

Order code: ID2C2004BAA

Expandable engine controller

Datasheet

Product description

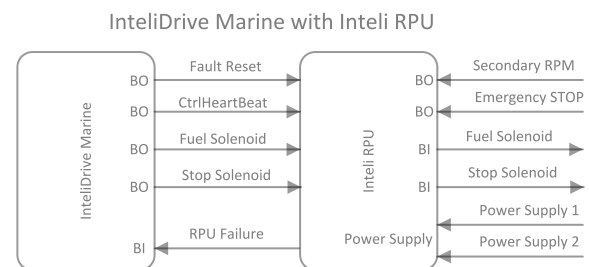
- ▶ The IntelliDrive Marine is a cost effective controller with outstanding features of control, monitoring and protection for both mechanical and electronic diesel engines.
- ▶ The controller is designed for the specific requirements of the single marine propulsion systems, auxiliary and emergency engines fulfilling the Tier4 Final emission standards.
- ▶ It offers redundant architecture by using backup redundant protection unit Inteli RPU.

Key features

- ▶ Engine controller for marine Tier4 Final propulsion applications
- ▶ Control, monitoring and protection for both mechanical and electronic diesel engines
- ▶ Support of engines with Electronic Control Unit (ECU) - J1939 or Cummins Modbus
- ▶ Analog oil pressure, water temperature, fuel level, battery voltage, engine speed (pick-up)
- ▶ Smooth engine speed control by external analog input
- ▶ Dual Power supply for support of two independent power supplies
- ▶ Direct speed control of mechanical engine from IL-NT AIO HC extension module
- ▶ 7 configurable binary inputs, 7 configurable binary outputs
- ▶ 9 configurable analogue inputs (3 resistive, 3 current 0-20mA, 3 voltage 0-10V)
- ▶ Selectable protections alarm / shutdown
- ▶ 3 level of controller setting / operation password protection
- ▶ Ethernet, USB, GSM / GPRS, RS485 or RS232 / Modem / Modbus communication

- ▶ Automatic SMS on alarm
- ▶ On-line control and monitoring over web pages (embedded web server)
- ▶ Real time clock and event history log
- ▶ Push buttons for simple control, lamp test
- ▶ 2 languages (user changeable), Chinese language support
- ▶ Front panel sealed to IP65

Application overview



Marine certifications



China Classification Society (CCS)

Technical data

Power supply

Power supply range	8-36 V DC
Power supply drop-out immunity	100 ms (from min. 10 V)
Power consumption	440 mA @ 8 V; 40 mA @ 36 V
Backup battery type	CR 1225
Estimated backup battery lifetime	10 years

Operating conditions

Operating temperature	-20 °C to +70 °C
Operating humidity	95 % non-condensing (IEC/EN 60068-2-30)
Protection degree (front panel)	IP65
Vibration	5-25 Hz, ± 1.6 mm; 25-100 Hz, a = 4 g
Shocks	amax 200 m/s ²
Storage temperature	-30 °C to +80 °C
Heat radiation	3.5 W

Binary inputs

Number	7 non-isolated
Input resistance	4.2 k Ω
Common pole	Positive, Vs = 8-36 V DC
Close/Open indication	0-2 V close contact 4 V - Vs open contact

Binary outputs

Number	7 non-isolated
Operating voltage	8-36 V DC
Switching to	negative power supply terminal
Max current 0,5 A (2 A per group)	0.5 A (2 A per group)

Analog inputs – resistive

Number	3 non-isolated
Electrical range	0-2500 Ω
Resolution	10 bits, 4 digits
Precision	± 2 % ± 2 Ω out of measured value
Resistance accuracy	4 %, ± 5 Ω
Supported sensor types	Predefined: VDO 10Bar, VDO Temperature, VDO Fuel level, User-defined: 30 points non-linear sensors can be defined by the user

Analog inputs – current

Number	3 non-isolated
Current range	0-20 mA
Resolution	10 bits, 4 digits
Input impedance	180 Ω
Current accuracy	1 %, ± 0.2 mA
Precision	± 1 % ± 0.5 mA out of measured value
Supported sensor types	User-defined: 30 points non-linear sensors can be defined by the user

Analog inputs – voltage

Number	3 non-isolated
Max. Voltage range	0-10 V (AIN4+5 0-40 V)
Resolution	10 bits, 4 digits
Input impedance	>100 k Ω
Voltage Accuracy	1 %, ± 100 mV (± 400 mV for AIN4-5)
Precision	± 1 % ± 50 mV out of measured value
Number	User-defined: 30 points non-linear sensors can be defined by the user

Communication

CAN	External modules 250 kbps, max 200 m Non-Isolated
-----	---

Magnetic pick-up

Voltage input range	2-70 Vpp
Frequency input range	4 Hz - 10 kHz (min 2 Vpp @ 4Hz - 4 kHz, 6 Vpp @ 10 kHz)
Frequency measurement tolerance	0.2 %

