



## Procard-HA User Manual

### Attention Please:

If you want to program on procard, do not connect procard to computer, otherwise it will use computer for programming, not on procard.

### Procard Port Definition:

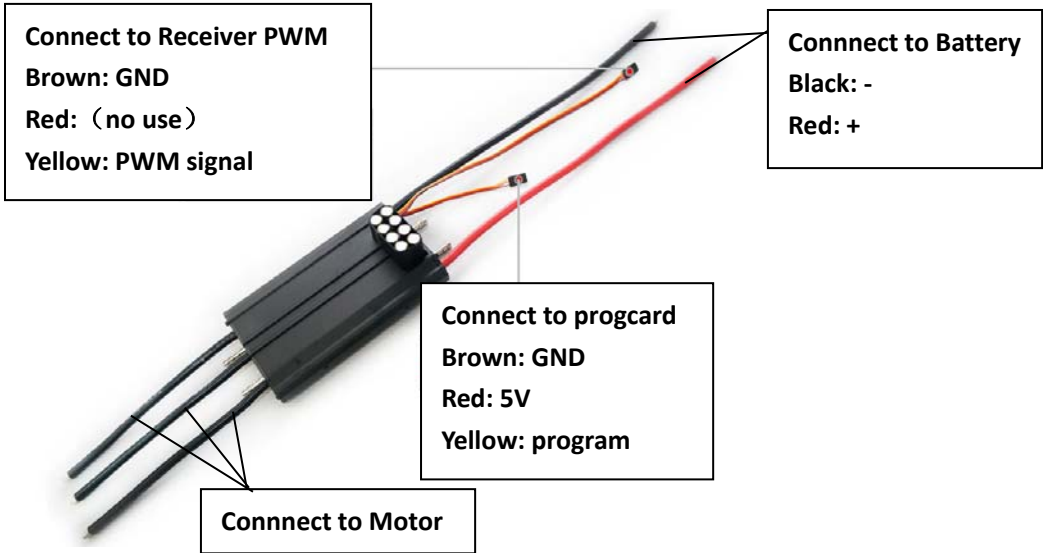


**1. Compatible ESC:** MTSF300A-OPTO, MTSF300A-WP, MTSF500A-WP

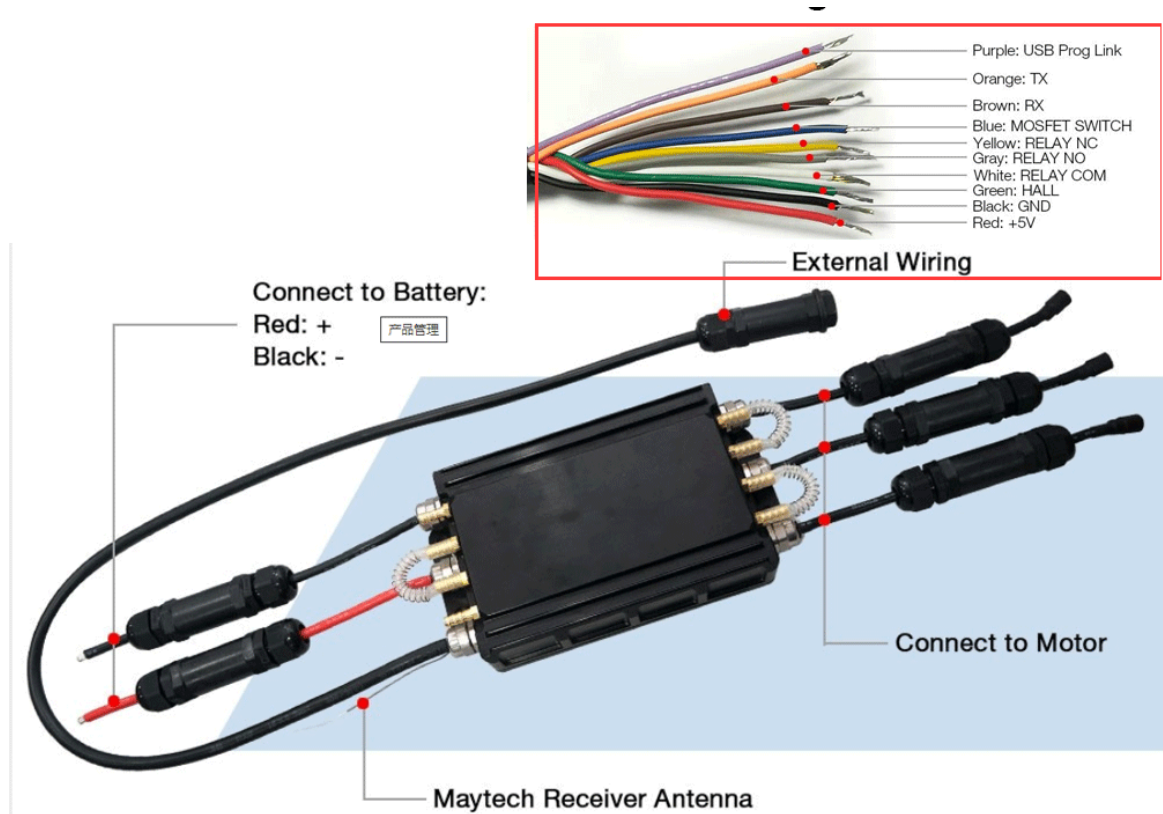
### 2. Wiring Instruction:

