



CERTIFICATE NUMBER

16-GD1494933-PDA

DATE

20 Apr 2016

ABS TECHNICAL OFFICE

Gdynia Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

COMAP A.S.

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Diesel Engine, Control System**

Model: **InteliGen NT and InteliSys NT Controllers, InteliVision Displays, I/O Modules and Communication Modules**

This Product Design Assessment (PDA) Certificate 16-GD1494933-PDA, dated 20/Apr/2016 remains valid until 19/Apr/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Arkadiusz Pytkowski

Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

TERMS & CONDITIONS OF ABS DESIGN ASSESSMENT

1. AGREEMENT

Unless otherwise agreed in writing, all services rendered and certificates issued are governed by the terms and conditions of the "Request for Product Type Approval and Agreement" (the "Agreement") which are hereby incorporated by reference.

2. REPRESENTATIONS AS TO DESIGN ASSESSMENT

A certificate of design assessment represents that the product design meets the ABS, statutory, industrial or manufacturer's standard described on the reverse hereof and that the manufacturer has established a systematic quality monitoring system sufficient to show its capacity to consistently manufacture a product which meets the designated standards. ABS is not a substitute for the independent judgment of professional designers or engineers nor a substitute for the quality control procedures of constructors, steel makers, suppliers, manufacturers and vendors of marine structures, materials, machinery or equipment. ABS represents solely to the manufacturer or other client of ABS that it will use due diligence in developing Rules, Guides and standards and in surveying the plant as called for by ABS criteria for type approval.

3. SUSPENSION OF CERTIFICATION

Any of the following events will cause immediate suspension of the certificate of design assessment unless the change is submitted to ABS for a new review and audit.

- a) Redesign of the product or products covered by this certificate;
- b) Change in production methods;
- c) Substantial change in management organization;
- d) Substantial change in frequency or curriculum for personnel training;
- e) Refusing access to ABS personnel for periodic or annual audits;
- f) Failure to correct a non-compliance identified during an audit or in service;
- g) Failure to pay ABS fees.

4. VALIDITY

The validity, applicability and interpretation of a certificate issued under the terms of or in contemplation of ABS Type Approval are governed by the Rules, Guides and standards of American Bureau of Shipping which shall remain the sole judge thereof. Nothing contained in this certificate or in

any report issued in contemplation of this certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied, nor create any interest, right, claim or benefit in any third party. It is understood and agreed that nothing expressed herein is intended or shall be construed to give any person, firm or corporation other than the parties hereto, any right, remedy, or claim hereunder or under any of the provisions herein contained; all of the provisions hereof are for the sole and exclusive benefit of the parties hereto.

5. LIMITATION

ABS makes no representations beyond those contained herein and in the provisions of the Agreement regarding its reports, statements, plan review, surveys, certificates or other services.

6. HOLD HARMLESS

The party to whom this certificate is issued, and his assignee and successor in interest, agree to indemnify and hold harmless ABS from and against any and all claims, demands, lawsuits, or actions for damages, including legal fees, to persons or other legal entities and property, tangible, intangible, or otherwise which may be brought against ABS incidental to, arising out of or in connection with the work done, services performed or material to be furnished under this certificate, except for those claims caused solely and completely by the negligence of ABS, its agents, employees, officers, directors or subcontractors.

7. ARBITRATION

Any and all differences and disputes of whatsoever nature arising out of this agreement shall be put to arbitration in the City of New York pursuant to the laws relating to the arbitration there in force, before a board of three persons, consisting of one arbitrator to be appointed by ABS, one by Client, and one by the two so chosen. The decision of any two of the three on any point or points shall be final. Until such time as the arbitrators finally close the hearings either party shall have the right by written notice served on the arbitrators and on an officer of the other party to specify further disputes or difference under this Agreement for hearing and determination. The arbitration is to be conducted in accordance with the rules of the Society of Maritime Arbitrators, Inc. The arbitrators may grant any relief, other than punitive damages,

which they, or a majority of them, deem just and equitable and within the scope of the agreement of the parties, including, but not limited to, specific performance. Awards made in pursuance to this clause may include costs including a reasonable allowance for attorney's fees and judgment may be entered upon any award made hereunder in any court having jurisdiction. ABS and client hereby mutually waive any and all claims to punitive damages in any forum.

Client shall be required to notify ABS within thirty (30) days of the commencement of any arbitration between it and third parties which may concern ABS's work in connection with this Agreement and shall afford ABS an opportunity, at ABS's sole option, to participate in the arbitration.

8. TIME BAR TO LEGAL ACTION

Any statutes of limitation notwithstanding, Client expressly agrees for itself and its affiliated companies that its right to bring or to assert against ABS any and all claims, demands or proceedings whether in arbitration or otherwise shall be waived unless (a) notice is received by ABS within thirty (30) days after Client or its affiliates had notice of or should reasonably have been expected to have had notice of the basis for such claims; and (b) arbitration or legal proceedings, if any, based on such claims or demands of whatever nature are commenced within one (1) year of the date of such notice to ABS.

