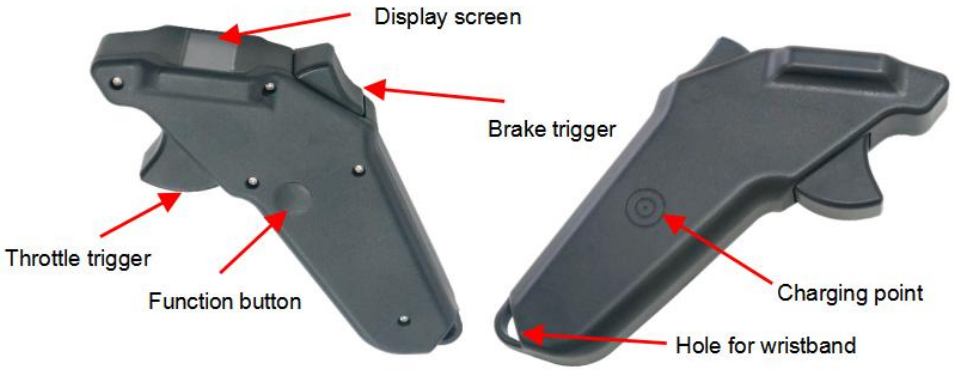
MTSK20WFV2 Remote and receiver for Electric skateboard

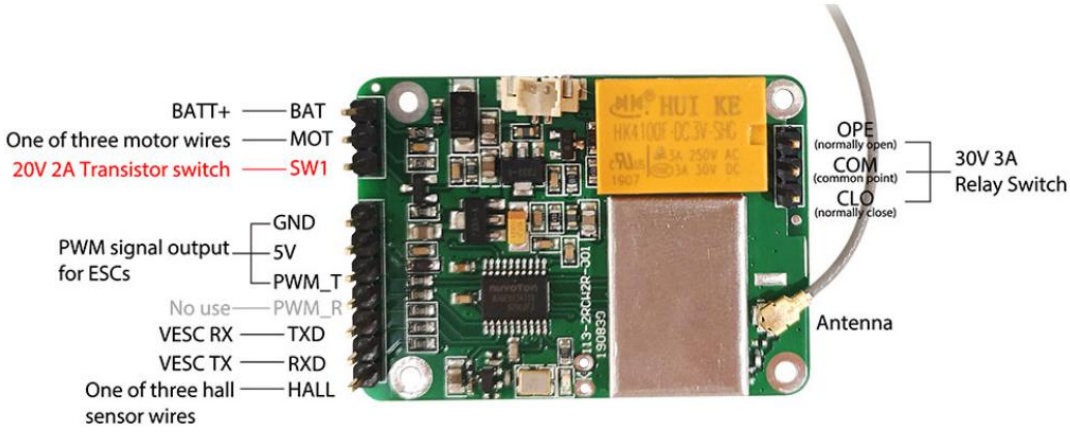
Simple instructions

Here're new remote instruction videos:
1-3 speed modes ajustment: https://youtu.be/FrAEj0d27I4
4-5 battery settings: https://youtu.be/ZbYFTwMsRN0
7-14 settings: https://youtu.be/2chDsmWzXHE

Model No.	MTSKR2005WF (MTSKR20WFV2)	**Waterproof Rank**	IP66
Control Mode	New Esk8	**Application**	Only for Electric skateboard, elongboard, mountainboard
Speed Display	Yes	**Travel Mileage**	Yes
Throttle and brake Display	±100%	**VESC Control Mode**	Duty Cycle/ Current Mode
Speed Mode	3 speed modes, each mode can adjust speed from 1%-100% throttle	**Accessories**	Wireless charging pad; receiver; 3pcs dupont cable
Charger	QC 2.0 wireless	**Wireless Frequency**	2.4GHz wireless with 40 channels
Display Screen	OLED yellow & blue screen	**Triggers**	2x high senstive triggers
Throttle and Brake Signal Output Range	1.5ms-2ms for throttle; 1.5ms-1ms for brake	**Telemeter Data by Receiver**	Motor RPM; main battery voltage
Voltage Display	Remote & main battery voltage level (lithium iron; lithium ion battery optional)	**Telemeter Data by VESC**	ESC voltage/ current/ temp; Motor temp/ RPM
Compatible ESCs	VESCTOOL/ Focbox/ Other PWM ESCs that has same signal output range with the remote	**Receiver Built-in Switch for Esk8 Light / Esurf Water Pump**	1x 30V 3A mechanical relay switch; 1x 20V 2A transistor electronic switch

