

VOTOL

EM Controller Program Manual V2.5

2021-6-11

It is forbidden to non-specialists use!



This manual was explained in detail for the IV generation EM series controller, which update download illustrates and parameter adjustment.

Before using the software, please read this manual. In order to facilitate the operation, please keep this manual.

In order to make the software of maximum utility, please make sure the end user to use this manual.

Please be sure to read the manual carefully before starting the operation.

Disclaimer:

For the IV generation of EM series controller program updates and parameter adjustment can only be done by professional and technical personnel.

If without the written permission of our company for the IV VOTOL generation EM series, the application update to download and parameter of the controller adjustment is not allowed.

It is forbidden to non-professional personnel operate this software.

In the above event, our company will no longer be responsible for accident happens by controller.

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1. Software installation(only support win 7/10)

1.1 USB Driver Installation

(1) Download the “USB-to-serial-win 10-20150814” file, decompressing file.

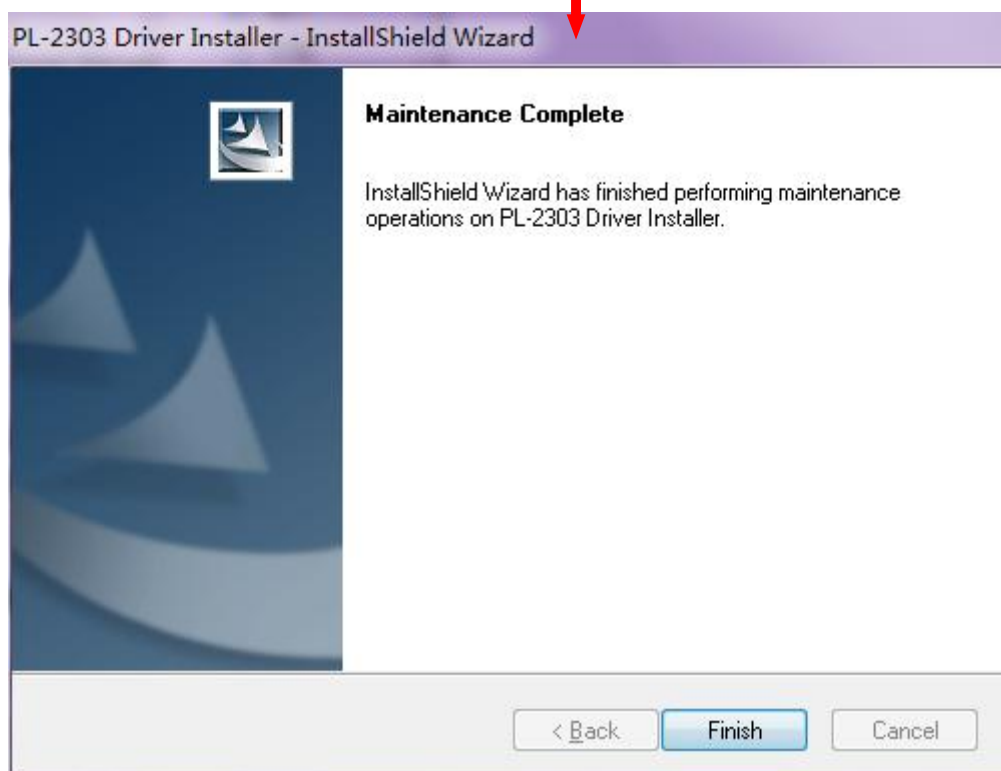
 USB-to-serial-win10-20150814	2016/12/26 10:44	WinRAR 压缩文件	6,422 KB
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(2) choose the suitable driver with your computer for installation.

win7, win 10 are available, IOS and XP system are not support. For abroad PC system, pls. remove all Chinese words if it's appeared in the file name.

 win_me_2000_XP USB-to-Serial	2013/3/8 14:38	WinRAR ZIP 压缩...	1,586 KB
 windows 7 10 32 64 USB-to-Serial ...	2013/3/8 14:38	WinRAR ZIP 压缩...	2,390 KB

 Setup 32.64位元	2012/8/3 12:31	应用程序	3,075 KB
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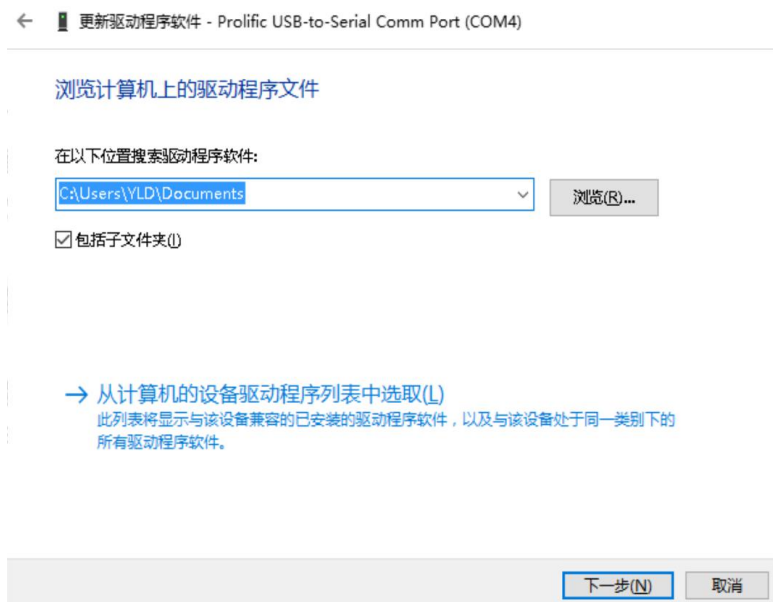
(3) After installation, pls. connect the USB cable with controller and computer. If it's unable to connect, pls. Check below steps.

