DNV·GL

Certificate No:
**TAA00001SY**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Engine Safety, Control and Alarm System**

with type designation(s)
**InteliDrive DCU Marine**

Issued to
**ComAp a.s.**
**Praha 8, Czech Republic**

is found to comply with
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**
**Location classes see page 2 and 3.**

Issued at **Hamburg** on **2018-03-29**
This Certificate is valid until **2020-03-28**.
DNV GL local station: **Prague**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

**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.



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## Place of manufacture

TOROLA electronic, spol. s r.o.
Nádražní 906,
744 01 Frenštát pod Radhoštěm,
Czech Republic

## Product description

InteliDrive Marine controller is a engine safety, control and monitoring system, consisting of:

| **System hardware components** | | |
|---|---|---|
| **HW type** | **HW version** | **HW description** |
| ID-DCU-Marine | 2.0 | InteliDrive control unit |
| ID-MCU | 2.0 | Specific customer brand-labeled standard version of ID-DCU-Marine |
| ID-RPU | 2.0 | InteliDrive redundancy protection unit |
| ID-COM | 2.0 | InteliDrive communication unit |
| I-RB16 | 1.0 | Relay board |
| I-RP | 2.0 | Specific customer brand-labeled standard version of I-RD-CAN |
| IS-BIN 16/8 | 3.0 | Extension unit |
| IGS-PTM | 2.2 | Extension unit |
| IGL-RA15 | 1.4 | External LED indication panel |
| IG-MU | 2.2 | Multiple engine modem interface |
| IG-IB | 2.0 | Internet interface |
| Inteli IO8/8 | 1.0 | Extension unit |
| Inteli AIN8 | 1.0 | Extension unit |
| Inteli AIN8TC | 1.0 | Extension unit |
| IS-AIN8 | 5.2 | Extension unit |
| IS AIN8TC | 5.2 | Extension unit |
| Inteli Vision 5 CAN Backlit | 1.2 | Colour display |
| Inteli Vision 8 Marine | 1.1 | Coluor display |
| Inteli Vision 12T | 1.0 | Touch Colour display |
| IB-NT | 2.0 | Internet Bridge |
| I-AOUT8 | 1.1 | 8 analogue output interfaces |
| I-RB8 | 1.0 | Relay board |
| I-LBA | 1.0 | Low battery adapter |
| I-LB+ | 1.1 | Communication bridge |
| I-CR | 1.2 | CAN repeater |

| **System components location classes** | | | | | |
|---|---|---|---|---|---|
| **Hardware type** | **Location classes** | | | | |
| | **Temperature** | **Humidity** | **Vibration** | **EMC** | **Enclosure** |
| ID-DCU-Marine | **B/D**** | **B** | **B** | **A** | **B*** |
| ID-MCU | **B/D**** | **B** | **B** | **A** | **B*** |
| ID-RPU | **B** | **B** | **B** | **A** | **B*** |
| ID-COM | **B** | **B** | **B** | **A** | *****)** |
| I-RB16 | **B** | **B** | **B** | **A** | *****)** |
| I-RP | **B/D**** | **B** | **B** | **A** | **B*** |
| IS-BIN 16/8 | **B** | **B** | **B** | **A** | *****)** |

| | | | | | |
|---|---|---|---|---|---|
| IGS-PTM | **B** | **B** | **B** | **A** | ***)** |
| IGL-RA15 | **B** | **B** | **B** | **A** | ***)** |
| IG-MU | **B** | **B** | **B** | **A** | ***)** |
| IG-IB | **B** | **B** | **B** | **A** | ***)** |
| Inteli IO8/8 | **B** | **B** | **B** | **A** | ***)** |
| Inteli AIN8 | **B** | **B** | **B** | **A** | ***)** |
| Inteli AIN8TC | **B** | **B** | **B** | **A** | ***)** |
| IS-AIN8 | **B** | **B** | **B** | **A** | ***)** |
| IS-AIN8TC | **B** | **B** | **B** | **A** | ***)** |
| Inteli Vision 5 CAN Backlit | **B** | **B** | **B** | **A** | **B*** |
| Inteli Vision 8 Marine | **B** | **B** | **B** | **A** | **B*** |
| Inteli Vision 12T | **B** | **B** | **B** | **A** | **B*** |
| IB-NT | **B** | **B** | **B** | **A** | ***)** |
| I-AOUT8 | **B** | **B** | **B** | **A** | ***)** |
| I-RB8 | **B** | **B** | **B** | **A** | ***)** |
| I-LBA | **B** | **B** | **B** | **A** | ***)** |
| I-LB+ | **B** | **B** | **B** | **A** | ***)** |
| I-CR | **B** | **B** | **B** | **A** | ***)** |
| *) Panel front only<br>**) Temperature class D: When heating of display is included<br>***) Required protection according to the Rules to be provided upon installation on board | | | | | |

Basic:
- ID-DCU-Marine-3.x.mhx
- ID-VP-Marine-3.x.mhx

Application:
- DCU-Marine-AUX-3.x.aid (auxiliary)
- DCU-Marine-EME-3.x.aid (emergency duty)
- DCU-Marine-CMB-3.x.aid (combined, harbour + emergency)
- DCU-Marine-PRP-3.x.aid (variable speed)
- VP-Marine-AUX-3.x.aid (auxiliary)
- VP-Marine-EME-3.x.aid (emergency duty)
- VP-Marine-CMB-3.x.aid (combined, harbour + emergency)
- VP-Marine-PRP-3.x.aid (variable speed)

Maintenance of firmware is decribed in documents „ID-DCU-Marine-Global-Guide-3.x" and „InteliDrive DCU Marine 3.x New Feature List 3.x.

## Application/Limitation

The system is suitable for auxiliary duties, emergency duties and multi engine propulsion systems. Engine commands password protection option shall be set to level 0 (no password protection) or disabled for vessel classed according to DNV GL Rules and /or DNV GL Offshore Standard.

## Approval conditions

The Type Approval covers hardware and basic software listed under Product description.

The following documentation of the actual application is to be submitted for approval in each case:
- Reference to this Type Approval Certificate
- Specifications for Engine and/or reference to engine Type Approval Certificate
- System block diagram (showing independency between Safety System and Control and Monitoring System, including sensors separation)
- Power supply arrangement (may be part of the System block diagram)

- List of controlled and monitored points showing alarms and safety functions (including type, range and threshold)
- Software versions for particular delivery
- Test program for certification

Product certificate
Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system, preferably at the engine/system application maker integrating control, monitoring and safety system, before the system is shipped to the yard. 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 GL for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

## Tests carried out

Applicable tests according to DNV GL CG-0339, Nov.2016
InteliDrive DCU Marine and ID-RPU independency test, Prague, 2014-06-20
Test for SW-Changes 3.x, Prague, 2018-02-15.

## 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 after 2 years, after 3.5 years and at renewal of this certificate.

END OF CERTIFICATE