9. LIMITATION OF LIABILITY

The combined liability of American Bureau of Shipping, its officers, employees, agents or subcontractors for any loss, claim, or damage arising from negligent performance or non-performance of any services under this Agreement, of from breach of any implied or express warranty of workmanlike performance in connection with the services, or from any other reason, to any person, corporation, partnership, business entity, sovereign, country or nation, shall be limited to the greater of a) \$100,000 or b) an amount equal to ten times the sum actually paid for the services alleged to be deficient.

The limitation of liability may be increased up to an amount twenty-five times that sum paid for services upon receipt of Client's written request at or before the time of performance of service and upon payment by Client of an additional fee of \$10.00 for every \$1,000.00 increase in the limitation.

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**Tier: 5 - Unit Certification Required****Product: Diesel Engine, Control System****Model: IntelliGen NT and IntelliSys NT Controllers, IntelliVision Displays, I/O Modules and Communication Modules****Intended Service:**

Control, monitoring and safety system for auxiliary and propulsion Diesel engine installations with display units for Marine and Offshore Application.

Description:

The IntelliGen NT and IntelliSys NT Controllers are modular engine control systems consisting of the following components:

1. Displays:

IntelliVision 5 CAN Backlit

IntelliVision 8 Marine

IntelliVision 12 Touch

2. Controllers:

IG-NT(C)-(LT)-(GC) Marine

IG-NT(C)-BB

IS-NT-BB

IS-NTC-BB

IM-NT(C) (GC) (LT)

IM-NT(C)-BB

3. I/O Modules:

Inteli AIN8TC

Inteli AIN8

Inteli IO8/8

I-AOUT8

I-LBA

I-RB8

I-RB16

I-RB8-231

I-CB

I-CR

I-CR-R

IG-AVRi-Marine

IG-AVRi-TRANS-Marine

IG-MTU 2:1

IG-MTU/Marine

IGS-PTM

IGS-LSM+PMS Dongle

IGL-RA15

IS-AIN8TC

IS-AIN8

IS-BIN16/8

4. Communication modules:

I-LB+

IB-NT 2.0

The IntelliVision display units are designed for ComAp IntelliGen NT, IntelliSys NT, IntelliMains or IntelliDrive controller units. They are designed for a high visibility of all engine data, monitoring information and trend history statistics.

Rating:

IntelliVision 5 CAN Backlit:

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**Tier: 5 - Unit Certification Required**

- nominal power supply: 8 to 36 VDC

- enclosure rating: IP65

InteliVision 8 Marine:

- nominal power supply: 24 VDC

- enclosure rating: IP65, rear side IP20

InteliVision12Touch:

- nominal power supply: 8 to 36 VDC

- front panel protection: IP65

Service Restriction:

Unit Certification is required for InteliGen NT and InteliSys NT Controllers, whenever used for essential services (see definition in 4-8-1/7.3.3) or for services indicated in 4-8-3/Table 7 of ABS Steel Vessels Rules and as mentioned in 4-1-1/Table 3 (it. 30/35).

The safety system functions are to be approved for each installation in accordance with 4-9-1/7.3.2 of the ABS SV Rules.

InternetBridge-NT 2.0 is to be specially considered for compliance with 4-9-3/13.3 of ABS SV Rules, whenever used for wireless communication.

Unit Certification is not required for InteliVision 5 CAN Backlit, InteliVision 8 Marine and InteliVision 12 Touch. If you or your purchaser requests an ABS Certificate for compliance with a specification or standard; the specification or standard, including inspection standards and tolerances, must be clearly defined.

The control for propulsion engines is acceptable for single engine application when the use of an additional 'back-up' control module (with overspeed protection) is implemented.

Genset with a single control is acceptable in at least dual engine applications.

Comments:

Diesel engines are to be fitted with relevant sensor connections for monitoring & shutdowns as per 4-9-6/Table 1 and 4-9-6/Table 4B of the ABS SV Rules.

For emergency generator application, starting arrangement, monitoring, alarms and safeguards are to be in accordance with 4-8-2/5.15, 4-8-2/5.17 and 4-8-2/5.19 of the ABS SV Rules.

The shutdown function of the safety system is to be independent of control and monitoring systems in accordance with 4-9-2/3.1.2 of the ABS SV Rules.

The automatic shutdown functions mentioned in 4-9-2/9.3 of ABS SV Rules are not to be fitted with manual override.

The InteliGen NT and InteliSys NT Controllers are classified as the computer-based systems of category II or III, as per 4-9-3/Table 1 of ABS SV Rules.

The functional and operational arrangements are to be specifically approved for each particular application.