Right click “my computer” in the desktop, then click “device manager” --> “port(COM & LPT)”, choose the COM with “!”, right click to update the software.

Select : Browse Computer to find out the drive software

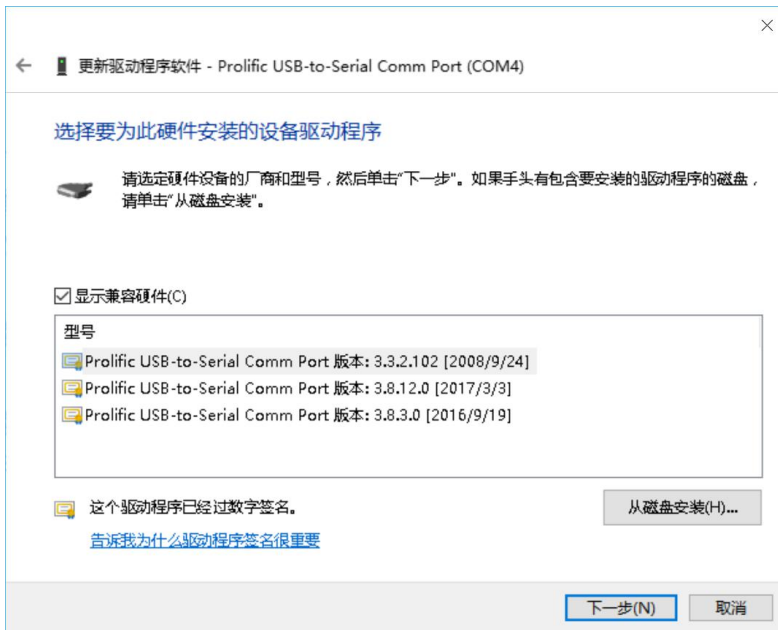


Select from computer Drive program list



Select Prolific USB-to-Serial Comm Port Version: 3.3.2.102 【2008/9/24】

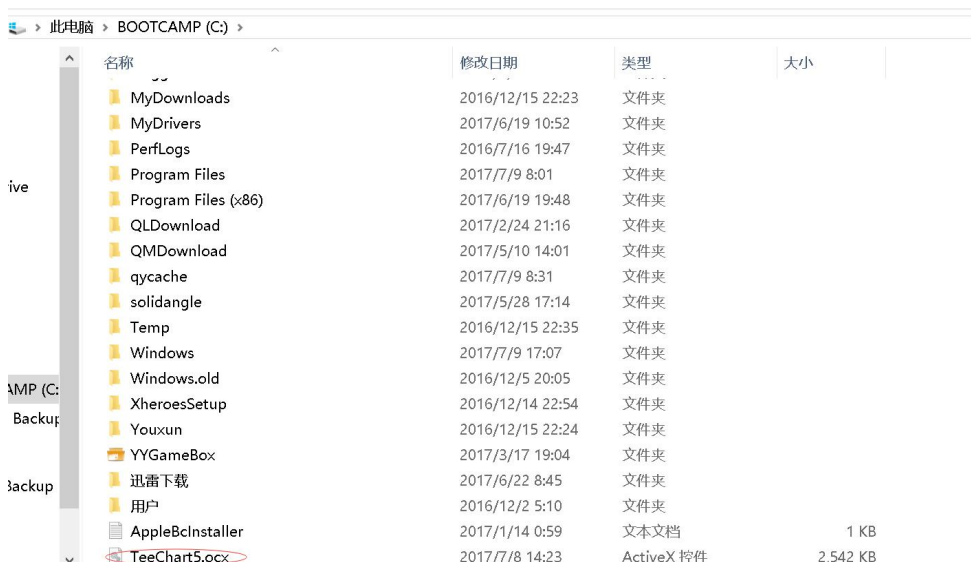
Click Next --> Do the installation --> Close the software when you finish



1.2 Software installation

New version from 2018.7, there is no need to do below step 1 and 2. Only need to install the USB driver then open the software directly.

(1) Please copy TeeChart5.ocx file to the C disk root directory



(2) Click the setup Register File Finish Installation (E.g. Allow the installation when the software shows intercept interface). After finishing the installation, please run the software: EM_V3 program download



(3) Attn: Bluetooth serial port connection installation mode

Use the Bluetooth series port connection module by VOLT company, connect it, then power it

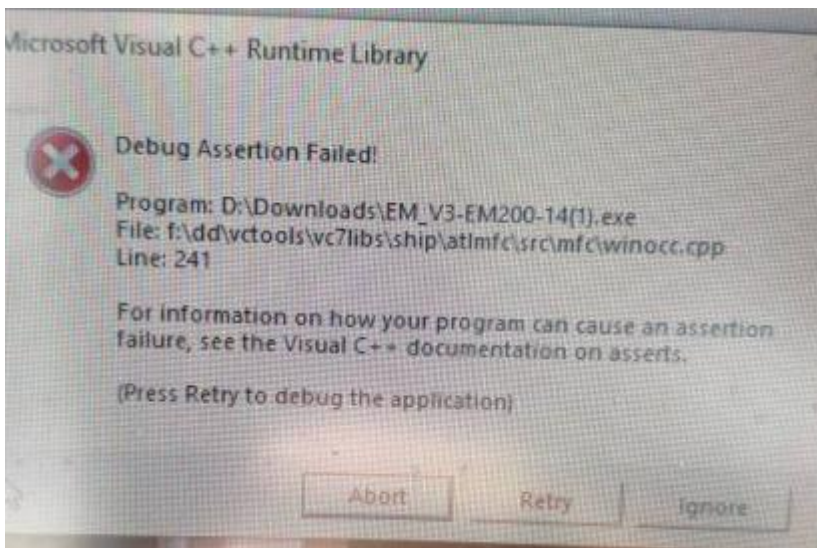
Select from the Bluetooth list pair with the Bluetooth series port accordingly

