KEYA MOTOR MONITOR

Version 1.0

I. Overview

Keya Motor Monitor is the matched software for Keya bldc controller, be mainly used in the control and monitor the bldc servo motor, with real-time monitoring, modify the controller parameters, read the motor data, save the motor data, and some other functions.

Prepare Communication wiring：

USB convert to RS232 wiring

Connection ways：

RXD, TXD, GND (2.3.5) pin from the serial port wiring should connect the 2.3.5 pin of the control terminal (the pin definition refer to the controller user manual)

II. Software interface profile

Figure 1

Open the software, there will detect the matched COM port automatically, pop-up dialog box, as show in figure 1. If you choose Y, the software will read the controller parameter, if don’t need read the parameter, kindly choose N.

If connect successful, the RS232 indicator normally on, the KEYA logo normally on, as show in figure 2, figure 3.

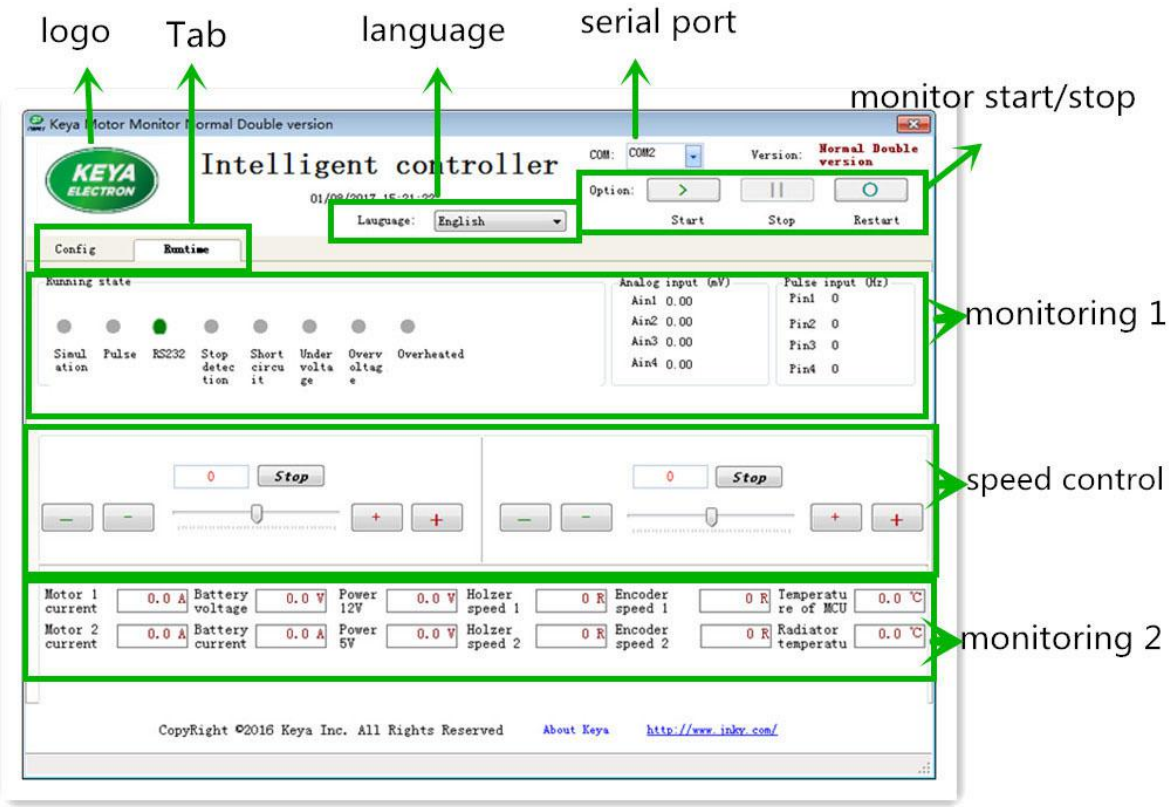


Figure 2

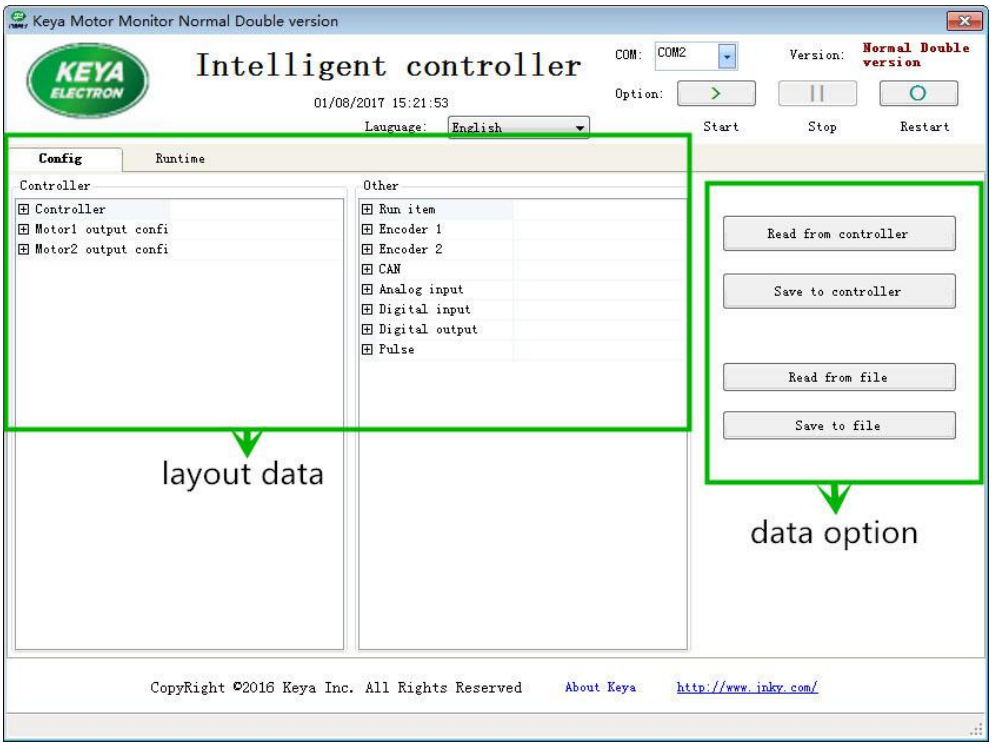


Figure 3

III. Detail specification of the software each part：

① Logo (connection indicator)
If the logo colour is green, indicate the connect succussfully, otherwise,connect failure.

② language option
English and Chinese for your choise, after change the language, please restart the software.

③ Serial port option
When open the software, the software will identify the first serial port who connect the controller, monitoring data automatic.if you need some other serial port, kindly select.

④ Monitor star/stop
