

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Peripheral Equipment**with type designation(s)  
**IT/XT-series Operator Panels**

Issued to

**ESA ELETTRONICA S.P.A**  
**Mariano Comense, CO, Italy**is found to comply with  
**DNV GL rules for classification – Ships and offshore units****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

<b>Temperature</b>	<b>A</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>C / IP66 (panel front)</b>

This Certificate is valid until **2020-06-30**.Issued at **Høvik** on **2015-10-30**DNV GL local station: **Milan**Approval Engineer: **Ståle Sneen**for **DNV GL**

Digitally Signed By: Nesvåg, Odd Magne

Location: DNV GL Høvik, Norway

Signing Date: 2015-11-02

**Odd Magne Nesvåg**  
**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

HMI Operator Panels,  
- IT Operator Panel series,  
- XT Operator Panel Open CE series,  
comprising the following models:

Model name	Description
IT104G	4.3" TFT 480x272, 32 tones of gray
IT104T	4.3" TFT 480x272, 65.536 colors
IT105B	5,7" STN 320x240, 16 tones of blue
IT105S	5,7" STN 320x240, 65.536 colors
IT105T	5,7" TFT 320x240, 65.536 colors
IT105BK	5,7" STN 320x240, 16 tones of blue
IT105TK	5,7" TFT 320x240, 65.536 colors
IT107W	7" TFT 800x480, 65.536 colors
IT107T	7,5" TFT 640x480, 65.536 colors
IT110T	10,4" TFT 640x480, 65.536 colors
IT112T	12,1" TFT 800x600, 65.536 colors
IT115T	15" TFT 1024x768, 65.536 colors
XT104T	4.3" TFT 480x272, 65.536 colors
XT105B	5,7" STN 320x240, 16 tones of blue
XT105S	5,7" STN 320x240, 65.536 colors
XT105T	5,7" TFT 320x240, 65.536 colors
XT107T	7,5" TFT 640x480, 65.536 colors

## Approval conditions

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 rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

## Application/Limitation

Only models that have a revision number with trailing letter D are covered by this approval. E.g. Revision 1.0D.

Each unit shall be equipped with power supply filtering of the following type:

For IT104; XT104:

MANUFACTURE: CHANGZHOU JIANLI ELECTRONIC CO.LTD

MODEL: DL-6D11

or equivalent.

For all other models (IT105; IT107; IT110; IT112; IT115; XT105; XT107):

MANUFACTURE: CORCOM

MODEL: 6VW1

or equivalent.

## Type Approval documentation

Catalogues:

- ESA HMI Product Catalogue No. 405.1500.014.2 11/10

- ESA HMI Products Overview No. 405.1500.015.2 11/10

ESA IT/XT Universal Operator Terminals, installation overview:

- No. 405.1300.170.0 Rev. 1 – (IT104 CAN-DP-PROFINET)

- No. 405.1300.169.0 Rev. 1 – (IT104 SP1-SP2-COM0)

- No. 405.1300.158.0 Rev. 3 – (IT105 CAN-DP-PROFINET)

- No. 405.1300.145.0 Rev. 4 – (IT105 SP1-SP2-COM0)

Job Id: **262.1-009096-2**  
Certificate No: **TAA000005M**

- No. 405.1300.160.0 Rev. 3 – (IT107 CAN-DP-PROFINET)
- No. 405.1300.155.0 Rev. 3 – (IT107 SP1-SP2-COM0)
- No. 405.1300.161.0 Rev. 2 – (IT110-112 CAN-DP-PROFINET)
- No. 405.1300.156.0 Rev. 2 – (IT110-112 SP1-SP2-COM0)
- No. 405.1300.164.0 Rev. 1 – (IT115 CAN-DP-PROFINET)
- No. 405.1300.163.0 Rev. 1 – (IT115 SP1-SP2-COM0)

Technical data and specification sheets are available at <http://www.esahmi.com>

Nemko EMC Test Reports according to EN 61000-6-2 / EN 61000-6-3:

- No. 111606TRF EMC dated 2008-09-23 – (IT104T)
- No. 94599TRFEMC dated 2007-11-22 – (IT105TK)
- No. 63269TRFEMC dated 2006-04-07 – (IT105S)
- No. 79739-1TRFEMC dated 2007-02-02 – (IT107T)
- No. 151018TRFEMC dated 2010-06-22 – (IT107W)
- No. 90194-1TRFEMC dated 2007-09-21 – (IT112T)
- No. 99971-1TRFEMC dated 2008-02-05 – (IT115T)

Nemko EMC Test reports according to DNV Standard for Certification No. 2.4 (April 2006):

- No. 163967-1TRFEMC dated 2011-02-02 – (IT115)
- No. 163967-2TRFEMC dated 2011-02-02 – (IT107)
- No. 163967-3TRFEMC dated 2011-02-02 – (IT104)

Nemko Environmental Test reports according to DNV Standard for Certification No. 2.4 (April 2006):

- No. 163967-1TRFENV dated 2011-02-24 – (IT112)
- No. 163967-2TRFENV dated 2011-02-24 – (IT115)
- No. 163967-3R1TRFENV dated 2011-05-26 – (IT115)
- No. 163967-4TRFENV dated 2011-03-08 – (IT104)

Type approval periodical assessment report for A-12319, DNV GL Milan 2015-09-21.

## Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

## Marking of product

Manufacturer: ESA Elettronica S.p.A.

Model name as listed under product description

Unique serial number

Revision n.nD, where n can be any number from 0 to 9

Power supply: 24 VDC

## 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