Input the password: "1234" to connect it



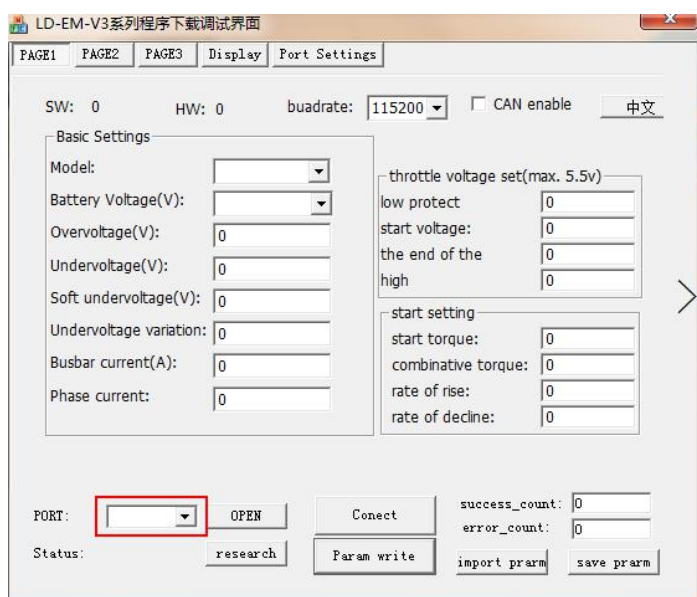
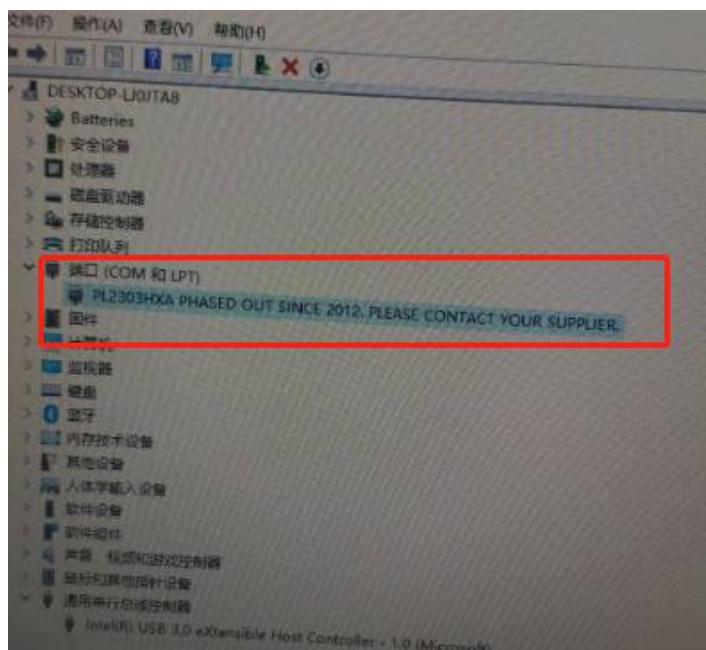
1.3 Software cannot installed

If the software cannot installed, you can try to change your computer system to English or Chinese, it because of different system with C++ different, special for some countries PC not in English.



1.4 Software COM Port cannot find

If your computer with COM information, but software cannot show it, it should be problem of your driver, pls.make research again, or install the driver file "FT232 Driver".



2. Controller Self Learning Work

It's learning "hall angle shift" data. Other data pls. follow below guides.

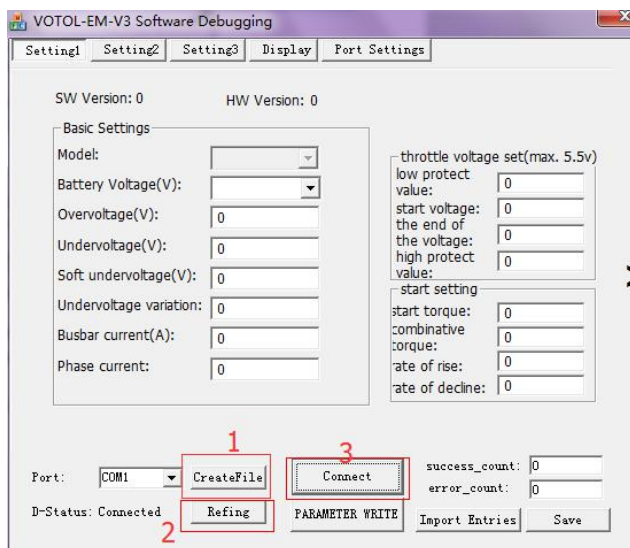
<https://www.dropbox.com/sh/k5xur45yds5es0y/AAAtvUGGJ5w5r01p1v9vzexpa?dl=0>