Start or Stop the connection and monitor states

⑤ Monitoring 1
Real-time monitoring the system states, analog input, pulse input.

⑥ Monitoring 2
Real-time monitoring the motor states.

⑦ Speed control
After start the monitor, you can control the motor speed real-time.

⑧ Tap
The software have two taps. click “configuration”to enter configuration interface, as show in figure 2, and the motor speed change to 0.
Click “runtime” to enter monitor interface, as show in figure 1.

⑨ Data option：
Read from controller: read the controller configuration data.
Save to controller: save the software configuration data to controller.
Read from file: read the data from the file to the software.
Save to file: save the software sonfiguration data to the file.

IV. How to use the software

1. Connect the motor and controller, then connect the controller to computer via USB convert to

RS232 wire.

2. Power on the motor and controller.

3. Open the software, the software will detect the controller and select the serial port automatically, then pop-up dialog box to choose whether read the controller data or not, Unless special purpose,kindly choose YES directly. If connect successfully, the KEYA logo will become green colour.

4. In general, the software will automatic connect successfully, if not, kindly check following Part VI.

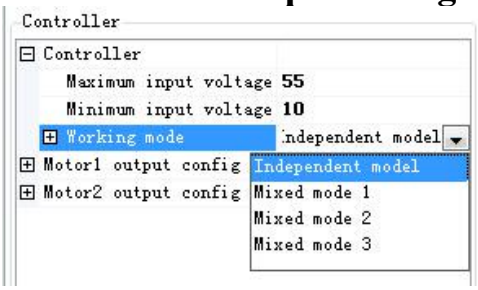
5. If the power outage or the serial port disconnect, the software will test the connection automatically, if can't receive the response from controller, KEYA logo will become gray.

