



Type Approval Certificate

[Engine Control System]

Initial Approval 16 August 2022
Manufacturer ComAp, a.s.
U Uranie 1612/14a, 170 00 Prague 7, Czech Republic

Product Description Type : IntelliDrive DCU-Marine

" See Appendix 1 "

Approval Condition " See Appendix 1 "

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships

This Certificate is valid until 15 August 2027

Issued at Busan, Korea on 16 August 2022



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME22023665127) and certificate No.(HMB28160-AC003).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 16 August 2022

A. Product Description

1. Product Specification

- 1) Product Description (Type : IntelliDrive DCU-Marine)
IntelliDrive DCU-Marine is a specialized engine controller for Marine applications. It controls, monitors and protects the engine in single or variable speed operational modes.

- 2) System comprising

Model	Description
ID-DCU-Marine	Diesel controller unit with graphic display,
ID-MCU-23226590	LCD 128x64 pixel, soft key buttons, RS232 and CAN; (HW vers. : 1.0, 2.0 and 2.0.1; SW vers. : 3.x.x)
ID-RPU	Redundant/backup protection unit
I-RB16	Relay board (16 outputs)
ID-COM	CAN interface module + J1708/J1587 redundancy bus or RS485
IGS-PTM	I/O extension module (8/8/4/1)
IS-BIN16/8	I/O extension module (16/8)
IS-AIN8	I/O extension module, 8 analog inputs
IGL-RA15	Remote annunciator
Inteli I08/8	I/O extension module, 8/8 binary I/O, 2 analogue outputs
Inteli AIN8	I/O extension module, 8 analogue inputs
Inteli AIN8TC	I/O extension module, 8 analogue inputs for thermocouple sensors
I-AOUT8	Extension module, 8 analogue outputs
Inteli A109/1	I/O extension module, 4 analogue inputs, 4 analog inputs for thermocouple sensors, 1 analog input
InteliVision 5 CAN Backlit	Colour display, 5,7" TFT, 320x240 pixels, soft key buttons, CAN
InteliVision 5 CAN Backlit Volvo	Colour display, 5,7" TFT, 320x240 pixels, soft key buttons, CAN
InteliVision 8 Marine	Colour display, 8" TFT, 800x600 pixels, soft key buttons, RS232/485 and CAN
InteliVision 12 Touch OEM	Color display, 12,1" LCD, 1280x800 pixels, multi-touch, RS485, CAN, Ethernet and USB
InteliVision 13 Touch	Color display, 13,3" LCD, 1920x1080 pixels, multi-touch, Ethernet and USB
IB-NT	Internet bridge communication module
I-RB8	Relay board, 8 outputs
I-LBA	Low battery adaptor
I-LB+	Communication bridge module
I-CR	CAN repeater communication module)
I-CB	ECU communication module
InteliFieldbusGateway	Communication module

- 3) Software Version
- IntelliDrive DCU Marine : 3.x.x
- 4) Manufacturing place
- TOROLA electronic, spol. s r.o.
Nadrazni 906, 744 01 Frenstat pod Radhostem, Czech Republic
- NVision Czech Republic a.s.
Klasterni 1, 259 01 Votice, Czech Republic
- VESLA s.r.o.
Bustehradská 223, 272 03 Kladno, Czech Republic
- Mikroelektronika spol. s r.o.
Draby 849, 566 01 Vysoke Myto, Czech Republic

Product Description and/or Approval Condition

Date of Issue : 16 August 2022

2. Approved Drawings and Documents

- 1) Data Sheets
 - ID-DCU Marine Datasheet (2019. 6. 11),
 - InteliVision 5 CAN Backlit Datasheet (2020. 07. 01),
 - InteliVision 8 Marine Datasheet (2021. 11. 09),
 - InteliVision 12Touch OEM Datasheet (2019. 01. 15),
 - InteliVision 13Touch Datasheet (2020. 03. 31),
 - Reference Guide for Accessory modules Rev.11 (2019. 12. 16),
 - Global Guide for IGL-RA15 Rev.2 (2019. 07. 10), I-CR Datasheet (2018. 07. 08),
 - Reference Guide for I-CB Rev.1 (2015. 06),
 - InteliFieldbus Gateway Datasheet (2020. 09. 17)

3. Test Reports, etc.

- 1) Environmental/EMC Test Reports
 - 505059-01/02 (2016. 02. 23), 704180-01/01 (2017. 10. 31), 405106-01/01 (2014. 11. 19),
 - 703780-01/01 (2017. 11. 20), 703437-01/01 (2017. 09. 26), P-VZLUTEST-343/17 (2017. 08. 30),
 - 210677-01/01 (2021. 04. 14), 210942-01/01 (2021. 04. 26), 210942-01/02 (2021. 04. 27),
 - 9/602/2021-3 (2021. 10. 28), 9/613/2021-2 (2021. 10. 28), 214000148 (2021. 08. 17)
- 2) FMEA
 - InteliDrive DCU Marine FMEA Ver. 1.0 (2016. 12. 19)
- 3) Software
 - New Features List for InteliDrive DCU Marine Rev. 8 (2021. 10. 05)

B. Approval Condition

1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) Degree of protection shall be complied with Rule Pt. 6 Ch. 1 Sec. 2 201. 2. (5).
- 3) The manufacturer should inform this Society of all kinds of revisions of the equipment including software. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is required.
- 2) In case where this system is installed on board, the system drawings for individual vessel are to be approved by this Society.

3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

4. Others

- 1) Test condition (IACS UR E10 Rev. 7 basis)

Test	Condition	Remark
EMC	All locations including the bridge and deck zone	-
Temperature	-40 ~ +70°C	-
Vibration	Acceleration $\pm 4.0g$	-
Degree of protection	IP65 front, IP20 rear IP65 when sealed to console, IP22 standalone IP65 for InteliVision 5 CAN Backlit	1) 2)

* Remark

- 1) For ID-DCU Marine, IGL-RA15, InteliVision 8 Marine, InteliVision 12 Touch OEM
- 2) For InteliVision 13 Touch

< End of Certificate >