# EF130 Instruction Manual

**CONTENTS**

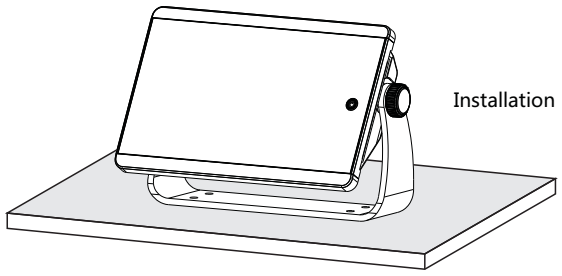

Ⅰ、Installation ----------01
Ⅱ、Operation ----------04
Ⅲ、Spec and Parameter ----------06
Ⅳ、Menu Diagram Settings ----------07
Ⅴ、Matching with Multiple Engines for Use ----------08


EF130 is a multi-functional square LCD instrument, from the KWP 2000 communication protocol to obtain voltage, water temperature, fuel consumption and other information, also can receive, speed, trim, switch alarm and other signals. Can select 1, 2, 3 and 4 engines simultaneously for matching.

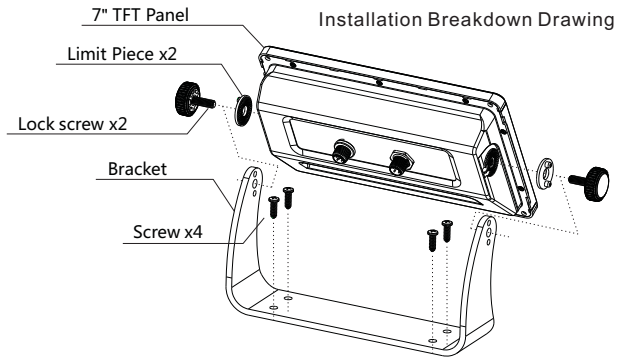


## Ⅰ、Installation

Method One , EF130 be fixed on the desk and angle can be adjusted:



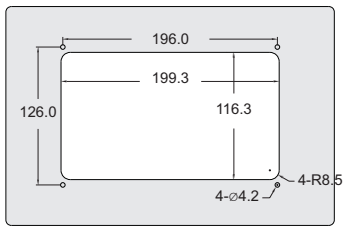
Installation Pic



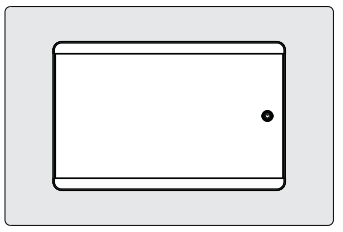

Installation Breakdown Drawing

Method Two, Install EF130 gauge from the upper side of panel as below:

1. Open one hole with 199.3mm length and 116.3mm width and holes according to below screw position. Make sure the holes dimension be the same as pictures.
2. Install the EF130 gauge from upside to bottom on the panel and adjust the position and lock the screws.
3. After installation and two trims can be removed.
4. Connect the NMEA 2000 wires on the back of EF130 gauge and the other end should connect with NMEA 2000 network.

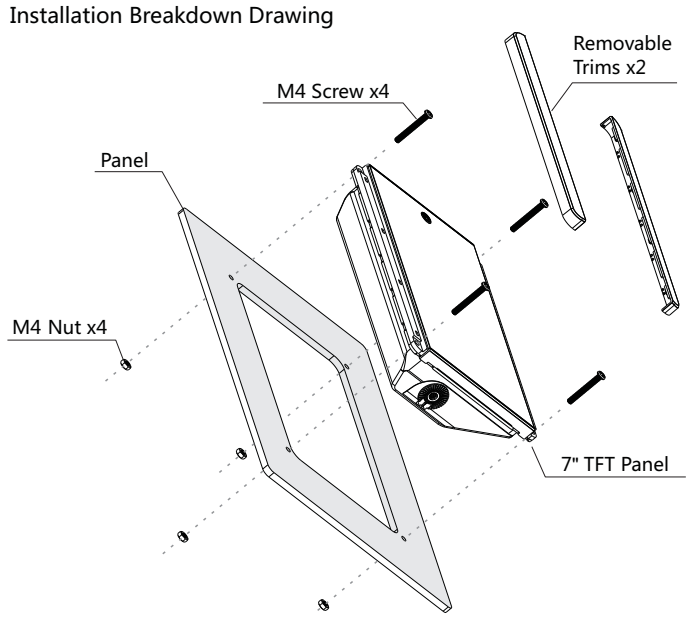



Installation Hole . ( Panel )



After Installation Pic.