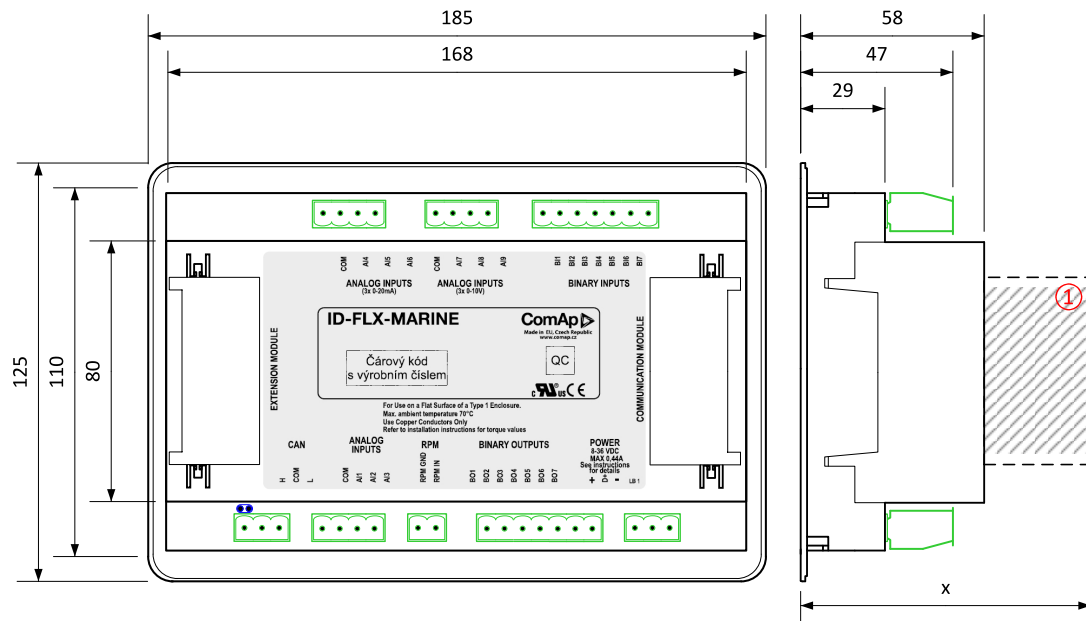
D+

Excitation current	250 mA, during the engine start only
Charging fail threshold	80 % of U supply

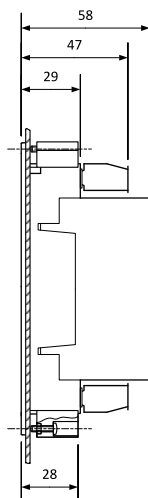
Display

Type	Built-in monochromatic
Resolution	128 x 64 px

Dimensions, terminals and mounting



Panel door mounting



Overview of parameter x

Plug-in module	Parameter x (mm)
IL-NT-AOUT8	75
IL-NT-BIO8	74
IL-NT-IO1	75
IL-NT-AIO	75
IL-NT-RS232	113
IL-NT-RS232-485	115@RS232/74@RS485
IL-NT-S-USB	128
IB-Lite	108
IL-NT-GPRS	122

Note: Parameter x includes reserve for connectors of plug-in modules



Note: The controller is to be mounted onto the switchboard door. The requested cut-out size is 175 × 115 mm. Use the screw holders delivered with the controller to fix the controller into the door.

Note: Screw torque is 0.15-0.2 Nm.

Available extension modules

Product	Description	Order code
IL-NT-AOUT8	8 analog outputs packed in a unit	IL-NT-AOUT8
IL-NT-BIO8	8 binary inputs in a unit (HW switchable to 8 binary outputs)	IL-NT-BIO8
IL-NT-IO1	4 binary inputs and 4 analog input in a unit	IL-NT-IO1
IL-NT-AIO	4 configurable analog inputs and 1 configurable analog output in a unit	IL-NT-AIO
IGL-RA 15	15 binary LED output (3 colors) packed in a rugged metal unit	EM2IGLRABAA
IL-NT-RS232	Communication module which provides additional RS232 interface for controller	IL-NT-RS232
IL-NT-RS232-485	Communication module which provides additional RS232 and RS485 interface for controller	IL-NT-RS232-485
IL-NT-S-USB	Communication module which provides additional USB interface for controller	IL-NT-S-USB
IB-Lite	Communication module which provides additional Ethernet interface for controller	IB-Lite
IL-NT-GPRS	Communication module with integrated GSM modem with GPRS Internet connection	IL-NT-GPRS
I-LB+	Direct connection (PC) to all controllers on CAN2	I-LB+
InternetBridge-NT	Multiple Internet connections (PC and Modbus) to all controllers on CAN2 or RS485	IB-NT CM2IB4GABFB CM2IB4GEBFB CM2IB4GJBFB
Intel RPU	Back up module for marine applications	EM1RPUXBZB

Certificates and standards

<ul style="list-style-type: none"> ▶ EN 61000-6-2 ▶ EN 61000-6-4 ▶ EN 60068-2-30 ▶ EN 60068-2-1 (-20 °C/16 h) ▶ EN 60068-2-2 (70 °C/16 h) ▶ EN 60068-2-6 (2÷25 Hz / ±1.6 mm, 25÷100 Hz / 4.0 g) ▶ EN 60068-2-27 (a=500 m/s²; T=6 ms) ▶ EN 60068-2-30:2005 25/55°C, RH 95%, 48hours ▶ EN 60529 (front panel IP65, back side IP20) ▶ EN 62262, EN 50102 (IK04) 	 
List of standards is available on: https://webstore.iec.ch/	

