# Smart Gateway RS-485 to N2K User Manual

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# 1 Product Introduction

The Smart Gateway RS-485 to N2K (hereinafter referred to as the Smart Gateway) is used to monitor the status information of the EVO series propulsion systems, including but not limited to motor gear, motor voltage, motor speed, battery temperature, State of Charge (SOC), and Speed Over Ground (SOG), and to send the status information to external devices via the NMEA 2000 network.

The Smart Gateway features 3 RS485 interfaces and 1 CAN interface, connecting to the propulsion system's 485 network through the RS485 interfaces and to the NMEA 2000 network through the CAN interface.
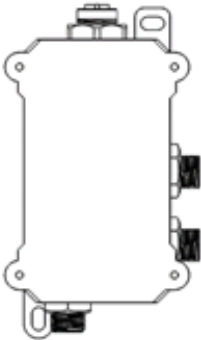
## 1.1 Product Feature

- RS485 baud rate 34800bps
- CAN baud rate 250kbps

## 1.2 In the Box

When opening the packages please check contents against the list below. If anything is missing or damaged, please contact your dealer.

Note: Smart Gateway provides a standard NMEA 2000 CAN interface. If an extension is needed, please purchase a standard NMEA 2000 cable for connection.

| Items | Qty. | Figure |
|---|---|---|
| Smart Gateway | 1 |  |
| Communication Cable | 1 |  |
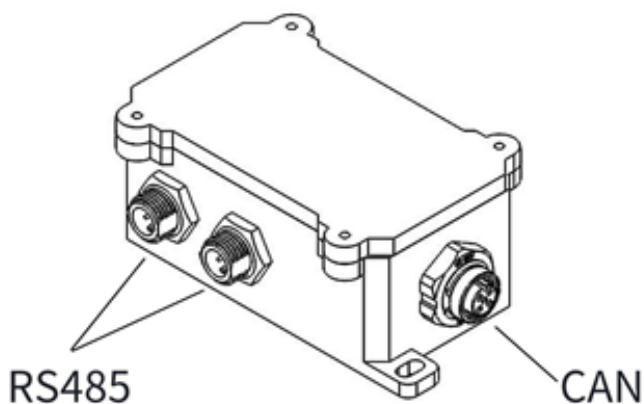
RS485        CAN

## 1.3 Parts and Diagram

| Serial Number | Terminal Definition | Illustrate |
|:---:|:---|:---:|
| 1 | RS485 communication interface 1 | Connect the thruster to any interface |
| 2 | RS485 communication interface 2 | |
| 3 | RS485 communication interface 3 | |
| 4 | CAN communication interface | Connect to NMEA 2000 network |

## 1.4 Specification

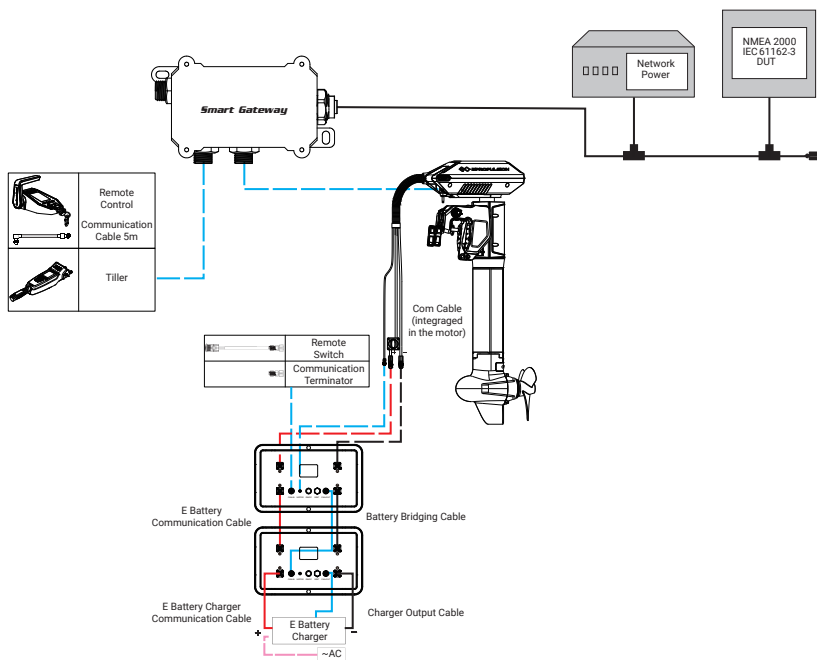| Smart Gateway | |
|:---|:---|
| Communication method 1 | RS485 (38400bps) |
| Communication method 2 | CAN (250kbps) |
| Weight | 150 g |
| Dimensions (Length * Width * Height) | 90 mm x 50 mm x 40 mm |

# 2.Installation Tutorial

## 2.1 System Connection Block Diagram

The Smart Gateway monitors the status information of the ePropulsion outboard motor on the RS485 bus and forwards the status information to the CAN bus.
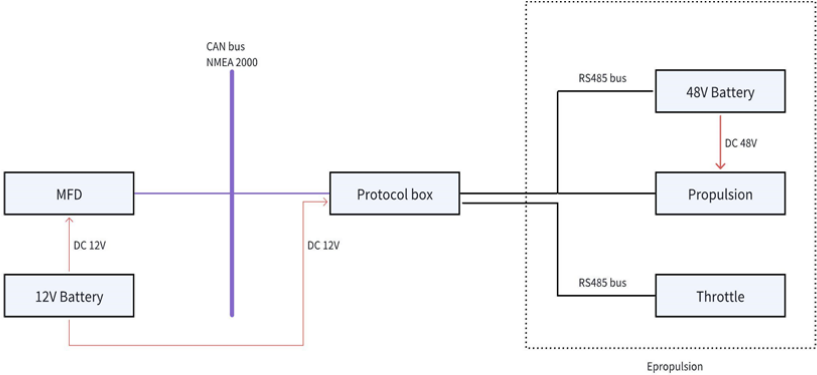


