX721	<ul style="list-style-type: none"> - 21.5" TFT color display, resolution 1920x1080 pixel, 16M colors. - Dimmable LED backlight - Projected capacitive touchscreen. True glass design. Multitouch operation - 3 Ethernet ports - SD Card slot - 2 Plug-in module slots for system expansion - Standard Compass Safe Distance: Standard: 220 cm, Steering: 130 cm

MODEL NAME:
 Model name can be followed by 1 or 2 or 3 characters.

BRANDING:
 EXOR

700 Series Part number:
 EX7aaX5PZ, where:
 EX7aa(a)=Model Name
 X = one or two digit - any letter or number (brand)
 5 = one digit - fixed for front glass
 P = one digit - fixed only P for conformal coating machine
 Z = one digit - any letter or number (customization)

OPTIONAL MODULES with brand EXOR	
Module name	Description
PLCM01	CAN Interface - DB9 CAN connector
PLCM05	Plug-in Extender Module
PLIO03	Multifunction I/O Module - 20 Digital Inputs configurable as counter/encoder channels - 12 Digital Outputs - 8 Analog Inputs configurable for voltage, current or temperature measurement - 1 PT100 input for cold junction compensation of thermocouples - 4 Analog Outputs configurable for voltage or current
PLIO06	Compact I/O Module - 8 Digital Inputs - 6 Digital Outputs - 1 Relay Output

MODULE NAME
 Module name can be followed by 1 or 2 or 3 or 4 or 5 characters

Part number:
 PLaannXYPZ, where:
 PLaann = Module name
 X = one or two digits - any letter or number (brand)
 Y = one digit - any letter or number
 P = one digit - fixed only P for conformal coating
 Z = one digit - any letter or number (customization)

Manufactured by
 EXOR INTERNATIONAL SPA
 San Giovanni Lupatoto VR, Italy

Application/Limitation

This approval covers hardware only. This excludes firmware, application software, and hardware designed for specific applications subject to classification. Firmware, system software, and application software are subject to additional separate approval, according to UR E22 and the rules of the classing RO (FAT and on-board review / tests).

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Required protection according to the Recognised Organisation's Rules shall be provided upon installation on board.

The touch functionality is not covered by this certificate.

Type Approval documentation

See ANNEX

Marking of product

Model name and part number: As listed under Product description

Serial number: Unique for each delivered item

Other Conditions

The units have been verified for compliance with EU Mutual Recognition Technical Requirements for Display Monitors, Video Screens and Terminals version 0.6, dated 2023-01-01.

EU Mutual Recognition Technical Requirements for Computers and programmable logic controllers (PLC) version 0.8, dated 2023-01-01 have additionally been verified.

Environmental test parameters

Temperature: -25°C and 55°C

Vibration: ±1 mm / 0,7 g

EMC: All locations including bridge and open deck

Enclosure: front side –IP66,
back side – IP20

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 annually and at renewal of this certificate.

END OF CERTIFICATE



Job Id: **262.4-000119-3**
Certificate No: **MRA000001K**
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ANNEX

Type Approval documentation
(hidden)

Generic Statement for EU RO MR Type Approval Certificate

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);
- Russian Maritime Register of Shipping (RS).

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).