3. Controller connection

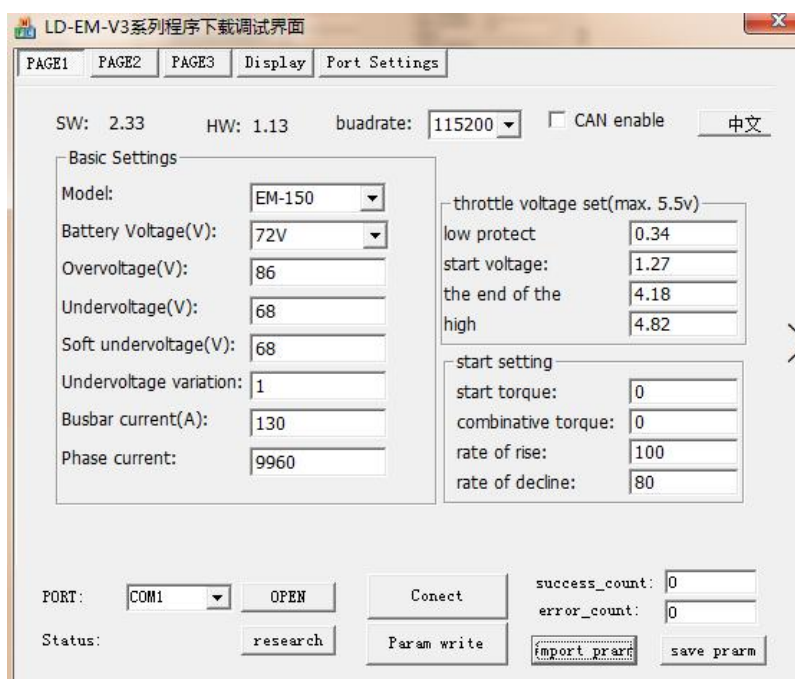
3.1 Connect controller

- (1) Power on the controller, closed the ignition.
 - (2) If your controller with CAN, pls. Click "CAN enable". Click "Open".
 - (3) Click the researching bottom, then choose the series port from the device COM (generally the last one)
Click "open series port; device shows "connected",
 - (4) then key on the ignition, click " connect " controller (suggest you to click it more than twice)
- The voltage parameter can be freely chosen under the hardware support of the controller.

Surface for four wheelers/three wheelers

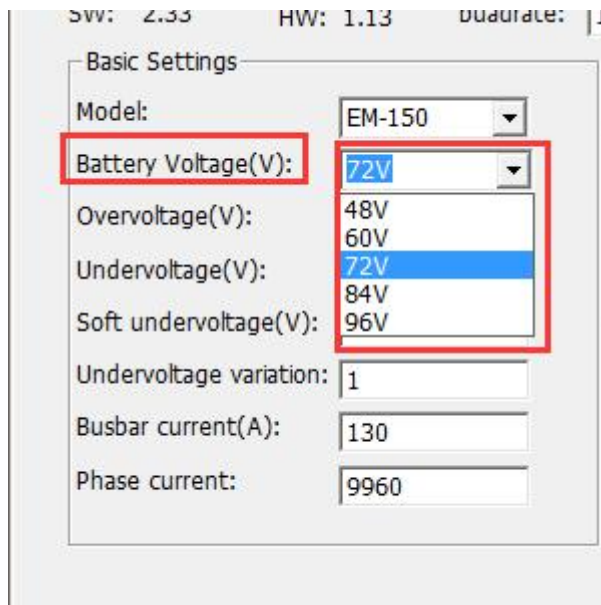


Surface for two wheelers.



3.2 Battery voltage adjust

The voltage parameter can be freely chosen under the hardware support of the controller.



EM-30S	48-72V	EM-100	48-60V
	84V		72V
EM-50	48-72V		96V
	84V	EM-150	48-60V
	96V		72V
	108V		96V

Note: if the voltage parameter is adjusted without hardware support, the controller will be damaged.

3.3 Controller under-voltage and soft under-voltage adjust

Fill in the required under - pressure protection parameters and software under - pressure parameters

Overvoltage(V):	89.5
Undervoltage(V):	63
Soft undervoltage(V):	66
Undervoltage variation:	1

- (1) Under voltage value: The controller enters the threshold required for hardware under-voltage protection. Setting Range (based on battery under voltage value to set)
- (2) soft under-voltage: Setting Range (generally under-voltage add 3V)
- (3) Undervoltage variation: it means the range of under-voltage back to the difference (unadjustable). If set 63v for overvoltage, 1v for undervoltage variation, then in 64v controller will recovery to work.
P.s. under-voltage don't suggest to change, easy to damage the battery, and excessive discharge of the battery cause reduce life.

3.4 controller battery current and phase current limited adjust

Busbar current(A):	<input type="text" value="130"/>
Phase current:	<input type="text" value="9960"/>

(1) Battery current

controller battery current adjust: Setting Range

EM-30S	48-72V	≤35A	EM-100	48-60V	≤100A
	84V	≤30A		72V	≤100A
EM-50	48-72V	≤50A	EM-150	96V	≤100A
	84V	≤50A		48-60V	≤150A
	96V	≤45A		72V	≤180A
	108V	≤45A		96V	≤120A

P.s. Please don't fill in the value out of range, it will damage the controller

(2) phase current limited value: if limit controller phase current out-put, it will limit the motor torque out-put.

Setting Range (the biggest value full power out-put, don't suggest adjust)

3.5 throttle voltage adjust

throttle voltage set(max. 5.5v)	
low protect	<input type="text" value="0.34"/>
start voltage:	<input type="text" value="1.27"/>
the end of the	<input type="text" value="4.18"/>
high	<input type="text" value="4.82"/>

(1) low protection value: The throttle error is shown

(2) Starting voltage: when the value is reached, the motor starts running

(3) End voltage: when the value is reached, the controller thinks the full voltage is reached (it is recommended to set the voltage lower 0.2v compared with the actual torque voltage).