6. Power on or connect the serail port again, the software will connect the controller automatically.

7. After connect successfully, please use the software as show in Part III.

V. How to configure the software

5.1 Controller input voltage range, working mode setting

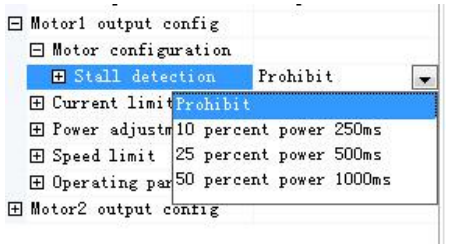


The Max or Min input voltage is protection voltage, The controller can only work within the input voltage range.

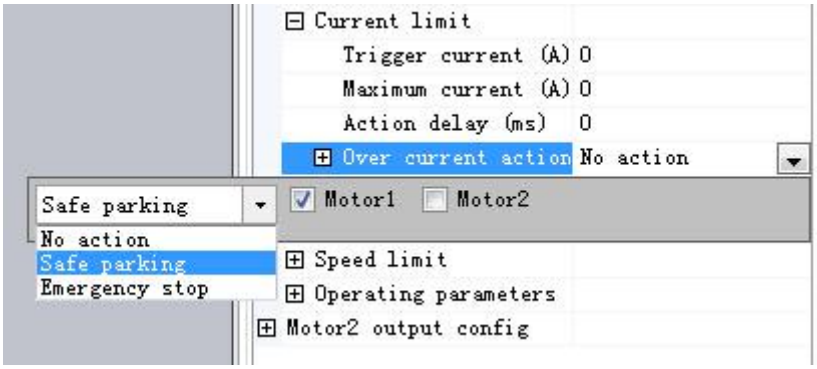
The working mode including Indepandent mode and Mixed mode. Independent mode means the two motors working independent. Mixed mode means signal 1 control two motors forward/backward at meantime, signal 2 control two motors turn left/right.

Notice: Mixed mode 1 is enable, other mixed mode is not enable.

5.2 Stalling protection and motor current setting



Stalling detect is emergency stop protection methed in a certain period for below states: when the motor power over the rated power. For example: when the motor real speed over the speed given by signal, the controller will start stalling protection.



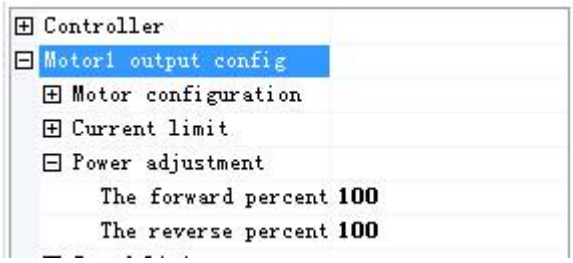
Over current action: No action, safe parking, emergency stop for your choice.

No action: when motor current reach max current, the controller will reduce the output power, the current no longer increase.

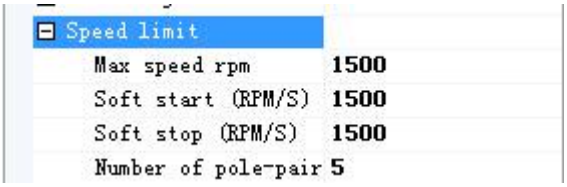
Safe parking: the motor will stop output when current reach max current,if you lower the load, the motor still can’t working, please reset the enable or set the signal below to 0 to restart.

Emergency stop: the motor will stop output when current reach max current, please restart the controller to ensure working again.