#### 2.1 MTSF300A-OPTO

ESC has two three pins cables. please do not mix , longer one is PWM throttle signal cable, short one is programmable cable, see below pictures:



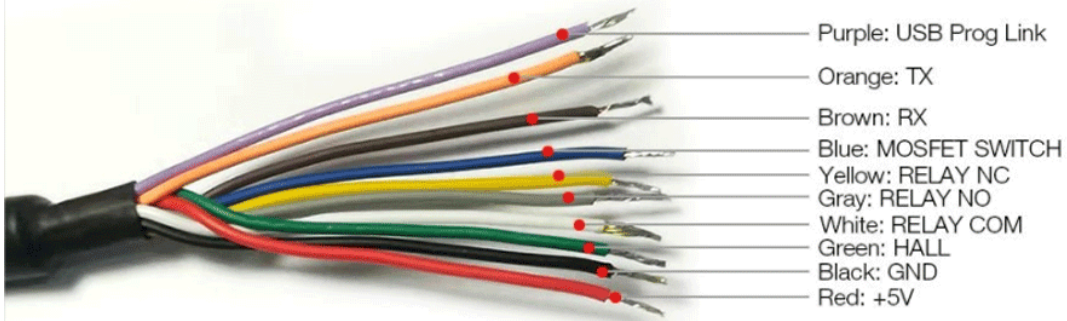
## 2.2 MTSF300A-WP Internal Receiver





## Built-in UBEC and Receiver Wiring

**Note:** If you don't need these functions, these wires can be disconnected. But please keep the wires ends dry.



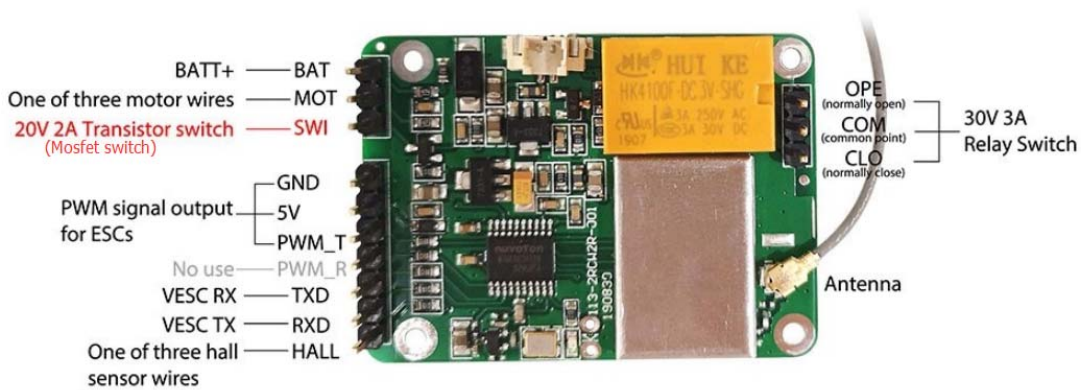
**Purple:** USB Prog Link, **Black:** GND, **Red:** +5V  
Connect usb programme linker TO pc/laptop for adjusting esc parameters

