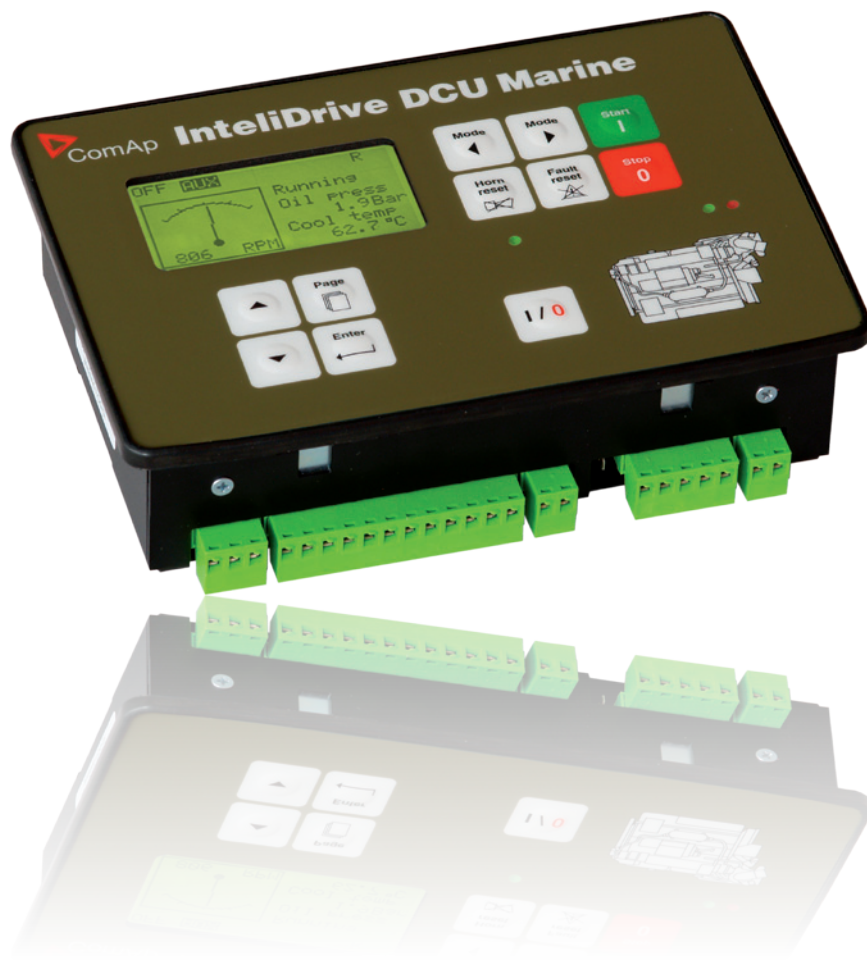


# InteliDrive DCU Marine

MODULAR ENGINE CONTROLLER  
FOR MARINE APPLICATIONS



## Description

The InteliDrive DCU Marine is an engine controller specifically designed to meet the demanding requirements of the marine market. The unit provides a high level of performance with extensive communications and safety functions, as well as primary/secondary power switching.

The controller is easily integrated into the ship's control system and has the capability fully communicate with electronic engines. ComAp developed this capability for their market leading genset controllers, and adapted it to function in the marine environment through the use of J1939 communication buses.

The InteliDrive DCU Marine has an engine specific approach which allows the unit to communicate fully with the engine's Electronic Control Unit (ECU), delivering a greater range of values, and most importantly, delivering all diagnostic information in easy to read text, rather than potentially confusing codes or flashing lights.

The InteliDrive DCU Marine provides users with a highly flexible control solution, with configurable inputs and outputs allowing the controller to be customized to a particular application without the need for complicated programming.



ComAp is a member of AMPS (The Association of Manufacturers of Power generating Systems).



ComAp products meet the highest standards, with every stage of production undertaken in accordance with the ISO certification obtained in 1998.

## Benefits

- ▶ Integrated solution with hardwired safety functions – less wiring and components
- ▶ Full communication support of engines with ECU – simpler wiring, access to information from ECU via Modbus
- ▶ Event driven history record, easy backtracking and problem solving
- ▶ Load sharing for propulsion engines – better utilization of power from installed engines
- ▶ Slave panel available – economical solution for remote control
- ▶ Integrated clutch control – less wiring and components
- ▶ Many types of communication – easy supervision and servicing
- ▶ Perfect price/performance ratio
- ▶ Type approval from major certification societies

## Features

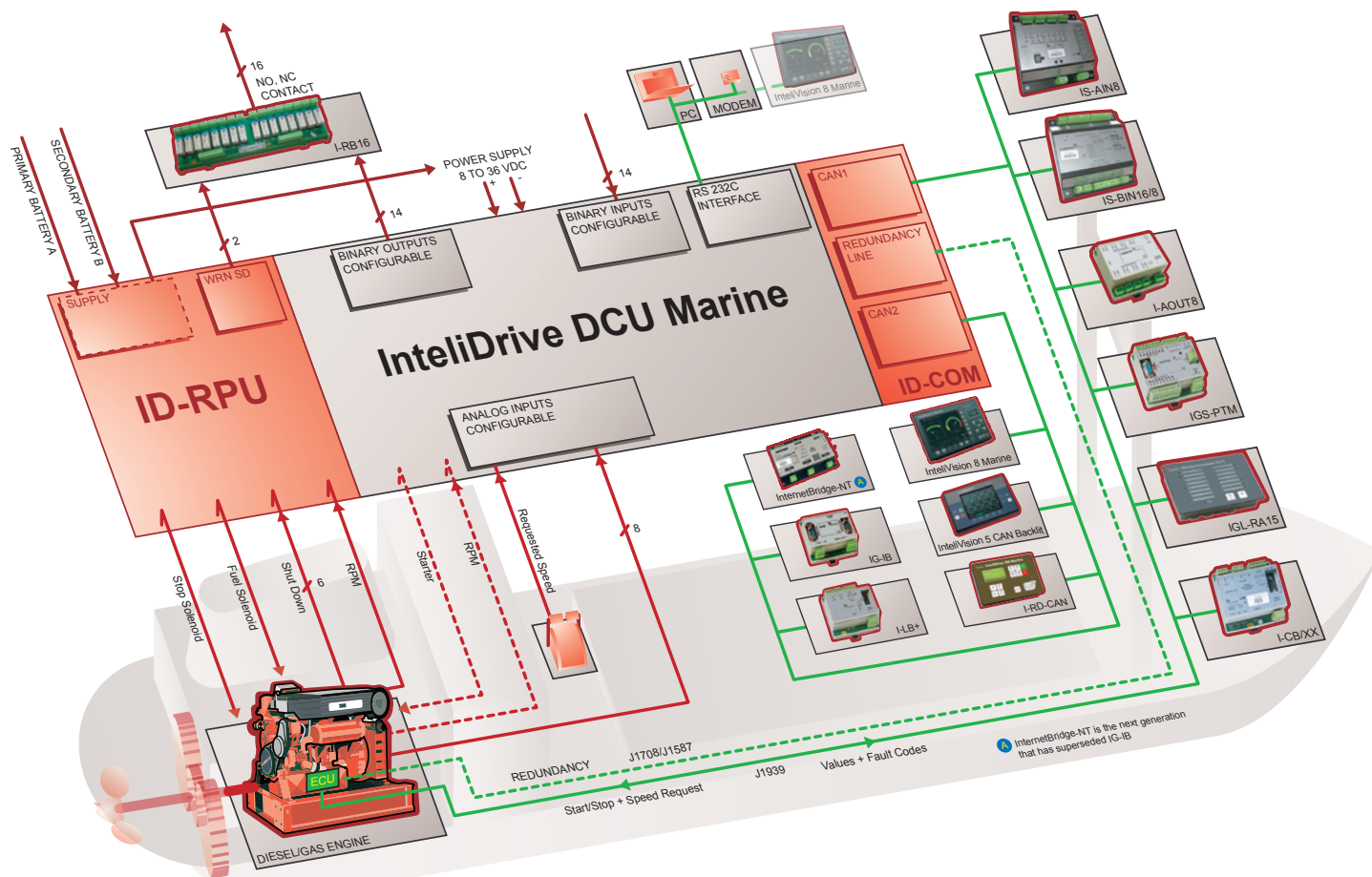
- ▶ Engine control, monitoring and protection
- ▶ 14 binary inputs and outputs, 8 analog inputs
- ▶ RS232/Modem/Modbus/Internet communication
- ▶ Redundant module ID-RPU with hardwired safety functions activated in backup mode
- ▶ Switching between primary and secondary battery (with ID-RPU module)
- ▶ Automatic switchover to backup mode in case of detection of main unit failure
- ▶ Internal – configurable PLC functions
- ▶ Graphical screen with icons and bar graphs
- ▶ Event and time driven history record for backtracking

- ▶ Different engine application support: Auxiliary, Emergency/Harbour, Propulsion
- ▶ Clutch control for propulsion engines
- ▶ Symmetrical load sharing for propulsion engines with J1939 (via CAN bus)
- ▶ Extension modules for expandable number of Inputs/Outputs (connected via CAN bus)
- ▶ Slave panels for remote control available
- ▶ Inputs/Outputs configuration
- ▶ Configurable list of values that are read from J1939 bus
- ▶ Support of redundant J1587 communication bus
- ▶ Direct speed/load control via J1939 or J1587 buses
- ▶ Diagnostic information from J1939 or J1587 displayed in plain easy to read
- ▶ Configurable Modbus and ModbusTCP support for easy integration into the ship's control system

## Redundant power module ID-RPU

- ▶ Supervision of IntelliDrive DCU Marine in stand by mode
- ▶ Automatic backup mode activation if the main unit fails
- ▶ Hardwired safety functions in backup mode
- ▶ 1 emergency stop normally opened
- ▶ 5 shutdown channels with broken wires detection
- ▶ Fuel and Stop solenoids with broken wires detection
- ▶ Automatic switchover between primary and secondary battery
- ▶ Common alarm and Common shutdown outputs
- ▶ It is possible to use ID-SCM when ID-RPU is not connected

## Schematic diagram



## Communication modules and PC tools

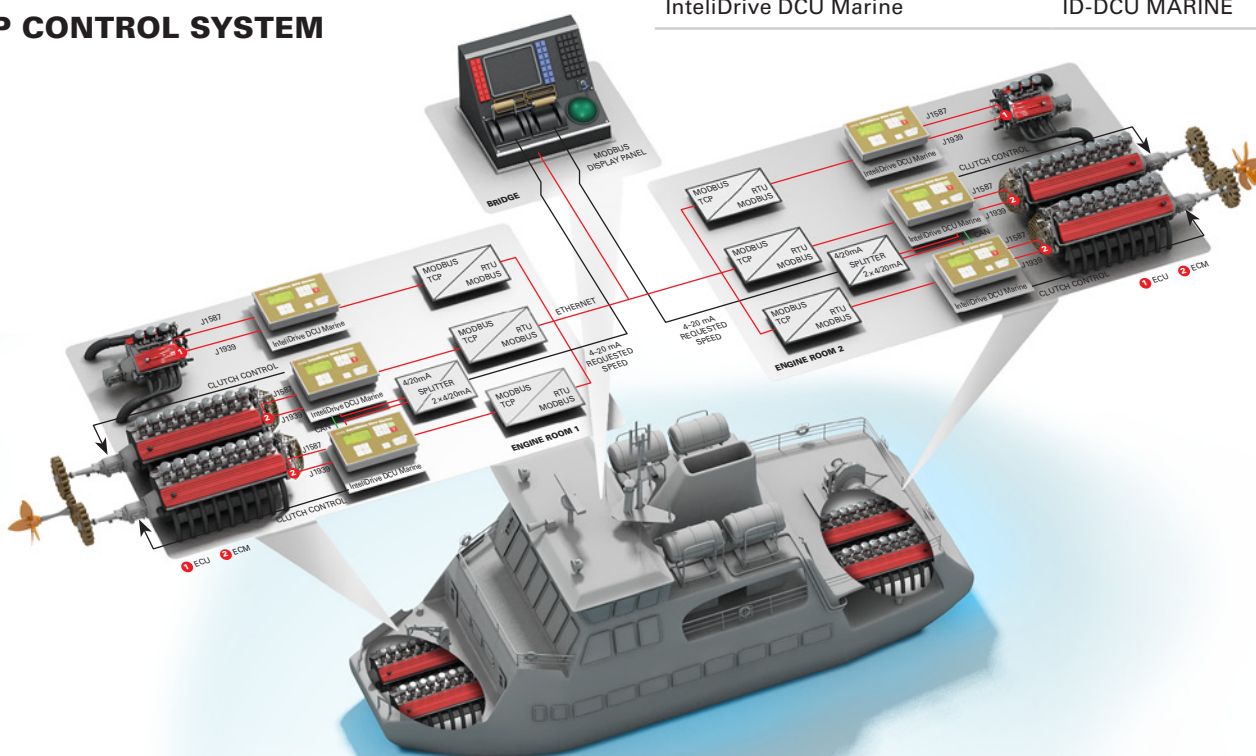
- ▶ **InternetBridge-NT** – Communication module with cellular/ethernet connection
- ▶ **IG-IB** – Internet bridge
- ▶ **I-LB+** – Local bridge
- ▶ **I-CB** – ECU communication bridge
- ▶ **DriveMonitor** – PC monitoring tool
- ▶ **WinScope** – Special graphical controllers' monitoring software
- ▶ **DriveConfig** – PC configuration tool
- ▶ **InteliMonitor** – PC monitoring tool
- ▶ **InteliSupervisor** – PC tool for genset or machines fleet management

## Communication interface ID-COM

- ▶ Multi-controller and/or Remote display communication and/or IG-IB and/or InternetBridge-NT and/or I-LB+
- ▶ Redundancy line J1708/J1587

## Typical application

### SHIP CONTROL SYSTEM



#### Description:

- ▶ Small ferries typically feature two propellers, one in bow and one in stern. Propellers can rotate by 360° to give requested maneuverability to the ferry.
- ▶ Each propeller is driven by two engines located in two separate engine rooms.
- ▶ In each engine room is also one auxiliary genset.
- ▶ Propulsion engines are controlled by IntelDrive DCU Marine, in PROP configuration, via J1939 bus. Redundant J1587 bus is used in case of J1939 failure.
- ▶ Requested speed is defined by 4–20 mA signal from the bridge.
- ▶ IntelDrive controllers make propulsion load-sharing to keep engines evenly loaded.
- ▶ Engines of auxiliary gensets are controlled by IntelDrive DCU Marine in AUX configuration.
- ▶ IntelDrive controllers communicate to a ship's control and visualization system via Modbus RTU/TCP converter and Ethernet bus.
- ▶ Optimal configurable structure of IntelDrive's Modbus message together with high communication speed of Ethernet bus gives immediate information on engine speed and torque required on the bridge of a quickly maneuvering ship.

## Extension modules and remote displays

- ▶ up to 4x **I-AOUT8** – Analog output extension module
- ▶ up to 4x **IGL-RA15** – Remote annunciator
- ▶ up to 4x **IGS-PTM** – Analog/binary input/output module
- ▶ up to 4x **IS-AIN8** – Analog input module
- ▶ up to 3x **IS-BIN16/8** – Binary input/output module
- ▶ up to 5x **I-RD-CAN** – Remote display with CAN bus Interface (possible extension up to 5x I-RD-CAN)
- ▶ up to 4x **InteliVision 8** – Controller colour display unit
- ▶ up to 4x **InteliVision 8 Marine** – Controller colour display unit
- ▶ up to 5x **InteliVision 5 CAN** – Controller colour display unit
- ▶ up to 5x **InteliVision 5 CAN Backlit** – Controller colour display unit

## Relay board I-RB8 / I-RB16

- ▶ 8 or 16 relays for IntelDrive DCU Marine (ID-RPU) binary outputs separation
- ▶ Each channel has both n.o. and n.c. contacts available
- ▶ LED state indication

## Order code

Controller	Order code
IntelDrive DCU Marine	ID-DCU MARINE

#### Scope of supply:

- ▶ 6x IntelDrive DCU Marine
- ▶ 6x ID-RPU
- ▶ 4x ID-COM
- ▶ 6x Modbus RTU/TCP converter (not delivered by ComAp)



## RELATED PRODUCTS

### InteliVision 8 Marine

MARINE APPROVED 8" COLOUR DETACHABLE DISPLAY UNIT

- ▶ InteliVision 8 Marine is a colour display unit for either InteliDrive DCU, InteliDrive Mobile, InteliGen<sup>NT</sup>, InteliSys<sup>NT</sup> or InteliMains<sup>NT</sup> controllers. It is designed as a simple, easy to use Plug and Play solution. The InteliVision 8 Marine screen features many significant improvements such as the large high-resolution colour TFT display, which helps visibility and definition for onscreen information. The control interface has also been updated with user-friendly intuitive active buttons – giving users access to more information in less time. InteliVision 8 also features our unique TRENDS monitoring as a standard feature, helping you evaluate past events easily on one screen.



### InteliVision 5 CAN Backlit

MARINE APPROVED 5,7" COLOUR DISPLAY UNIT WITH CAN BUS INTERFACE AND BACKLIT BUTTONS

- ▶ InteliVision 5 CAN Backlit is a new generation remote display unit for either InteliDrive DCU, InteliDrive Mobile, InteliGen<sup>NT</sup>, InteliSys<sup>NT</sup> or InteliMains<sup>NT</sup> controllers. The unit offers user screen layout customization, extended hardware features as IP 65 protection from all sides, galvanically separated CAN interface, analog input for backlight dimming etc.



### InteliDrive Nano / InteliDrive Nano WP

ENGINE CONTROLLER FOR MARINE NOT APPROVED APPLICATIONS

- ▶ The InteliDrive Nano and InteliDrive Nano WP are cost effective engine controllers, which feature outstanding control, monitoring and protection for electronic and conventional diesel/gas engines. All settings can be configured using the controller buttons or DriveEdit PC software. The controller uses a symbol-based graphic display so users to quickly and easily interpret information. Its history-log aids troubleshooting and helps protect the equipment warranty.



For more information about our products and applications visit

**[www.comap.cz](http://www.comap.cz)**



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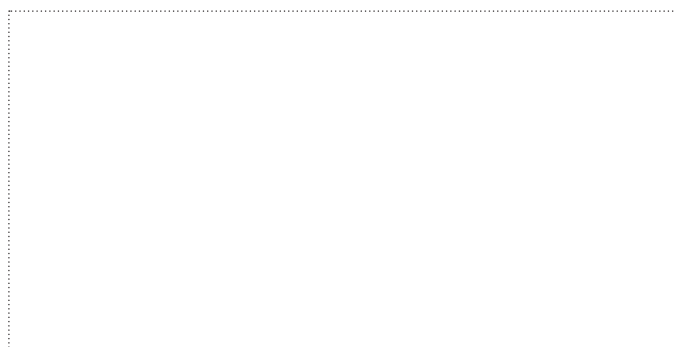
Phone: + 420 246 012 111

Fax: + 420 266 316 647

E-mail: [info@comap.cz](mailto:info@comap.cz)

Internet: [www.comap.cz](http://www.comap.cz)

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