5.3 Output power setting

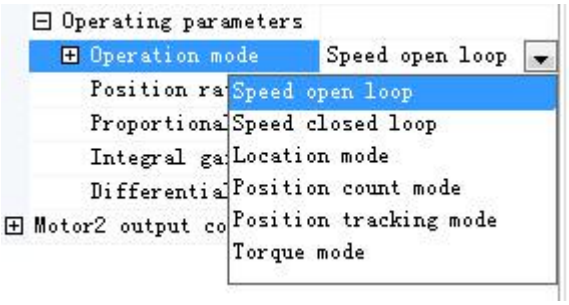


The forward/reverse percent is proportion of output power to input power. such as the controller input 48VDC, if you need ouput 24VDC, kindly set the ratio to 50%.



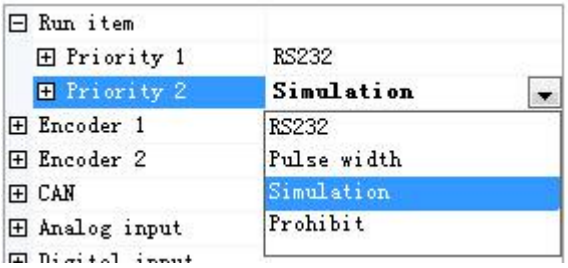
Set the max speed(it is valid in close loop, and invalid in open loop), soft start/stop time, the motor poles pairs quantity

5.4 Operation mode



Operation mode: Speed open loop, speed closed loop, location mode, position count mode, position tracking mode, torque mode. Please set suitable operation mode base on the actual condition.

5.5 Priority signal setting

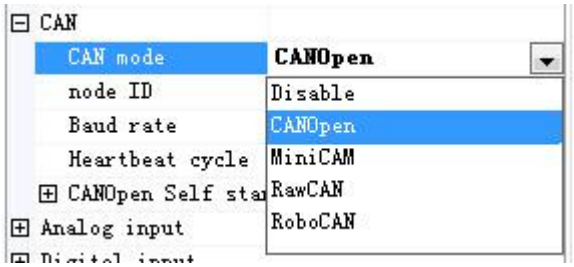


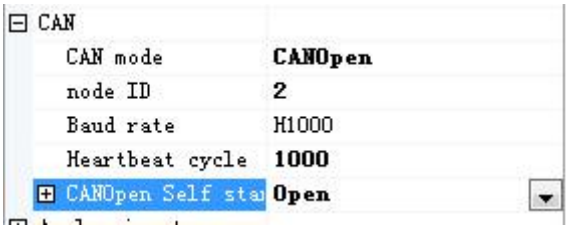
Priority signal including: RS232, Pulse width, Simulation (analog signal). Priority 1 is more preferential than Priority 2. If the controller receive two signal at meantime, it will select the more preferential signal to control.

5.6 Encoder setting (please set the encoder specification when use close loop operation)

Setting the encoder action at “For feedback”, encoder resolution ratio, encoder 1 for motor 1 feedback, encoder 2 for motor 2 feedback.

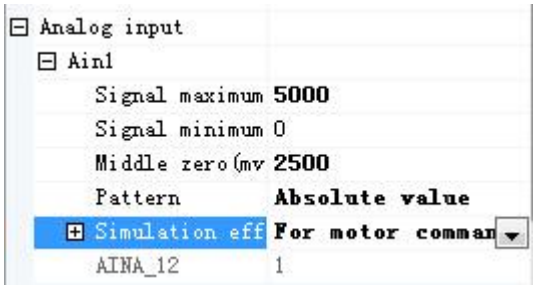
5.7 CAN mode setting





Kindly setting the Can mode same as above picture.

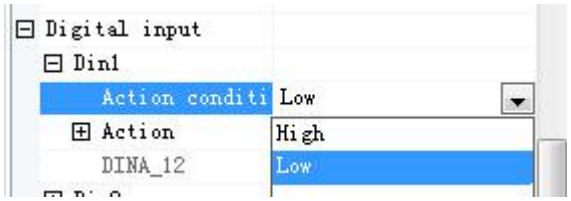
5.8 Analog signal setting



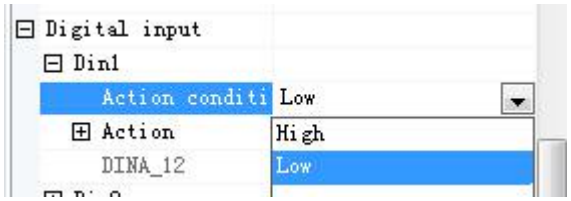
When select analog signal control, please setting the Priority 2 at Simulation , then choose the analog signal input ports (Notice: different controller model with different input ports, kindly confirm the input ports refer to the controller user manual), setting the Pattern at “Absolute value”, Simulation effort at “For motor command”, and check the matched motor.

