

EngineBox

The EngineBox expands the possibilities of the NavBox for multi-engine applications or can be used as stand-alone when navigation information is not required. The EngineBox has a NMEA2000® and a J1939 CAN port. The EngineBox can also be used on older, completely analogue engines, thanks to the analogue input ports provided and designed for: RPM data, 0-400 Ohm sensors and 4-20mA sensors.

EngineBox is available in 2 versions: Single Engine and Dual Engine. The Dual Engine version is designed with double frequency and resistive inputs. This allows customers simplified installation wiring, reduced commissioning time and the required installation space.

The EngineBox has to be set up using an intuitive PC Configuration Tool making it easy for programming the inputs (delivered free of charge).

The EngineBox is designed to be installed also in hazardous areas (for additional information please check the technical characteristics described in the installation manual).



Features

- 1 x J1939 to NMEA2000 converter.
- 1 x M12 5 pins NMEA2000®.
- 1 x Input 0-4KHz for RPM (2 Inputs with Dual Engine Model).
- 4 x Inputs 0-400 Ohm (up to 8 Inputs with Dual Engine Model).
- 2 x Inputs 4-20 mA .
- 1 x Input 0-5Volt (2 Inputs with Dual Engine Model).
- Analogue to NMEA2000 gateway.
- J1939 to NMEA2000 gateway.
- 2 model for single engine and dual engine configurations.
- Compact design.



Technical Data	
Housing	Material: PA6-GF30
Dimensions	WxH: 136mm x 130.1mm Installation Depth: 41.4mm
Start-Up Time	Cold Start: < 1 second Warm Start: < 1 second
Operating Voltage	9 - 32 VDC
Current Consumption	150 mA @ 12V
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +85°C
Nominal Position	NL 0 to NL 85; According to DIN 16257
Protection Class	IEC 60495 exposed (IP69k-f)
Flammability	UL-94 V0
EMC	IEC 60945:2002 / ISO7637-2
Reverse Polarity Protection	Yes;
Short Circuit Protection	Yes, 1 minute
Approval	CE, ISO 8846:1990, NMEA2000®
Load factor	3
Data Input	NMEA2000, J1939, Frequency 0-4KHz, resistive 0-400Ohm. Capacitive 4-20mA, 0-5 Volt
Connector:	Delphi Packard Micro-Pack MW100 series, 32Pins
Box Variants	Single Engine & Dual Engine

Connector

1x Delphi Packard Micro-Pack MW100 series, 32Pins.