(4) High protection value: when the value is higher than that, the torque fault will be displayed

3.6 Start setting adjustment (for tricycle gear box only)

start setting	
start torque:	<input type="text" value="0"/>
combinative torque:	<input type="text" value="0"/>
rate of rise:	<input type="text" value="100"/>
rate of decline:	<input type="text" value="80"/>

(1) Starting torque: used for gear combination

(2) Combined torque: a force of lifting after gear clearance is combined

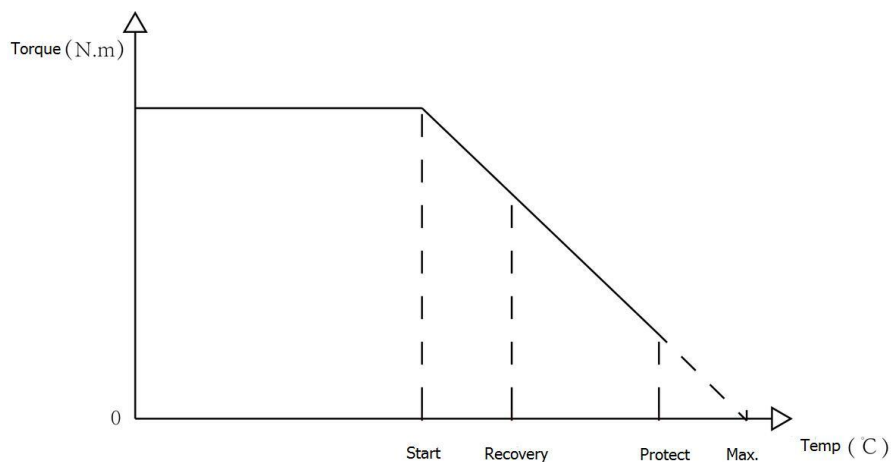
- (3) Upward slope: upward slope of motor torque
- (4) Downward slope: downward slope of motor torque

3.7 Controller and motor temperature protection function adjustment

External temp protection setting(°C)

start:	<input type="text" value="0"/>
over temp:	<input type="text" value="0"/>
recovery:	<input type="text" value="0"/>
Max:	<input type="text" value="0"/>

- (1) Start: Enter into the function of temperature protection, limit the motor torque.
- (2) Over temperature: Cut off the output of motor torque
- (3) Recover: When the motor temperature lower than the temperature protection value, you can re-twist the throttle, then the motor will restore motivation
- (4) Maximum: The motor maximum temperature is 150



4. Setting for page 2

Controller function debugging interface

LD-EM-V3系列程序下载调试界面

PAGE1 PAGE2 PAGE3 Display Port Settings

Sport mode setup

Current-Limiting(A): 150

Flux-Weakening Value: 3000 1000

☐ Automatic logout enadlers

Logout time(S): 30

Recovery time(S): 30

Flux-Weakening compensation: 80

Three-speed

Low(%): 60 100

Mid(%): 80 100

Hige(%): 100 5

Mid Flux-Weakening Value: 6000 30

Hige Flux-Weakening Value: 11000 5000

Button/Switch 3 speed

☐ Button 3 speed ☒ Switch 3 speed

Three speed default gear

☐ Low ☒ Mid ☐ Hige

☒ Soft start enabled

Soft start grade: 5

Downhill electric brake assist(HDC/HHC)

☐ HHC Enable

☒ HDC Enable

HDC lowrst speed: 5100

Speed limit setting

☐ Speed limited enable

Speed ratio(%): 37

PORT: COM1 OPEN

Status: research

Connect

Param write

success_count: 0

error_count: 0

import prarm

save prarm

4.1 Parameters setting for sports mode(S gear)

PAGE1 PAGE2 PAGE3 Display Port Settings

Sport mode setup

Current-Limiting(A): 150

Flux-Weakening Value: 3000 1000

☐ Automatic logout enadlers

Logout time(S): 30

Recovery time(S): 30

Flux-Weakening compensation: 80

Three-speed

Low(%): 60 100

Mid(%): 80 100

Hige(%): 100 5

Mid Flux-Weakening Value: 6000 30

Hige Flux-Weakening Value: 11000 5000

Button/Switch 3 speed

☐ Button 3 speed ☒ Switch 3 speed

Three speed default gear

☐ Low ☒ Mid ☐ Hige

☒ Soft start enabled

Soft start grade: 5

Downhill electric brake assist(HDC/HHC)

☐ HHC Enable

☒ HDC Enable

HDC lowrst speed: 5100

Speed limit setting

☐ Speed limited enable

Speed ratio(%): 37

PORT: COM1 OPEN

Status: research

Connect

Param write

success_count: 0

error_count: 0

import prarm

save prarm

The flux weakening value marked in blue, it's the data for motor running noise and shock adjust, If motor with shock, you can set this data lower than 800. It will not make speed less.

The red mark is flux weakening value, it can be adjust by motor.

Mid Flux-weakening value: this is a data for motor start speed.

The yellow mark is Capacitor protection value, modification is not recommended.

(1) Current-limiting value for S gear(boost function):

When controller turn into S gears, the battery current will increase, it will be more powerful to climb.