If setting middle signal at 0, single direction control speed of 0-5V. If setting middle signal at 2500mv,forward reverse direction control speed of 0-2.5V-5V.

5.9 Digital signal input

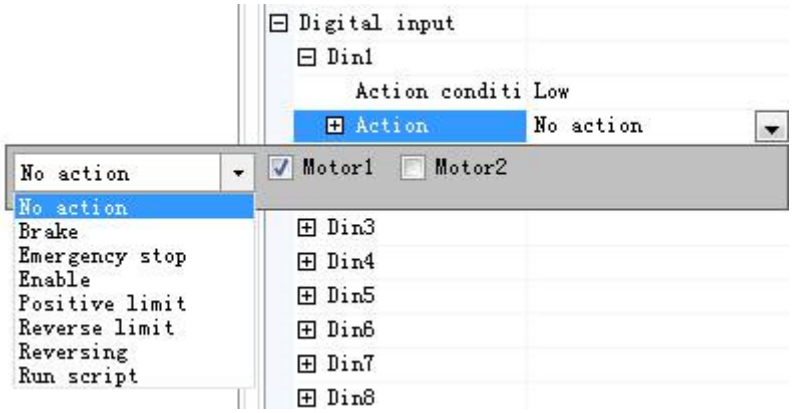


According to the I/O ports definition of the dc controller, please choose digital signal input ports (notice: different controller model with difference ports, refer to the controller user manual). When select Analog or Pulse signal control mode, please confirm the Analog or Pulse input ports is different with the digital signal input ports, for example: if the analog signal input ports is Aini1 and Aini2, then the digital signal input can’t use Dini1 and Dini2 ports.



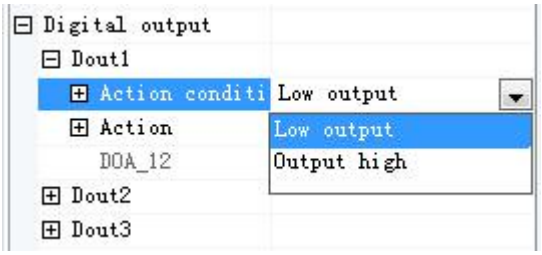
Action condition means this ports take effect when connect the COM or disconnect the COM.

(refer to the controller user manual).



Action: select suitable function of the port.

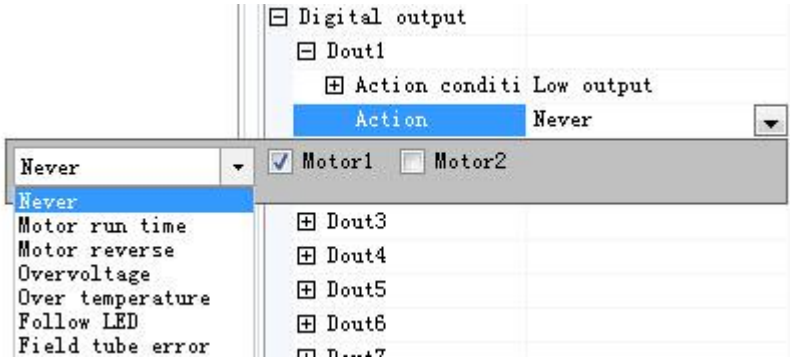
5.10 Digital signal output



Action condition:

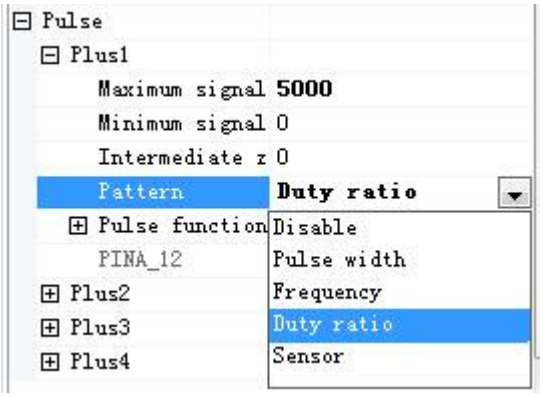
Low output: this port output 0V

Output high: when operation, this port is open-drain, should connect pull-up resistor, using principle refer to the controller user manual.