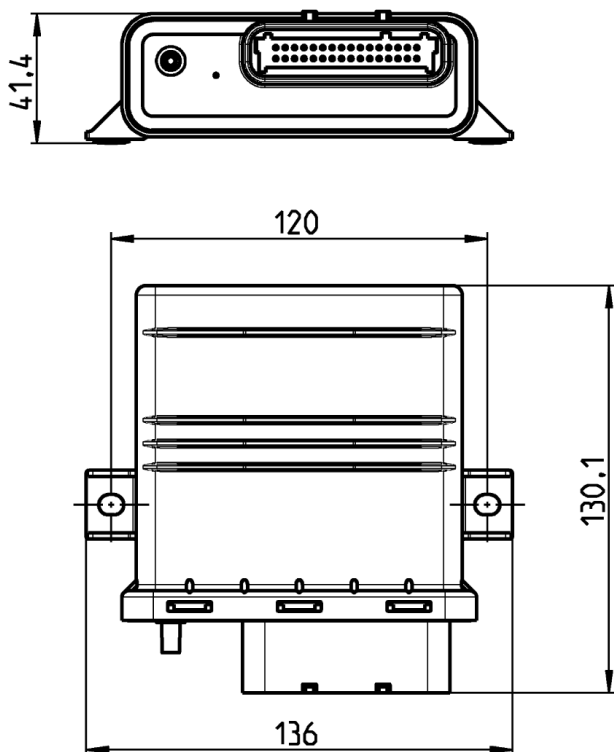
Single Engine Configuration

Pin	Signal
1	Power Supply GND
2	Power Supply GND
3	<i>Not Used</i>
4	Engine Frequency GND
5	NMEA2000: CAN_L
6	NMEA2000: CAN_H
7	NMEA2000: SHIELD
8	0..400Ohm(1)
9	0..400Ohm(3)
10	0..400Ohm(5)
11	0..400Ohm(7)
12	0..5Volt (1)
13	<i>Not Used</i>
14	4..20mA
15	<i>Not Used</i>
16	J1939:CAN2_L
17	Power Supply 12/24VDC
18	Ignition
19	<i>Not Used</i>
20	Engine Frequency 1
21	NMEA2000: GND
22	NMEA2000: NET +
23	<i>Not Used</i>
24	<i>Not Used</i>
25	<i>Not Used</i>
26	<i>Not Used</i>
27	0..5Volt (2)
28	<i>Not Used</i>
29	<i>Not Used</i>
30	Black Water 4..20mA
31	<i>Not Used</i>
32	J1939:CAN2_H

Dual Engine Configuration:

Pin	Signal
1	Power Supply GND
2	Power Supply GND
3	Engine Frequency 2
4	Engine Frequency GND
5	NMEA2000: CAN_L
6	NMEA2000: CAN_H
7	NMEA2000: SHIELD
8	0..400Ohm(1)
9	0..400Ohm(3)
10	0..400Ohm(5)
11	0..400Ohm(7)
12	0..5Volt (1)
13	0..5Volt (3)
14	4..20mA
15	J1939:CAN3_L
16	J1939:CAN2_L
17	Power Supply 12/24VDC
18	Ignition
19	Engine Frequency 2 GND
20	Engine Frequency 1
21	NMEA2000: GND
22	NMEA2000: NET+
23	0..400Ohm(2)
24	0..400Ohm(4)
25	0..400Ohm(6)
26	0..400Ohm(8)
27	0..5Volt (2)
28	0..5Volt (4)
29	Cable Harness Detn.
30	Black Water 4..20mA
31	J1939:CAN3_H
32	J1939:CAN2_H

Mechanical Dimension:



Message Supported:

SAEJ1939 PGN/SPN	Description	NMEA2000 PGN
PGN61443/92	Engine Percent Load	127488
PGN61444/190	Engine Speed	127488
PGN61444/513	Percentage Torque	127489
PGN65270/102	Engine Turbo Charger Boost Pressure	127488
PGN65262/175	Engine Oil Temperature	127489
PGN65292/110	Engine Coolant Temperature	127489
PGN65271/167	Alternator Potential (Voltage)	127489
PGN65266/183	Engine Fuel Rate	127489
PGN65253/247	Engine Total Hours Operation	127489
PGN65263/109	Engine Coolant Pressure	127489
PGN65263/94	Engine Fuel Delivery Pressure	127489
PGN65263/100	Engine Oil Pressure	127489
PGN65214/189	Engine rate Speed	127498
PGN65260/237	Vehicle Identification Number	127498
PGN65242/234	Software Indication	127498
PGN61445/523	Transmission Current Gear	127493
PGN65272/127	Transmission Oil Pressure	127493
PGN65272/177	Transmission Oil Temperature	127493
PGN65276/96	Fuel Level	127505
PGN65270/173	Exhaust Gas Temperature	130316
PGN65030/2440	Generator Average Line-Line AC RMS Volt	065030
PGN65030/2444	Generator Average Line-Neutral AC RMS Volt	065030
PGN65030/2436	Generator Average Frequency	065030
PGN65030/2448	Generator Average Current	065030

NMEA2000 supported PGNs

PGN127245	Rudder
PGN127488	Engine Speed (rpm)
PGN127489	Engine Parameter Dynamics
PGN127498	Engine Parameter Static
PGN127493	Transmission Parameter Dynamic
PGN127505	Fluid Level
PGN127508	Battery Status
PGN130316	Temperature extended range
PGN130576	Small Craft Status
PGN065030	Generator Average Basic AC Quantities
PGN126464	TX/RX PGN List

Accessories

Part Number	Item specifics
A2C96243700	NMEA2000 Cable 0.5m
A2C96243800	NMEA2000 Cable 2m
A2C96244000	NMEA2000 Cable 6m
A2C39312700	NMEA 2000 T Splitter
A2C39312500	NMEA 2000 inline terminator