



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	DEIF A/S Frisenborgvej, 33 7800 Skive Denmark
PLACE OF PRODUCTION	EXOR INTERNATIONAL S.p.A. Via Monte Fiorino, 9 37057 San Giovanni Lupatoto (VR) Italy
DESCRIPTION	HMIs (Human Machine Interfaces) with display and touchscreen, and plug-in accessories
TYPE	AGI Series : AGI 407 (*) AGI415 (*) AGI 410 (*) AGI421 (*) with the following plug-in accessories: EXM CAN (**) EXM AGI006 (**) (* model name can be followed by 1 to 3 characters (**) module name can be followed by 1 to 5 characters
APPLICATION	Marine, Offshore and Industrial application for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1, 2015.
SPECIFIED STANDARDS	Manufacturer's Specification
RATINGS	Power supply: 24 V dc Protection Index: IP 66 (front) IP 20 (rear)
Certificate No.	18/00031
Issue Date	2 May 2018
Expiry Date	1 May 2023
Sheet	1 of 3

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS



P. Scialla
Trieste Technical Support Office
Lloyd's Register EMEA

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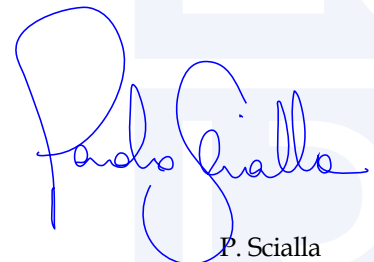
AGI 407	<ul style="list-style-type: none"> - Display - Colours: 7" TFT 16:9 LED - 16M - Resolution: 800x480 WVGA - Touchscreen: True glass projected capacitive, multitouch - CPU: ARM Cortex-A9 dual core - Operating System: Linux RT - Interfaces: n.3 Ethernet port n.2 USB port n.1 serial port (n.3 using plug-in modules) SD card slot n.2 plug-in module slots for system expansion
AGI 410	<ul style="list-style-type: none"> - Display - Colours: 10.1" TFT 16:9 LED - 16M - Resolution: 1280x800 WXGA - Touchscreen: True glass projected capacitive, multitouch - CPU: ARM Cortex-A9 dual core - Operating System: Linux RT - Interfaces: n.3 Ethernet port n.2 USB port n.1 serial port (n.3 using plug-in modules) SD card slot n.2 plug-in module slots for system expansion
AGI 415	<ul style="list-style-type: none"> - Display - Colours: 15.6" TFT LED - 16M - Resolution: 1366x768 HD - Touchscreen: True glass projected capacitive, multitouch - CPU: ARM Cortex-A9 quad core - Operating System: Linux RT - Interfaces: n.3 Ethernet port n.2 USB port n.1 serial port (n.3 using plug-in modules) SD card slot n.2 plug-in module slots for system expansion
AGI 421	<ul style="list-style-type: none"> - Display - Colours: 21.5" TFT LED - 16M - Resolution: 1920x1080 HD - Touchscreen: True glass projected capacitive, multitouch - CPU: ARM Cortex-A9 quad core - Operating System: Linux RT

Certificate No. 18/00031

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Sheet 2 of 3



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- Interfaces	n.3 Ethernet port n.2 USB port n.1 serial port (n.3 using plug-in modules) SD card slot n.2 plug-in module slots for system expansion
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Accessories:	
EXM CAN	CAN interface, DB9 CAN connector
EXM AGIO06	I/O module, compact - 8 digital input - 6 digital output - 1 relay output

ADDITIONAL TESTS

Compass Safe Distance, according to IEC 60945:2002

	standard compass [m]	steering compass [m]
AGI 407	0.85	0.40
AGI 410	1.15	0.75
AGI 415	1.80	1.30
AGI 421	2.20	1.30

Cold test, IEC 60068-2-1, cl.6: at -25°C, 5 hours

Dry Heat test, IEC 60068-2-2, cl.6: at +55°C, 16 hours

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No.18/00031 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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DESIGN APPRAISAL DOCUMENT

Date	2 May 2018	Quote this reference on all future communications	TTS/ETS/ACW/IOM4233
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LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2015.

Issued to: DEIF A/S

for: HMIS WITH DISPLAY AND TOUCHSCREEN AND PLUG-IN ACCESSORIES

**Types: AGI 407 , AGI 410 , AGI 415 , AGI 421
with plug-in modules EXM CAN , EXM AGIO06**

TYPE APPROVAL CERTIFICATE No. 18/00031

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System, 2015 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Form 2502 - Request For Marine Services - Type Approval - CPN1800061/TST/spw	05/03/2018
Application Checklist - Appendix to form 2502TA	01/02/2018
Production Quality Assessment Form - PRJ11063815-2	21/12/2017
ISO 9001:2015 - TUV Italia S.r.l. Certificate N. 50 100 3493 - Rev. 06 - Exor International S.p.A. Quality Management System	13/10/2016
EXOR International S.p.A. Letter - Autorization of Type Approval Certificate duplication	18/12/2017
DEIF A/S Letter - EPC689/JFL - "Multiple listing of EXOR LR certificate 17/00112"	29/01/2018
E-mail from DEIF A/S to LR-Copenhagen - "RE: CPN1800061 - Application for Multiple listing certificate"	30/04/2018

TYPE TEST REPORTS

All the relevant documentation listed in the Design Appraisal Document associated with Type Approval Certificate 17/00112 issued to EXOR International S.p.A.