Action: kindly choose suitable function of this output port.

5.11 Pulse signal setting



Please choose Pulse mode if use RC signal control, set the signal according to the Remote Control specification. In general, the 2.4G model airplan remote control signal is 1000-1500-2000.

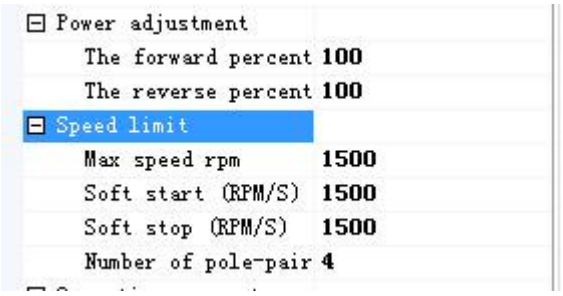
If use frequency mode, set the Minimum signal to 0, Maximum signal to 5000, the controller will adjust the speed with 0-5000Hz.

If use Duty ratio mode, set the Min signal to 0, Max signal to 5000, then the frequency will be 250Hz, the controller will adjust the speed with duty cycle 0-100%.

5.12 Speed closed loop mode setting

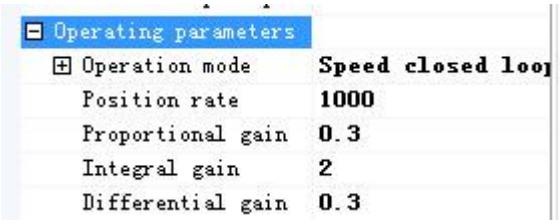
Notice: When use Speed closed loop mode, please set the close loop speed, PID parameter, encoder PPR.

5.12.1 Set the closed loop speed



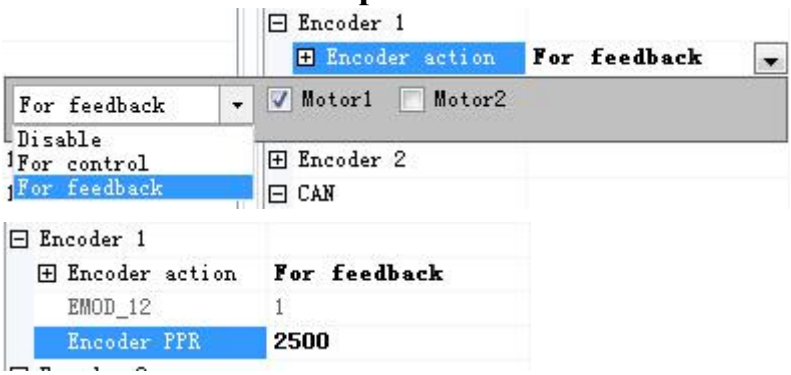
According to the motor parameter, Set the motor speed and poles pairs quantity.

5.12.2 Set the operating parameters



Set the operation mode to Speed closed loop, setting the PID parameter, the acquiescent data same as aboved picture.

5.12.3 Set the encoder parameter



Choose matched motor, set the encoder action to “For feedback”, fill in the encoder PPR according to the encoder parameter.

VI. FAQ

6.1 The software can’t connect the computer

6.1.1 If connect failure, kindly check whether the serial cable connect well, whether the controller working well.

6.1.2 If it is the first time to connect the serial cable, please confirm the computer have installed serial port driver.

6.2 If all is ok, please selet the COM port manual, and click start.

6.2.1 If still connect failure, please restart the software.

6.2.2 After above steps, if still connect failure, please connect us.

6.3 Please confirm all of the data in the range of setting.

VII. Company information

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