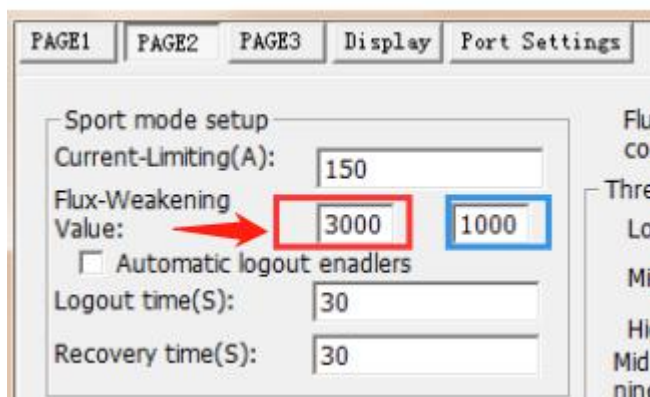
Range of setting.

EM-30S	48-72V	≤40A	EM-100	48-60V	≤120A
	84V	≤35A		72V	≤120A
EM-50	48-72V	≤55A	EM-150	96V	≤120A
	84V	≤55A		48-60V	≤200A
	96V	≤45A		72V	≤220A
	108V	≤45A		96V	≤130A

Please noted: The setting value shouldn't be out of range, otherwise, it will damages the controller.

The range for flux weaken value on left/right side refers to in dual voltage mode, the speed is different because of the different voltage. Left side option refers to low voltage, right side option refers to high voltage. For single voltage controller, Please keep the left/right in same value.

(2) Flux weakening value for S gear:



When controller turn into S gears, the motor will be in flux weaken condition, speed increased.

Setting value range is determined by motor condition

Wheel hub motor, magnet high lower than 35mm	≤1500
Wheel hub motor, magnet high lower than 50mm	≤2300
Mid drive motor, surface attached magnetic steel	≤2300
Mid drive motor, V magnet steel	≤3000

Please noted: The setting value shouldn't be out of range, otherwise, it will cause the motor demagnetizing, then damage the motor.

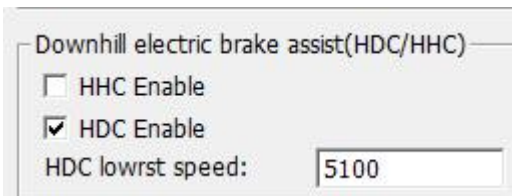
(3) automatic logout enablers, confirm by select

Logout time: e.g. 30s after enter S gear sport mode (time is optional), auto-exit S gear sport mode.

Recovery time: auto-exit S gear, recover from to S gear time. During recovery time (Invalid by press S gear).

4.2 Downhill electric brake assist

(Slow down in steep slopes)



Downhill electric brake assist(HDC/HHC)

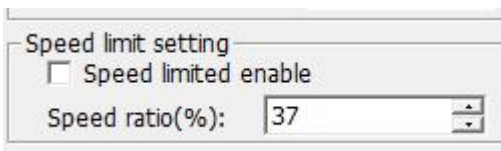
☐ HHC Enable

☒ HDC Enable

HDC lowrst speed:

HDC is data to make constant speed, enable this function to make rpm stable. And when your battery with lower voltage level, make sure the max. rpm not lower which will be keep max. speed same with before for running. Start by select “HDC Enable”, if your motor with 1000rpm, you can set this data from 1000rpm to 1200rpm. Pls. don’t set this data more than motor rpm a lot, you can set it about real rpm *110%~120%.

4.3 Speed Limit setting



Speed limit setting

☐ Speed limited enable

Speed ratio(%):

Start by select, limit speed function

Adjustable controller speed limit from 0 to 100 percent, this function can be customized by customer from sprot wire to speed limit function.

4.4 Flux Weakening & Three Speed setting

The flux weakening value marked in blue, it's the data for motor running noise and shock adjust, If motor with shock, you can set this data lower than 800. It will not make speed less.

The yellow mark is Capacitor protection value, modification is not recommended.

(1) flux weakening compensation factor (suggest not to change)

Default value below:

Hub motor less than 40mm magnet	34
Other motor	64

It could be adjusted due to different motors

(2) Three gear setting

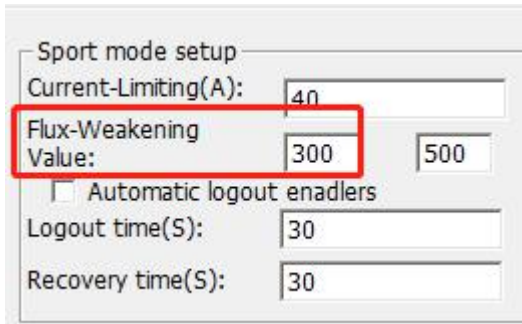
The three gear ratio range from 0~100%

The red mark is flux weakening value, it can be adjust by motor.

Mid Flux-weakening value: this is a data for motor start speed.

You can set this data around 2000-6000.

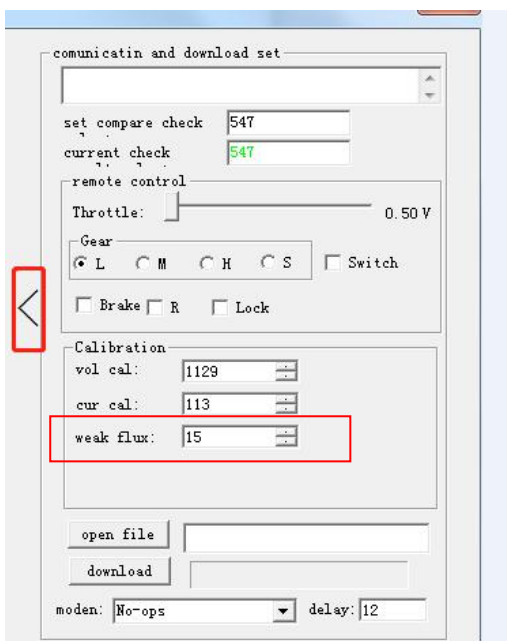
If you don't want with flux weakening function, pls. set it 200-500.