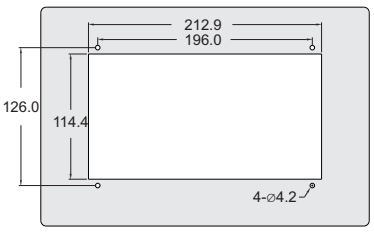
Installation Breakdown Drawing



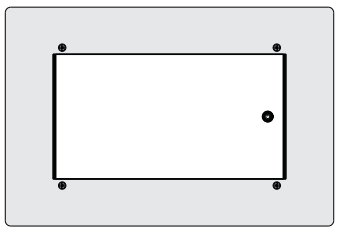



Method Three, Install EF130 gauge from the bottom side of panel as below

1、Open one hole with 212.9mm length and 114.4mm width and holes according to below screw position. Make sure the holes dimension be the same as pictures.
2、Install the EF130 gauge from bottom to upside on the panel and adjust the position and lock the screws;
3、Connect the NMEA 2000 wires on the back of EF130 gauge and the other end should connect with NMEA 2000 network.

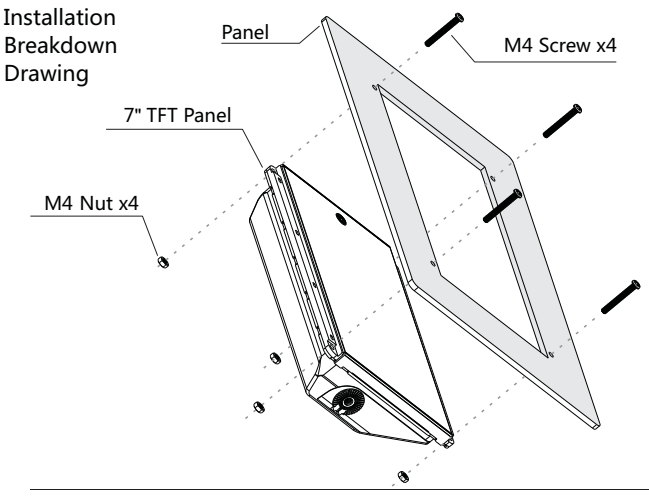



Installation Hole. (Panel)



After Installation Pic.

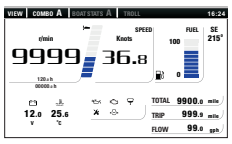
Installation Breakdown Drawing

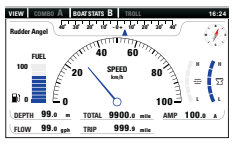


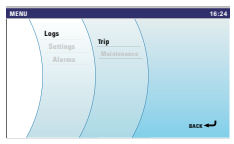



## Ⅱ、Operation

### ● Main Display Interface





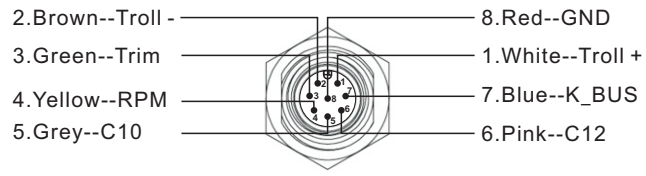


Technical Description:

1、Speed signal: The engine outputs square wave signal (+12V), the default speed ratio is 2.
2、Trim: The stationary start resistance of 608 ohms is the lifted UP high position, running to the abort resistance of 75 ohms is the lifted DOWN low position.
3、C10 fault indication: ECU control, GND is active.
   * When the signal is a frequency signal of 1.5s high level and 1.5s of grounding, the water accumulation signal alarm is activated.
   * When the signal is a frequency signal of 1.0s high level and 0.5s grounding, the oil pressure alarm is activated.
4、C12 EFI fault: ECU controlled, GND is effective. Activates the EFI fault alarm when grounded for long periods of time.
5、K_BUS: Voltage display (8~16V), water temperature display (40~120 °C), fuel consumption display. Activates the voltage alarm when the voltage is lower than 8V or higher than 16V. Activates the water temperature alarm when the water temperature is greater than 98 °C for 1 minute.
6、Built-in GPS: speed display, orientation(compass) display, time display.
7、Hourly meter: subtotal hours (0~999.9H) can be manually cleared, when greater than 999.9 automatic zero re-timer, total hours (0~99999.9H) cannot be manually cleared, when greater than 99999.9 automatic zero re-timer. Power-down auto-save
8、Mileage: Subtotal mileage (0~999.9) can be manually cleared, when greater than 999.9 automatically zeroed and recounted, the total mileage (0~99999.9) cannot be manually cleared, when greater than 99999.9 automatic zero recount. Power-down auto-save.
9、The fuel level, fresh water, black water, depth and rudder are all from NMEA 2000 signal.
10、Press the physical button on the right side of the display to enter the menu setup interface.