1. Appearance：





2. Receiver wiring instruction with VESC or VESC based controllers （suitable for official VESC firmware）

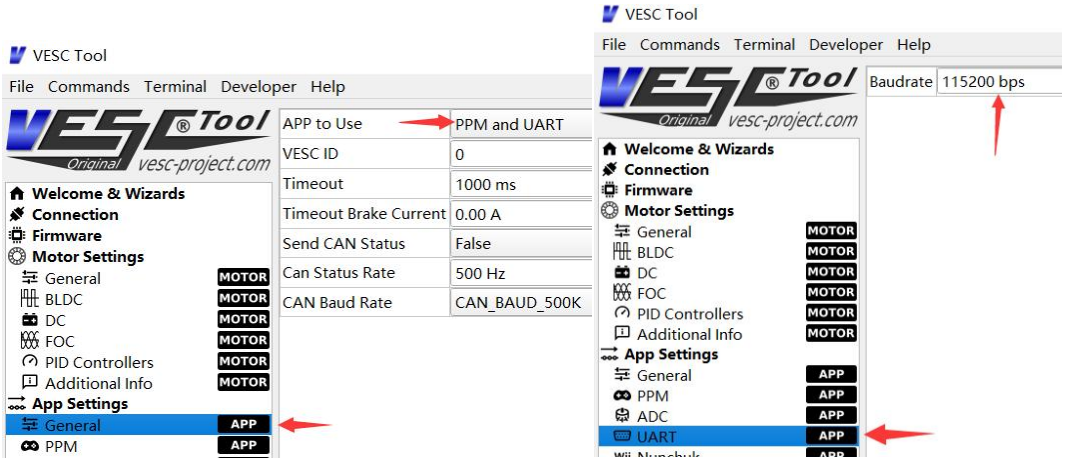
Cross connection of Receiver TXD/RXD and VESC RX/TX:

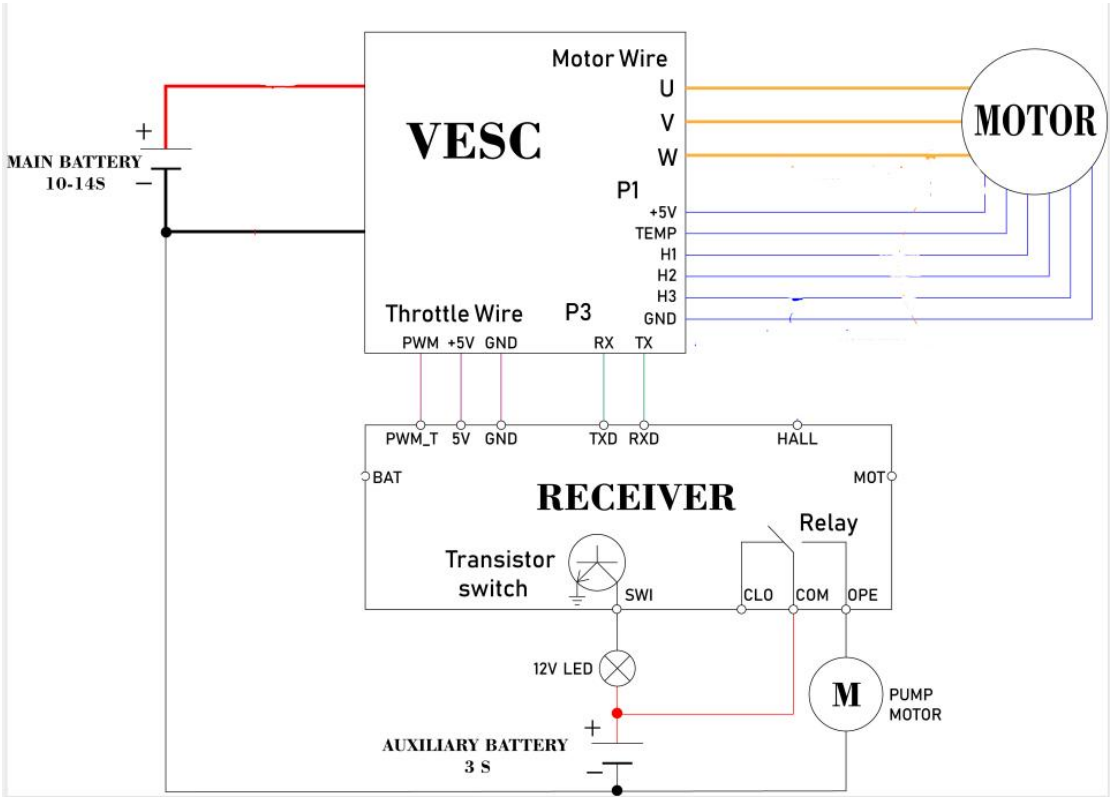
Receiver's TXD>> VESC RX;

Receiver RXD>> VESC TX.