Flux-weakening compensation 10-20 for wheel motor, mid drive motor with around 30.



And set extra page with weak flux data from 5-15.



Note: Please don't exceed the range, which will cause demagnetization and damage motor.

Left and right flux weakening value write value is dual voltage mode, base on different voltage, different speed options.

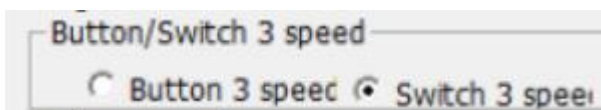
Left side is low voltage, right side is high voltage.

(3) three speed mode

There are two modes for choice for three gear: by button and switch.

Three gear default gear (enable for point switch)

Change controller default gear when power on.



(4) Soft start enable

Open controller as soft start, close controller as hard soft

Soft start grade from (1~16) 16 grades, the less value is, the soft start it is.

5. Setting for page 3

The screenshot shows the 'LD-EM-V3系列程序下载调试界面' (LD-EM-V3 series program download and debugging interface). The 'PAGE3' tab is selected. The 'Motor Setting' section includes the following controls:

- Pole pairs:** A text box containing the value '5'.
- ☐ exchange hall wire color Yellow-Blue
- ☐ exchange phase wire color Blue-Green
- Motor type:** Radio buttons for 'surface-mount' and 'V-type' (selected).
- Hall shift Angle:** A text box containing the value '60'.
- Out-put:** Radio buttons for 'One-Lin' and 'Hall speedometer' (selected).
- ☐ Moving vehicle booster
- ☐ Cruise
- Moving vehicle booster Speed ratio(%):** A text box containing the value '10'.
- Moving vehicle booster torque:** A text box containing the value '1000'.
- Double voltage automatic identification setting:** Radio buttons for 'Double-voltage', 'Low' (selected), and 'Hige'.

Other settings on the right side of the page include:

- Reversing the speed limit(%):** A text box containing the value '7'.
- EBS ratio(%):** A text box containing the value '20'.
- ☐ Low beake
- ☐ Secure boot

At the bottom, there are controls for the serial port:

- PORT:** A dropdown menu showing 'COM1'.
- OPEN** button
- Conect** button
- success_count:** A text box containing '0'.
- error_count:** A text box containing '0'.
- Status:** A text box.
- research** button
- Param write** button
- import prarm** button
- save prarm** button

5.1 Motor Setting

This close-up screenshot shows the 'Motor Setting' section of the software interface. It includes the following controls:

- Pole pairs:** A text box containing the value '5'.
- ☐ exchange hall wire color Yellow-Blue
- ☐ exchange phase wire color Blue-Green
- Motor type:** Radio buttons for 'surface-mount' and 'V-type' (selected).
- Hall shift Angle:** A text box containing the value '60'.

(1) Motor pole pairs: Correctly fill in the motor pole pair for correct motor speed(RPM) acquisition

(2) Motor type (middle drive motor): Correctly fill in the type of motor's magnet for motor matching

Note: Wheel Hub motor is surface mount, and QS can set 120 hall shift for V3 motor.

(3) Hall phase shift angle (degrees) adjustment

Fill in the range (-180~180) for the controller and motor phase adjustment.

You can set -180, -120, -60, 0, 60, 120, 180 for test. If you want to change running direction, then ± 120 based on your correct data.

Votolcontroller@hotmail.com

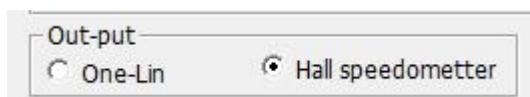
Suggestion for Motor data.

No.	Brand	Motor Model	Phase	Hall	Hall Shift	Hall shift Fine-tuning range	Motor type
1	QS	Mid Drive 138	Color to color	Color to color	76	60-80	V type
2	QS	Mid Drive 120	Color to color	Color to color	76	60-80	V type
3	QS	Mid Drive 90	Color to color	Color to color	76	60-80	V type
4	QS	Wheel motor V3	Color to color	Color to color	120	-	surface mount
5	QS	Wheel motor V1 and V2	Color to color	Color to color	-60	-	surface mount
6	HM	HM60V3000w	Color to color	Color to color	-120	0	surface mount

6 - HM60v3000w, pole pairs 15, hall angle 60, winding 22*3T, magnet height 60mm



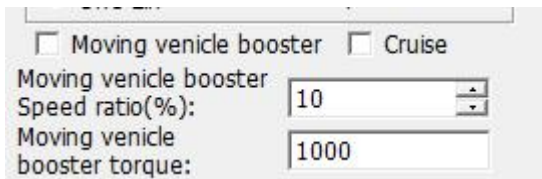
5.2 Choice of speedometer output



The controller to speedometer data output has 2 types: ONE-LIN speedometer and hall speedometer, it needs to be decided by the vehicle's speedometer.

The ONE-LIN communication fixed agreement is (xinsiwei agreement)

5.3 Moving assist and cruising function



(1) Move assist function, valid after check

The speed of the transfer assist is selected as the percentage of the motor base speed. The default is 10%.