C.M.C. Test Report nr. E16252001 -Climatic Environmental Testing	16/12/2016
C.M.C. Test Report nr. E16252201 -Climatic Environmental Testing	12/01/2017
C.M.C. Test Report nr. E16253201 -Climatic Environmental Testing	12/01/2017
C.M.C. Test Report nr. E16253501 -Climatic Environmental Testing	15/12/2016
C.M.C. Test Report nr. R16210601 -EMC	16/01/2017
C.M.C. Test Report nr. R16210801 -EMC	26/01/2017
C.M.C. Test Report nr. R16221801 -EMC	03/02/2017
C.M.C. Test Report nr. R16222601 -EMC	27/01/2017
C.M.C. Test Report nr. R17012401 -Compass Safe Distance	01/02/2017
C.M.C. Test Report nr. R17012501 -Compass Safe Distance	01/02/2017
C.M.C. Test Report nr. R17012601 -Compass Safe Distance	01/02/2017
C.M.C. Test Report nr. R17012701 -Compass Safe Distance	31/01/2017
C.M.C. Test Report nr. R17020501 - EMC	24/03/2017
C.M.C. Test Report nr. R17022401 - EMC	24/03/2017
C.M.C. Test Report nr. R17044701 - EMC	24/03/2017
C.M.C. Test Report nr. S16163401 - IP 6X code	01/09/2016
C.M.C. Test Report nr. S16163402 - IP X6 code	01/09/2016
C.M.C. Test Report nr. S16254301 -Electrical tests	02/12/2016
C.M.C. Test Report nr. S16254401 -Electrical tests	02/12/2016
C.M.C. Test Report nr. S16254501 -Electrical tests	02/12/2016
C.M.C. Test Report nr. S16254601 -Electrical tests	02/12/2016
C.M.C. Test Report nr. V16247701 -Vibration Environmental Testing	30/11/2016
C.M.C. Test Report nr. V16251301 -Vibration Environmental Testing	01/12/2016
C.M.C. Test Report nr. V16251801 -Vibration Environmental Testing	10/01/2017
C.M.C. Test Report nr. V16253001 -Vibration Environmental Testing	10/01/2017
C.M.C. Test Report nr. V12112601 -Vibration Environmental Testing	27/07/2012
C.M.C. Test Report nr. E12112701 -Climatic Environmental Testing	07/09/2012
C.M.C. Test Report nr. S12113701 -Electrical tests	07/09/2012
C.M.C. Test Report nr. R12160801 -EMC	07/03/2013

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C.M.C. Test Report nr. E13048801 - Climatic Environmental Testing
C.M.C. Test Report nr. V13052501 - Vibration Environmental Testing
C.M.C. Test Report nr. S13062001 - Electrical tests

29/04/2013
29/04/2013
29/04/2013

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.

P. Scialla
Lead Specialist
Trieste Technical Support Office
Lloyd's Register EMEA



LR032.2016.09

Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
DEIF A/S , Frisenborgvej, 33 7800 Skive Denmark	HMIs: Human Machine Interfaces, with display and touchscreen and plug-in accessories Types:	Power supply: 24V DC Protection Index: IP 66 (front) IP 20 (rear) Operating System: Linux RT	ENV1 ENV2 2015 - Cold test: -25°C , 5 hours - Dry Heat test : 55°C, 16 hours - Compass Safe Distance (IEC 60945:2002) : Standard Steering [m] [m]	Expires: 01 May 2023 Comply with: Manufacturer's Specification Type approval of products according to Test Specification No.1 is essentially a Type Approval of hardware. Examination of software aspects is restricted to functional operation as demonstrated in the Performance Tests	18/00031
	AGI 407	Display: 7" TFT 16:9 LED – 16M Resolution: 800 x 480 WVGA Touchscreen: true glass projected capacitive, multitouch CPU: ARM Cortex-A9 dual core Interfaces: n.3 Ethernet port n.2 USB port n.1 serial port (3 using plug-in modules) n.1 SD card slot n.2 plug-in modules slots for expansion	0.85 0.40		
	AGI 410	Display: 10.1" TFT 16:9 LED – 16M Resolution: 1280 x 800 WXGA Touchscreen: true glass projected capacitive, multitouch CPU: ARM Cortex-A9 dual core Interfaces: n.3 Ethernet port n.2 USB port n.1 serial port (3 using plug-in modules) n.1 SD card slot n.2 plug-in modules slots for expansion	1.15 0.75		
AGI 415	Display: 15.6" TFT LED – 16M Resolution: 1366 x 768 HD Touchscreen: true glass projected capacitive, multitouch CPU: ARM Cortex-A9 quad core	1.15 0.75			

Part 3
Control Units (Part 3)

Producer/Licence No.	Item Description	Technical Details	Category/ Additional Tests	Remarks	Cert. No.
	<p>AGI 421</p> <p>Accessories: EXM CAN</p> <p>EXM AGIO06</p>	<p>Interfaces: n.3 Ethernet port n.2USB port n.1 serial port (3 using plug-in modules) n.1 SD card slot n.2 plug-in modules slots for expansion</p> <p>Display: 21.5" TFT LED - 16M Resolution: 1920 x 1080 HD Touchscreen: true glass projected capacitive, multitouch CPU: ARM Cortex-A9 quad core</p> <p>Interfaces: n.3 Ethernet port n.2USB port n.1 serial port (3 using plug-in modules) n.1 SD card slot n.2 plug-in modules slots for expansion</p> <p>CAN interface, DB9 CAN connector</p> <p>I/O module, compact - 8 digital input - 6 digital output - 1 relay output</p>	<p>1.15 0.75</p>		