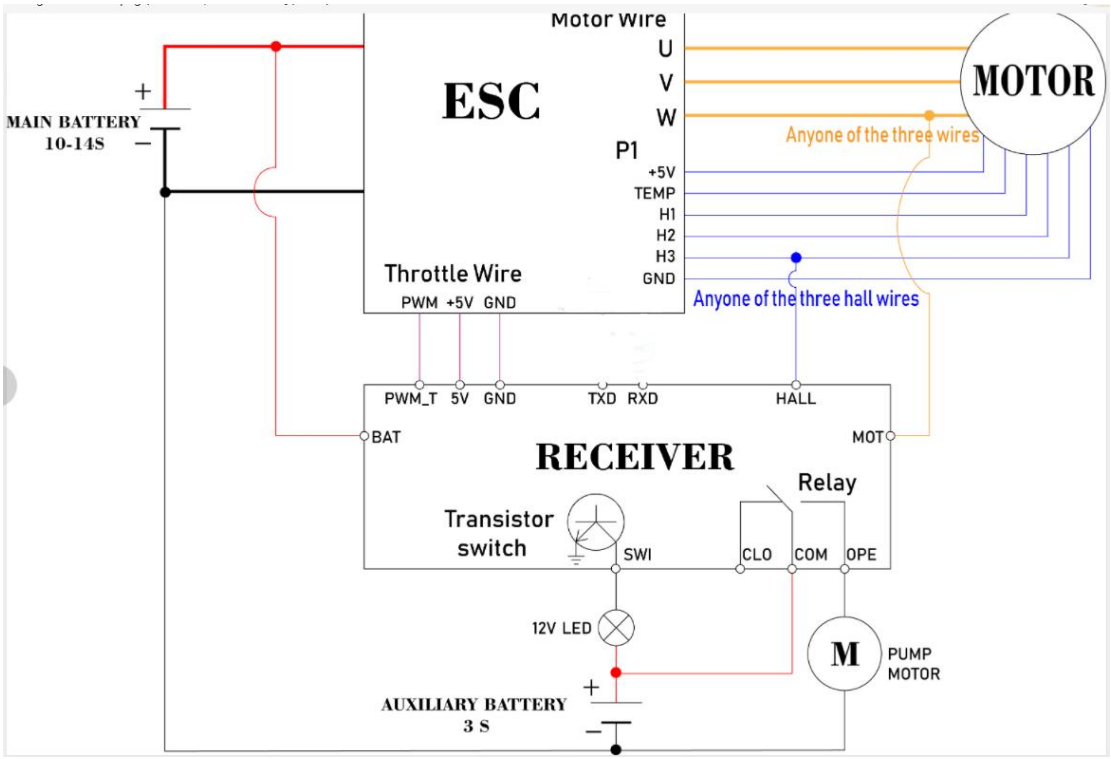
VESC supports UARR and PWM(PPM) throttle control. When use with Maytech waterproof remote, you can select PPM and UART, and select corresponding control in remote ("Data Source" and "VESC Thr"). PPM to control throttle and UART to read voltage/current/ temperature/speed/etc.

Please set "Baudrate" to "115200 bps" in VESC_TOOL.





3. For non-standard VESC firmware or other normal PWM ESCs:



Data Source：

Speed sginal is detected by motor phase wire or hall sensor wire or VESC. Please select 【Data Source】 in remote manual and make sure hardware is connected correct and well. The original acquisition speed signal is the electrical speed of the motor (ERPM). Then remote will convert it to RPM or Speed and display.

Mode	Speed	Conversion formula
Esk8	Skateboard speed (KM/H)	ERPM/Motor Poles/Gear Ratio*60*3.14*Wheel Dia/1000000
	Skateboard speed (MPH)	ERPM/Motor Poles/Gear Ratio*60*3.14*Wheel Dia/1000000*0.6214

Distance：

- When【Data Source】is set to【Motor Wire】or【Hall Sensor】, the distance is the accumulation of the product of speed and time per 0.1 second.
- When【Data Source】is set to【VESC】, remote and receiver will read VESC's ABS data by UART port and calculate it to distance and display.
- When you want to reset Distance, select【Dist. Rst.】and long press Function button, then Distance will start from 0.

Main battery voltage display:

- When【Data Source】is set to【VESC】, it will obtain VESC voltage information by UART port; Otherwise, voltage information is obtained by BAT port on receiver PCB.

- Please make sure receiver GND and your main battery GND are connected(common ground).
- If receiver is not connected to main battery or VESC UART port, remote will not display anything about main battery.
- If receiver gets voltage information, remote will show voltage in bars according to preset 【 Batt. Type】 and 【Batt. Ser Num】.

Under the voltage bar on remote screen, it's marked【xx Batt.】. "xx" means current【Batt. Ser Num】value, please check if it's same as your battery specification.

If【 Batt. Type】or【Batt. Ser Num】is set different from your battery's actual value, voltage display will be incorrect. Please make sure correct settings of both.

If voltage bars only have 2 or less left, the bars and 【xx Batt.】words on screen will flash to remind you charge your battery.