## 2.2 System Connection Diagram

System connections include ePropulsion outboards, Smart Gateway and NMEA 2000 devices (MFD). The Smart Gateway has 1 RS485 channel with 3 ports. Any RS485 port can be connected to the ePropulsion outboard motor and other ePropulsion components (for example: throttle, E-Series battery). The Smart Gateway has a CAN interface and can be connected to the NMEA 2000 network. The power of the Smart Gateway is supplied through the CAN interface. The complete system connection diagram is shown below:

Smart Gateway

Network Power

NMEA 2000
IEC 61162-3
DUT

Remote Control

Communication Cable 5m

Tiller

Com Cable
(integraged
in the motor)

Remote Switch

Communication Terminator

E Battery Communication Cable

Battery Bridging Cable

E Battery Charger Communication Cable

Charger Output Cable

E Battery Charger

+    −

~AC

# 3 Warranty

Guangdong ePropulsion Technology Co., Ltd. ("ePropulsion"), China, warrants its products to be free of defects in material and workmanship under normal usage with proper installation and routine maintenance for a period of twenty-four (24) months from date of delivery of products to end customers (the "Limited Warranty Period"). The Limited Warranty is provided to the first end customer of ePropulsion products ONLY. The Customer is entitled to free repair or replacement of defective or non-conform parts. Any warranty claim must be made within six (6) months of discovery of issues as provided below.

If the Limited Warranty Period expires, you can still enjoy maintenance services from dealers/distributors authorized by ePropulsion (the "ePropulsion Service Partners") with minimum maintenance charge per occurrence.

In all warranty cases, ePropulsion will only bear the repair cost and other costs (such as those related to product installation, disassemble, transportation, financing, rental, etc.) as a direct result of issues covered by the Limited Warranty only. Any costs irrelevant to or out of the scope of the Limited Warranty will be born by the Customer alone.

Beyond the Limited Warranty, the Customer may have statutory rights in your jurisdiction according to applicable laws. Nothing in this Limited Warranty affects such rights. The Customer may have warranty claim rights arising from the purchase contract with ePropulsion Service Partners in addition to the rights granted by this Limited Warranty.

Products for commercial/professional use, even if only temporarily, are not covered by the Limited Warranty. Instead, the statutory warranty in your jurisdiction shall apply. You are encouraged to consult with ePropulsion Service Partners for applicable warranty and advice before engaging in such use.

**\* Commercial/professional Use refers to application cases that have high use frequency, high-reliability requirement or aim for money making, etc.**

**To keep your warranty valid, you shall follow:**

- Keep the product label intact and record the Serial Number shown on the label. Never tear the label off the product. A product without the original product label is not covered by the Limited Warranty provided by ePropulsion;
- The Limited Warranty is not transferable and will not be reissued;
- The Limited Warranty may change from time to time. Pls visit our website (http://www. epropulsion.com) for the latest version.

# 3.1 Out of Warranty

ePropulsion may refuse a warranty claim if:

- Any improper operation contradicts what is written in the user manual;
- Accident, misuse, dropping, improper care or storage, willful abuse, physical damage, over-charging, over discharging, or unauthorized repair;
- Water ingress caused by external sources such as fishing nets, submerging underwater, etc;
- Product modification, alternation, disassembly, or parts/accessories attachment, which are not expressly permitted or recommended by ePropulsion;
- Failure of, or damage caused by, any 3rd party products;
- Consumables are out of warranty scope (like propeller anode...etc.);
- Purchases of product from unauthorized dealers or seller;
- Normal wear and tear and routine servicing are excluded from the warranty;
- The product gets further damaged due to improper packing during delivery. The further damaged part will be deemed as out of warranty coverage;
- Lithium battery is classified as a UN9 hazardous item, posting and packing must be in accordance with the relevant law of the local country directive. Non-compliance may result in out of warranty coverage.

## 3.2 Limited Warranty Claim Procedures

The Customer shall follow the warranty claim process to make a Limited Warranty claim:

1. Contact your nearest ePropulsion Service Partners and they will provide further instruction to you if such defects are covered by the Limited Warranty or theirs.

2. Send the defective product to them together with Proof of 1st-time Purchase (e.g., receipt, invoice, etc., with information of product purchased and date of purhcase), the Confirmation of Online Warranty Registration, ex-factory Serial Number, etc. Note that all labels shall be kept intact. The warranty is valid only when the information above is correct, genuine, and complete;

3. Make sure the product is properly packed during delivery, the original package is highly recommended.

4. The ePropulsion Service Partners will conduct diagnosis and examination on the defective products to check the validity of the warranty claim.

5. If your warranty claim is accepted, the Product or its defective components/parts will be either repaired or replaced free of charge. Note that any delivery cost incurred in the process shall be bearded by you.

6. In case your warranty claim be rejected, a repair/replace cost and fee with round trip delivery cost will be estimated and sent to you for confirmation. ePropulsion Service Partners will only begin the work after your written confirmation.

Thanks for reading this user manual.
If you have any concerns or find any problems while reading,
please don't hesitate to contact us. We are delighted to offer
service for you.

Guangdong ePropulsion Technology Limited
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E-Mail: service@epropulsion.com