**Display Screen Pin Corn Pic**




### ● Alarming Icon Description

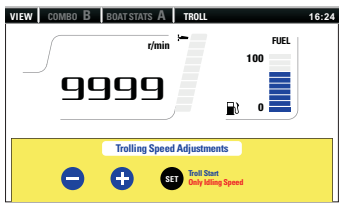
| | Icon | Alarming Status | Normal status | Condition for Activation |
|---|---|---|---|---|
| 1 | | Constantly bright | Not displayed | C12 GND, see technical specification |
| 2 | | Flashing, a period of 3s (1.5s on, 1.5s off) | | C10 GND, see technical specification |
| 3 | | Flashing, a period of 1s (0.5s on, 0.5s off) | | C10 GND, see technical specification |
| 4 | | Reserved | | Reserved |
| 5 | | Flashing, a period of 1s (0.5s on, 0.5s off) | | Engine service time is reached |
| 6 | | | Constantly bright | Voltage less than 8V or greater than 16V |
| 7 | | | | Water temp. greater than 98 °C lasts for 1 minute |
| 8 | | | | The oil level is below the alarm value (default20%) can be set manually |
| 9 | | | | The water level below the alarm value (default20%) can be set manually |
| 10 | | | | The sewage level is above the alarm value (default80%) can be set manually |



### ● Troll Function Interface

Steps:

1. Click the to be adjusted engine, confirm the to be adjusted engine is idle and the other engines are in the state of shutdown, otherwise will fail the adjustment.
2. Press the "SET" button, when the "SET" is in the state of pressing down, it can be adjusted, and in the bounce state cannot be adjusted.
3. Press the "-"," "+" buttons to fine-tune the speed with an accuracy of 50 revolutions. At this point the harness troll + (white)/troll - (brown) outputs the ground signal (about 0.2s).




## Ⅲ、Spec and Parameters

| Item | EF130 |
|---|---|
| Size | 7.0 inches |
| Resolution | 1024*600 pixels |
| Working Volt. | 9-32V DC |
| Working Current | 400mA(12V) |
| Working Temp. | -20℃~+60℃ |
| Stock Temp. | -20℃~+70℃ |



## Ⅳ、Menu Diagram Settings

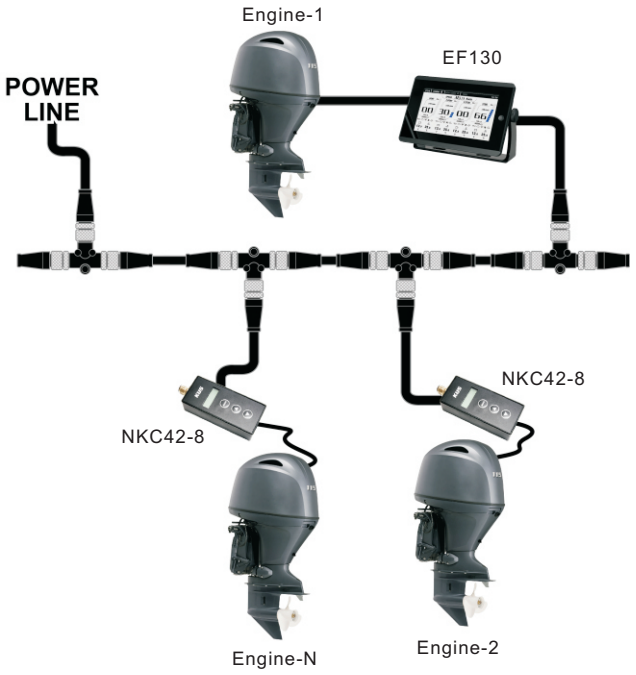
| | | | |
|---|---|---|---|
| Menu | Logs | Trip | Clock Offset (2) |
| | | | Trip Distance Reset |
| | | | Trip Hours Reset |
| | | Maintenance | STD Hours Reset |
| | | | OBD Hours Reset |
| | Settings | Display | Style : Digital/Scale |
| | | | Night : Off(White)/On(Black) |
| | | | Backlight : 100~10% |
| | | Units | |
| | | Initial | Engine Number : 1/2/3/4 |
| | | | Depth Enable (1) |
| | | | AMP Enable (1) |
| | | | Fuel Instance/Fresh Water Instance/ Black Water Instance (3) |
| | | Calibrate | Speed Ratio:0.1~24.0 |
| | | | Trim Level |
| | | Alarm Value | Depth/Fuel/Fresh Water/ Sewage |
| | Alarms | EFI Trouble Codes | |
| | Power Off | | |
| Language | 中文/English | | |
| Touch Screen | Touch : On/Off | | |
| | Voice : On/Off | | |

* (1). Please turn off, when the sensor is not connected.
(2). For calibration time.
(3). Need to be consistent with the sensor serial number settings.



## Ⅴ、Matching with Multiple Engines for Use

Please refer to the following connection when needs more than 1 engine:




RoHS Compliant CE NMEA 2000 SAE J1939 IP67

when the gauge is not in use, please put on the matched cover to protect the gauge.