**Orange:** TX, **Brown:** RX, **Black:** GND  
Connect USB-TTL adapter TO pc / laptop for upgrading receivers firmware

**White:** RELAY COM, **Blue:** MOSFET SWITCH, **Gray:** RELAY NO. Relay and Transistor switches for pump motor and LED

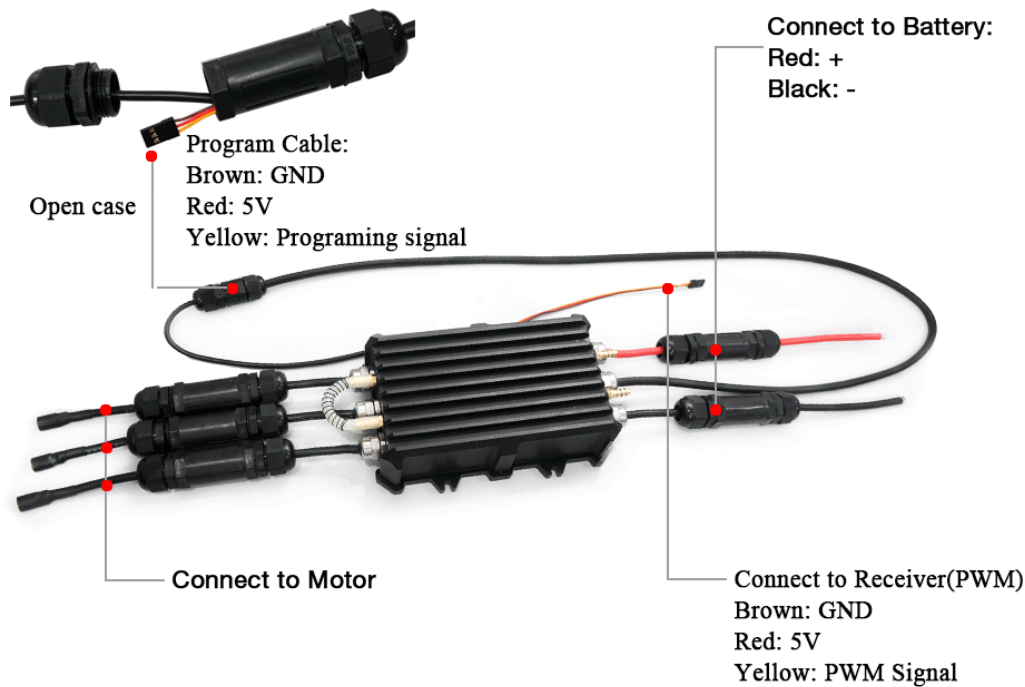
**Green:** HALL, **Black:** GND, **Red:** +5V  
Connect anyone of the three motor hall wires for motor RPM detection

About the external cables functions, please check MTSKR1905WF manual.





## 2.3 MTSF300A-WP / MTSF500A-WP external receiver



### 3. How to connect progcard on ESC and program?

You need to give extra 5V power to the programmable cable, otherwise progcard screen will not turn on.

When you give 5V power for the programmable cable, progcard screen will turn on, then you can start to program.

If the screen shows dark and no words showing, it might be the signal cable is plugged in mistake direction, take off the programmable cable and plug in opposite direction.

### 4. How to Program?

- Brake Type: (Brake OFF, Soft Brake, Mid Brake, Hard Brake).
- Battery Type: (LiPo, LiFe or NiCd/NiMh).
- Cut Off Voltage Threshold: (2.8V/50%, 3.0V/60%, 3.2V/65%, No Protection).
- Motor Timing: (Auto, 2°, 8°, 15°, 22°, 30°). Recommends setup 2° for electric surfboard customer.
- SBEC Voltage Output: 5.0V. Recommended setup 5.0V.
- Governor Mode: (RPM OFF, 1st Soft Start, 2nd Soft Start, 1st Governor Mode, 2nd Governor Mode)  
Recommended set up RPM OFF, because Maytech remote with cruise speed control.
- Motor rotation: (Forward/ Reverse).
- Start Up Strength: (10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%). Recommended setting 30%.
- Low Voltage Cut off Type: (Reduce Power, Cut off Power). Recommended setup Reduce Power.



Defaults:

Brake Type: Brake Off

Battery type: Lipo

Cut Off voltage threshold: (3.0V/60%)

Motor timing: 2°

SBEC voltage output: 5.0V

Governor mode: RPM OFF

Start Up strength: 30%

Motor rotation: Forward

Low voltage cutoff type: Reduce Power.

**4.1:** Turn on the ESC power, pls make sure disconnect throttle (PWM signal), or you can't program even if progcard is connected.

**4.2:** When program cable and 5V power are both connected, progcard screen will show "LCD Program Card", press "MENU" button get into connection, and then screen will show "L Ready to Connect ESC", progcard is trying to connect with ESC.

**4.3:** It takes about 10 seconds for progcard and ESC connection, if successfully connected, screen will display parameter items and values, press "MENU" to switch different parameter items, press "VALUE" to switch item values, press "RESET" to set all item values default, press "OK" to save current value.

**4.4:** If screen shows "L Ready to Connect ESC" for over 10 seconds, it means the connection is failed, you need to check if the ESC throttle (PWM signal) is disconnected or not, if confirmed throttle signal is disconnected, disconnect program cable, and reconnect progcard, if still not working, turn off ESC power, and redo the above steps.

**4.5:** After program, you need to turn off ESC and disconnect progcard, reconnect ESC power, then adjusted parameters can be effective.

## **5. Special Instruction:**

All the 300A ESC Timing default value is 2 degree, progcard Timing default value is Auto.

If you press "RESET", progcard will reset ESC Timing to Auto, this change is not problem for motor smaller than MTI65mm series, if motor is larger than MTI65 series, please must manually change ESC Timing back to 2 degree.