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

1_603501-01/01 test report, 1_IGS-NT type test-part I

1_603501-01/02 test report IIa, 1_IGS-NT type test-part IIa

1_603501-01/02 test report IIb, 1_IGS-NT type test-part IIb

1_603501-01/04 test report, 1_IGS-NT type test-part IV

2_004726-01/01 test report, 2_IS-NTC-BB EMC Marine II EN

2_260303-11-TAC, 2_IS-NTC-BB MEC CLI EN

2_302523-01/02 test report, 2_InteliAIN8 MEC EN

2_304982-01/01 test report, 2_IS-NTC-BB CLI EN

2_305245-01/01 test report, 2_IS-NTC-BB EMC Marine I EN

2_405338-01/01 test report, 2_IS-NTC-BB CLI REL EN

2_P-ZKL-195/11, 2_IS-NTC-BB MEC SHOCK EN

3_402956-01/01 test report, 3_Test report ID-DCU-Marine-EMC

3_402975-01/01 test report, 3_Test report ID-DCU-Marine-environm

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Tier: 5 - Unit Certification Required

4_301356-01/02, 4_InteliIO88 EMC Marine EN
4_302523-01/01 test report, 4_InteliAIN8 CLI EN
4_302523-01/02 test report, 4_InteliIO88 MEC EN
4_400328-01/02 test report, 4_InteliAIN8TC EMC Marine EN
4_405338-01/01 test report, 4_IS-NTC-BB CLI REL EN
5_100733-01/01 test report, 5_IV8 V1 1 EMC Marine EN
5_260314-09-TAC test report, 5_IV8 V1 1 CLI MEC EN
5_901598-01/01 test report, 5_IV8 V1 1 Flammability
5_901598-01/02 test report, 5_IV8 V1 1 EMC Marine EN (tested with DCU)
5_901598-01/03 test report, 5_IV8 V1 1 High Voltage
6_103598-01/01 test report, 6_IV5CAN EMC MARINE EN I
6_203069-01/01 test report, 6_IV5CAN EMC MARINE EN II
6_260305-11-TAC test report, 6_IV5CAN CLI EN
6_302523-01/02, 6_InteliAIN8 MEC EN
6_400326-01/02 test report, 6_InteliAIN8 EMC Marine EN
7_302523-01/02 test report, 7_InteliAIN8 MEC EN
7_403346-01/02 test report, 7_IB-NT V2 0 EMC Marine EN
7_403941-01/01 test report, 7_IB-NT V2 0 CLI EN
8_505059-01/01 test report, 8_Not Final - InteliVision 12T HW1 0 RevC CLI MEC CZE
ABS-List of Products - new certification, List of products
Overview - List of products and hw tests, List of products and Tests
I-CB-ICBedit 1, ICBedit I-CB configuration PC software
IGS-NT & ID-DCU Accessory Modules 2-2016, Extension modules for ID-DCU, IGS-NT gen-set or engine controllers
IGS-NT 02-2016, Communication Guide for ComAp Controllers
Inteli AIN8, Datasheet Extension Peripheral Modules
Inteli AIN8TC, Datasheet Extension Peripheral Modules
Inteli IO8 8, Datasheet Extension/Peripheral modules
InteliGen NTC BaseBox 0 01-2015, Datasheet Gen-set controller
InteliMains NT 05-2014, Datasheet Compact switchgear controller
InteliMains NTC BaseBox 05-2014, Datasheet Comprehensive switchgear controller
InteliSys NTC BaseBox 01-2015, Datasheet Gen-set controller
InteliVision 8 2013 04 CPLEIV8, Datasheet CONTROLLER COLOUR DISPLAY UNIT
InteliVision12Touch 2016-02-10, Datasheet 12,1
InteliVision 5 CAN 2012 07 CPLEIV5C, Datasheet CONTROLLER COLOUR DISPLAY
InternetBridge-NT, Datasheet Internet communication
I-CR module Conformity Declaration
IG-MTU module Conformity Declaration
IG-NT-BB controller Conformity Declaration

Terms of Validity:

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Tier: 5 - Unit Certification Required

manufacturer and intended client.

STANDARDS

ABS Rules:

- ABS Rules for Conditions of Classification (January 2016): 1-1-4/7.7, 1-1-Appendix 3 & 4,
- ABS Rules for Conditions of Classification (January 2016): Offshore Units and Structures 1-1-4/9.7, 1-1-App. 2 & 3,
- ABS Rules for Building and Classing Steel Vessels (January 2016): 4-1-1/3.3, 4-8-3/1, 4-9-3/11, 4-9-8/7 & 13
- ABS Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length (January 2016): 1-1-1 & 4-1-1/3.3, 4-6-1/11, 4-6-1/15, 4-6-1/17, 4-7-2/9, 4-7-2/15, 4-7-2/17
- ABS Rules for Building and Classing Offshore Support Vessels (January 2016): 1-1-1 & 4-1-1/3.3
- ABS Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways (January 2016): 1-1-1 & 4-1-1/3.3
- ABS Rules for Building and Classing Steel Barges (January 2016): 1-1-1, 1-1-4/7.7, 1-1-A 3 & 4, 4-1-1/1, 4-1-3/1, 4-1-3/5
- ABS Rules for Building and Classing Facilities on Offshore Installations (January 2016): 1-1, 1-1-4/9.7, 1-1-A 2 and 3, 3-6/5, 3-7/3, 3-7/15, 4-6/1, 4-7
- ABS Rules for Building and Classing Mobile Offshore Drilling Units (January 2016): 1-1-1, 1-1-4/9.7, 1-1-A 2 and 3, 4-3-1/11, 4-3-1/15, 4-3-1/17, 4-3-4/5

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA