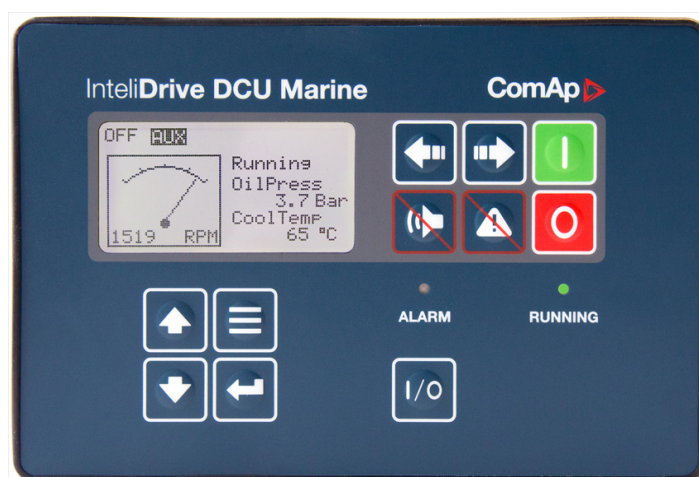


InteliDrive DCU Marine



Order code: ID-DCU Marine

Embedded Certified Engine Controller for Marine Applications

Datasheet

Product description

- > Specialized engine controller for Marine applications Propulsion, Auxiliary, Emergency, Harbour
- > Provide control, monitoring and protection for variable type of engines
- > Direct communication with Electronic Control Units

Key features

- > Support of machinery with multiple CAN devices (ECU, ACM, SCR etc.)
- > Event driven History up to 4 000 records
- > Redundant architecture: Main unit + Backup module
- > Backup ID-RPU module with hardwired protections
- > Plug&Play support of InteliVision display family of ComAp IV5CANBL, IV8MARINE, IV12TOEM
- > Tier 4 Final + Stage 5 control and visualization
- > Configurable large PLC interpret with PLC editor and monitor
- > Connection to engine via primary J1939 and backup J1587 buses
- > Speed/load control via J1939/J1587 buses, Modbus, Binary and Analogue signals
- > Configurable Modbus Registers, Modbus RTU and Modbus TCP support for easy integration into the ship's control system

- > Symmetrical load sharing for propulsion engines with J1939 (via CAN bus)
- > Integrated load and clutch control
- > Switching between primary and secondary battery
- > Virtual shared inputs and outputs via CAN
- > Over-speed and Emergency stop detection
- > Communication capabilities including RS232, RS485, Modem, Modbus, Internet, Ethernet
- > Remote monitoring via Modbus, TCP/IP, AirGate
- > Cloud-based monitoring and control via WebSupervisor
- > Active e-mail messaging and SMS
- > Available also in low temperature (LT) version
- > Extendable with ComAp peripheral modules

Application overview

- > Single speed engine operation
 - >> Auxiliary application
 - >> Emergency application
 - >> Combined application with harbor mode
- > Variable speed engine operation
 - >> Propulsion application

Technical data

Power supply

Power supply range	8-36 V DC
Current consumption (depends on supply voltage)	0.34 mA / 8 V DC
	0.12 mA / 24 V DC
	0.09 mA / 36 V DC
Galvanically isolated from controller body	YES
Battery voltage measurement tolerance	2 % at 24 V
RTC battery lifetime	Up to 10 years (20°C)

Note: RTC battery flat causes wrong Date&Time information only.

Operating conditions

Operating temperature	-20 °C to +70 °C
Storage temperature	-30 °C to +80 °C
Humidity	95 % w/o condensation
Flash memory data retention time	10 years
Protection front panel	IP 65
Standard conformity	
Electromagnetic Compatibility	EN 61000-6-2 ed.3:06
	EN 61000-6-4:07+A1:11
	IEC 60533, Ed. 2; 1999-11
Vibration	5-25 Hz, ± 1.6 mm
	25-100 Hz, $a = 4$ g
Shocks	$a = 200$ m/s ²
Heat radiation	3.5 W

Dimensions and weight

Dimensions	183 × 123 × 47 mm
Weight	800 g

Binary inputs

Number of inputs	14
Input impedance	4.7 kΩ
Input range	0-36 V DC
Switching voltage level	0-2 V DC close contact
Voltage level	8-36 V DC
Minimal input duration	110 ms

Binary open collector outputs

Number of outputs	14
Maximum current - outputs BO1, BO2	1 A
Maximum current - outputs BO3 - BO14	5 A (60 °C), 4 A (70 °C)
Maximum switching voltage	36 VDC

RS232 interface

Maximal distance	10 m
Speed	up to 115.2 kBd

Speed pick-up input

Type of sensor	magnetic pick-up (connection by shielded cable is recommended)
Input impedance	10 kΩ
Input voltage range	4 Vpk-pk to 50 Vpk-pk in range 4 Hz to 1 kHz
Minimum measured frequency	4 HZ
Maximum measured frequency	10 kHz (min. input voltage 6Vpk-pk)
Frequency measurement tolerance	1.5 %

D+ function

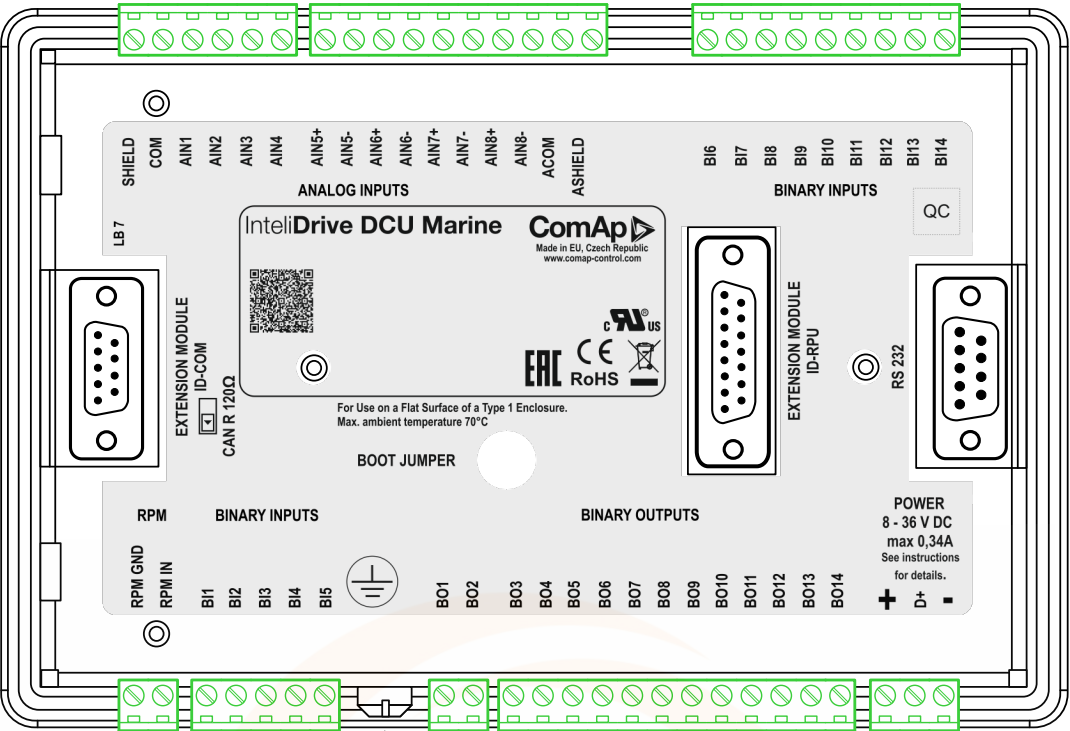
Max. D+ output current	300 mA
Guaranteed level for signal Charging OK	90% of supply voltage

Analog inputs (Not electrically separated)

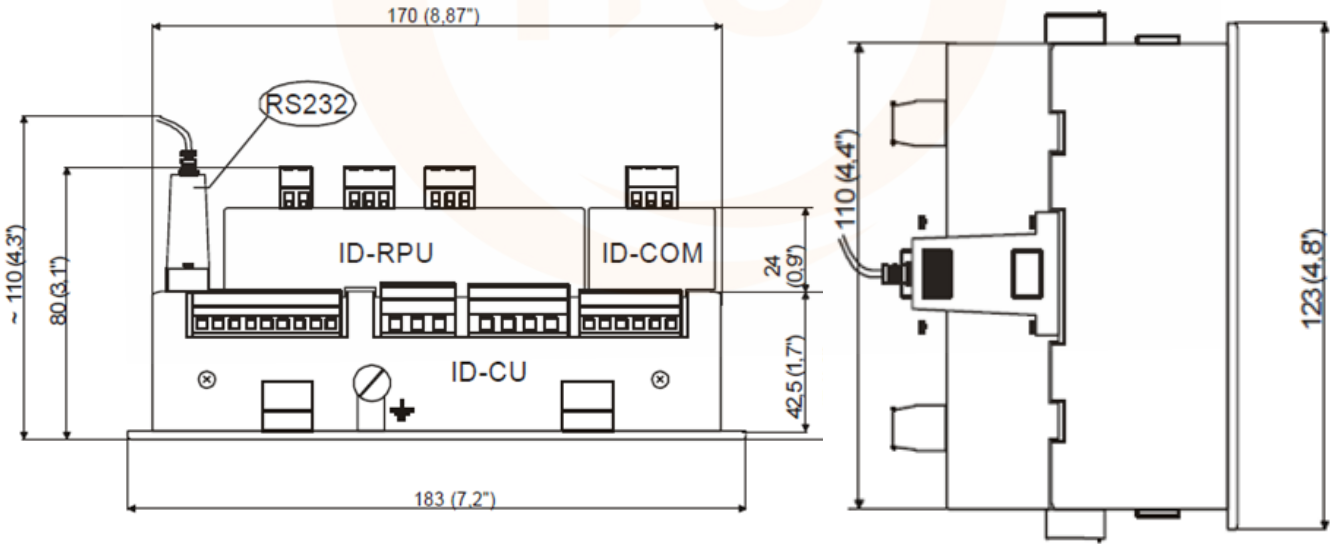
Group 1 AI1 – AI4	
Number of inputs	4 unipolar
Resolution	0.1 Ω
Jumper selectable range	V, Ω, mA
Maximal resistance range	2500 Ω
Maximal voltage range	4.0 V
Maximal current range	0-20 mA
Input impedance	180 Ω for mA measuring
Input impedance	> 100 kΩ for V measuring
Resistance measurement tolerance	$\pm 2 \% \pm 2 \Omega$ out of measured value
Voltage measurement tolerance	$\pm 1 \% \pm 1$ mV out of measured value
Current measurement tolerance	$\pm 1 \% \pm 0.5$ mA out of measured value
Group 2 AI5 – AI8	
Number of inputs	4 bipolar
Resolution	Up to 16 bits
Jumper selectable range	V, Ω, mA, thermo coupler
Maximal resistance range	2500 Ω
Maximal voltage range	± 1000 mV / 100 mV / 5 V
Note: The maximal input voltage offset is in the range from -2 to +5 V DC against controller minus power supply when AI5 to AI8 is used for differential voltage measuring.	

Maximal current range	$\pm 0-20$ mA active
	0-20 mA passive
Input impedance	50 Ω for mA measuring
Input impedance	>100 kΩ for V measuring
Resistance measurement tolerance	$\pm 0.5 \% \pm 2\Omega$ out of measured value
Voltage measurement tolerance	$\pm 0.5 \% \pm 1$ mV out of measured value
Current measurement tolerance	$\pm 0.5 \% \pm 0.5$ mA out of measured value

Dimensions, terminals and mounting



Grounding
Terminal



Available extension modules

Product	Description	Order code
ID-RPU	Redundant Protection Unit	ID-RPU
ID-SCM, ID-SCM1	Speed Control Module	ID-SCM , ID-SCM1
ID-COM	Communication Module with CAN and RS485/J1587 interface Communication Module with CAN1/CAN2/J1587 interface	ID-COM CM2J1708BZB
Inteli AIN8	8 Analog Input Channels and 1 RPM/Impulse Input Module	I-AIN8
Inteli AIN8TC	8 Analog Channels Module	I-AIN8TC
Inteli IO8/8	Binary Inputs/Outputs and Analog Outputs Module	I-IO8/8
Inteli AIO9/1	Analog Input Output Module	I-AIO9/1
IGS-PTM	Analog/Binary Input/Output Module	IGS-PTM
IS-AIN8	Analogue Input Module	IS-AIN8
IS-AIN8TC	Module for Thermocouple Measurement	IS-AIN8TC
IS-BIN16/8	Binary Input/Output Module	IS-BIN16/8
I-AOUT8	Analog Output Module	I-AOUT8
IGL-RA15	Remote Annunciator	EM2IGLRABAA

Related products

Product	Description	Order code
InternetBridge-NT	3G Communication Module with Cellular/Ethernet Connection	IB-NT
	4G EU market	CM2IB4GEBFB
	4G USA+Canada market	CM2IB4GABFB
	4G Japan market	CM2IB4GJBFB
InteliVision 5	5.7" colour display unit with buttons (can be equipped by backlit buttons and Marine certification)	INTELVISION 5 INTELVISION 5 CAN INTELVISION 5 CAN Backlit
InteliVision 8	Marine Approved 8" Colour Display Unit for InteliGen NT/InteliSys NT and InteliDrive Family of Controllers	InteliVision 8 Marine
InteliVision 12Touch OEM	Industrial operator panel equipped with 12,1" colour, multi-touch screen - dedicated together with the main ComAp controller to visualise and control various applications	RD112OEMBZH
InteliVision 13Touch	13.3" Marine certified Panel PC with multi-controller support and buttons for brightness change on its front face.	RD1IV13TBME
I-CB	ECU Communication Bridge	I-CB/CAT DIESEL I-CB/CAT GAS I-CB/DEUTZTEM I-CB/MODBUS I-CB/MTU I-CB/MTU ECS I-CB/MTU SIAM4000



Certificates and standards

<div><div>> EN 61000-6-2 ed.3:06</div><div>> EN 61000-6-4:07+A1:11</div><div>> UL 6200</div><div>> EN 60068-2-30:2005 25/55°C, RH 95%, 48hours</div><div>> DNV</div><div>> LR</div></div>	<div><div>> BV</div><div>> ABS</div><div>> C1D2</div><div>> RS</div><div>> CCS</div><div>> CRS</div><div>> RINA</div></div>	<div><div><div><div>CE</div><div>C</div><div>UL</div><div>US</div></div><div><div>UL</div><div>LISTED</div></div><div><div>ABS</div><div>APPROVED PRODUCT</div></div><div><div>BUREAU</div><div>VERITAS</div></div><div><div>DNV</div></div></div><div><div><div>CCS</div><div>CHINA CLASSIFICATION SOCIETY</div><div>中国船舶社</div></div><div><div>LR</div><div>Lloyd's Register</div></div><div><div>RINA</div></div><div><div>RUSSIAN MARITIME REGISTER OF SHIPS</div><div>1913</div></div><div><div>CRS</div></div></div></div>
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