

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Peripheral Equipment**with type designation(s)
UniOP(TM) eTOP Series 500 and 600

Issued to

**Exor International S.p.A.
San Giovanni Lupatoto VR, Italy**is found to comply with
DNV GL rules for classification – Ships**Application :****Location classes:****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Temperature	A
Humidity	B
Vibration	A
EMC	B
Enclosure	C / IP66* (front), IP20 (rear) * IP69K only eTOP507G, eTOP507MG, eTOP510G and eTOP515G

This Certificate is valid until **2021-06-09**.Issued at **Hamburg** on **2016-06-10**DNV GL local station: **Venice**for **DNV GL**Approval Engineer: **Marco Rinkel**

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.

Product description

UniOPT™ eTOP Series 500 and 600 HMI panels.
 Power supply voltage: 24 Vdc.
 Operating System: Microsoft Windows CE 6.0

Model name	Description
eTOP504	<ul style="list-style-type: none"> - 4.3" TFT color display - 480x272 pixel resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 35 cm - Steering Compass Safe Distance: 20 cm
eTOP506	<ul style="list-style-type: none"> - 5.7" TFT color display, LED backlight - 320x240 pixel (QVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 35 cm - Steering Compass Safe Distance: 20 cm
eTOP507	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 45 cm - Steering Compass Safe Distance: 25 cm
eTOP507G	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Projectied Capacitive Touchscreen (PCT) - Standard Compass Safe Distance: 50 cm - Steering Compass Safe Distance: 35 cm
eTOP507M	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - ARM Cortex-A8 – 1Ghz - Standard Compass Safe Distance: 45 cm - Steering Compass Safe Distance: 25 cm
eTOP507MG	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Projectied Capacitive Touchscreen (PCT) - ARM Cortex-A8 – 1Ghz - Standard Compass Safe Distance: 50 cm - Steering Compass Safe Distance: 35 cm
eTOP510	<ul style="list-style-type: none"> - 10"4 TFT color display, LED backlight - 800x600 pixel resolution (SVGA), 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 60 cm - Steering Compass Safe Distance: 40 cm
eTOP510G	<ul style="list-style-type: none"> - 10"1 TFT color display, LED backlight - 1280x800 pixel resolution (SVGA), 64K colors - 2 Ethernet ports with switch function - Projectied Capacitive Touchscreen (PCT) - Standard Compass Safe Distance: 125 cm - Steering Compass Safe Distance: 80 cm

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eTOP512	<ul style="list-style-type: none"> - 12"1 TFT color display, LED backlight - 800x600 pixel resolution (SVGA), 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 25 cm - Steering Compass Safe Distance: 15 cm
eTOP513	<ul style="list-style-type: none"> - 13"3 TFT color display, LED backlight - 1280x800 pixel resolution (WXGA) 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 50 cm - Steering Compass Safe Distance: 15 cm
eTOP515	<ul style="list-style-type: none"> - 15" TFT color display, LED backlight - 1024x768 pixel (XGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 55 cm - Steering Compass Safe Distance: 30 cm
eTOP515G	<ul style="list-style-type: none"> - 15" TFT color display, LED backlight, high brightness - 1024x768 pixel (XGA) resolution, 64K colors - Projected Capacitive Touchscreen (PCT) - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 55 cm - Steering Compass Safe Distance: 35 cm
eTOP605	<ul style="list-style-type: none"> - 5" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 60 cm - Steering Compass Safe Distance: 40 cm
eTOP607	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 45 cm - Steering Compass Safe Distance: 30 cm
eTOP607M	<ul style="list-style-type: none"> - 7" TFT color display, LED backlight - 800x480 pixel (WVGA) resolution, 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 45 cm - Steering Compass Safe Distance: 30 cm
eTOP610	<ul style="list-style-type: none"> - 10"1 TFT color display, LED backlight - 1280x800 pixel resolution (WXGA) 64K colors - 2 Ethernet ports with switch function - Standard Compass Safe Distance: 30 cm - Steering Compass Safe Distance: 20 cm

MODEL NAME

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

BRANDING

EXOR INTERNATIONAL S.p.A. is the manufacturer.

EXOR INTERNATIONAL S.p.A. is not written in the technical data labels.

The name written in the technical data label is UniOP or EXOR.

500 Series Part number

ETOP5aa(M)XYPZ, where:

ETOP5aa(M) = Model name (without "G" suffix even if it is included in the MODEL NAME)

X = one or two digit - any letter or number (brand)

Y = one digit - if Model name is with "G" suffix: fixed only 5, otherwise only 1 or 2 or 3 or 4 (front)

P = one digit - fixed only P for conformal coating machine

Z = one digit - any letter or number (customization)

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600 Series Part number
 ETOP6aa(M)XYPZ, where:
 ETOP6aa(M) = Model name
 X = one or two digit - any letter or number (brand)
 Y = one digit - fixed only 5 (front)
 P = one digit - fixed only P for conformal coating machine
 Z = one digit - any letter or number (customization)

Rugged Controller	
Module name	Description
NA30	<ul style="list-style-type: none"> - 2 Ethernet ports with switch function - ARM Cortex-A8 – 1Ghz - Standard Compass Safe Distance: 50 cm - Steering Compass Safe Distance: 35 cm

Part number:
 NA30N001

OPTIONAL MODULES with brand EXOR	
Module name	Description
PLCM01	CAN Interface - DB9 CAN connector
PLCM05	CODESYS Module - designed to activate the CoDeSys run-time in the HMI
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	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)

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.



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Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.



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Type Approval documentation

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Tests carried out

For the bridge mounted components the 'Compass safe distance' was measured according to section 11.2 of IEC 60945 4th edition (2002).

Marking of product

Brand name: As listed under Product description - Brand is UniOP or EXOR

Model name and part number: As listed under Product description

Serial number: Unique for each delivered item

Minimum safe distance: As listed under Product description

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 every second year and at renewal of this certificate.

END OF CERTIFICATE