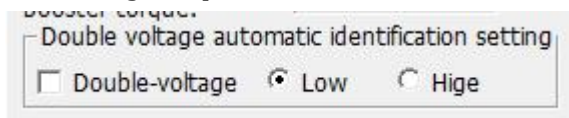
Moving assist torque value 320, corresponds to the torque value is 9~10N.m (varies depending on the motor characteristics)

(2) Cruise Function, valid after check

Turn to a certain angle and maintain more than 8 seconds, enter into the cruise control mode, any operation to exit the cruise mode (make a brake, turn the handle)

5.4 Dual Voltage Adaptive Function

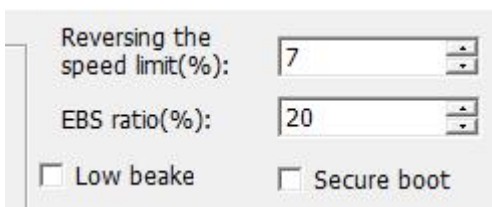
Dual voltage adaptive function, Check valid



Automatically switch dual voltage mode

mode	Volt for switching to low volt mode	Volt for switching to high volt mode
48~60V	<49V	>63.5V
60~72V	<61V	>77V
72~84V	<72V	>93.5V

5.5 Reversing, EBS setting, low brake selection, starting safety switch function



(1) Reversing speed limit (%) 0~100 pole adjustment Speed adjustment for reversing the controller

Note: Do not exceed 30% to avoid accidents.

(2) EBS ratio (%) 0~100 pole adjustment for electronic brake force adjustment

(3) Low brake enable valid check

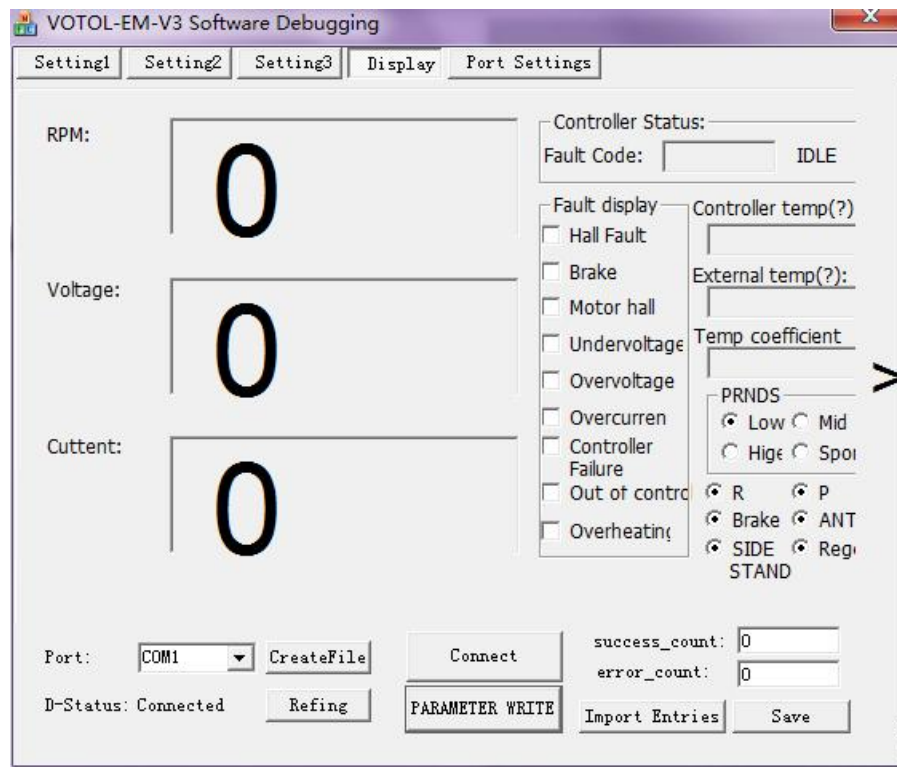
When the low brake is used, the original single-branch power-down function becomes a low-level brake.

(4) Safety Switch Function valid checked

When using the safety switch function, need to press the safety switch before starting the vehicle.

6. Controller Status Display

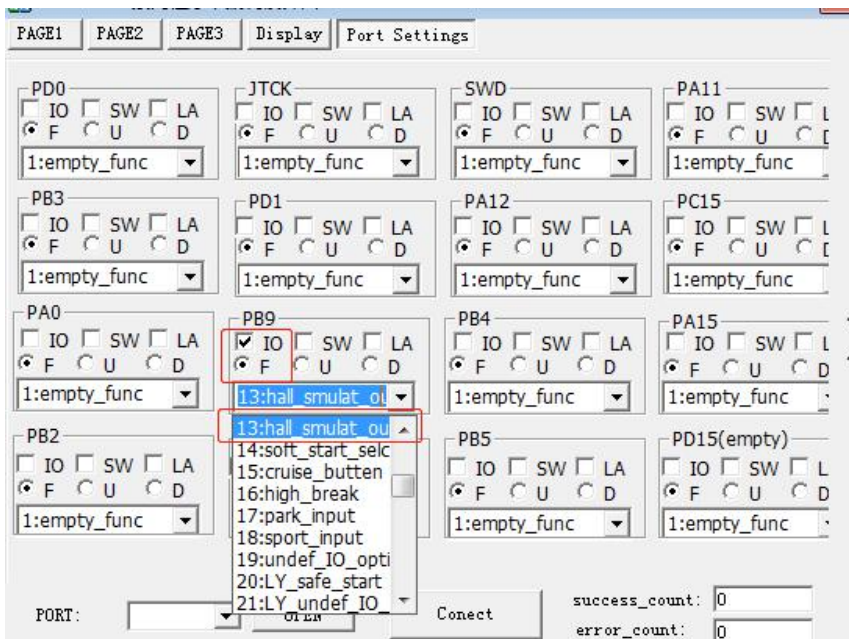
Controller working status display, makes it easy to observe the controller's real-time status



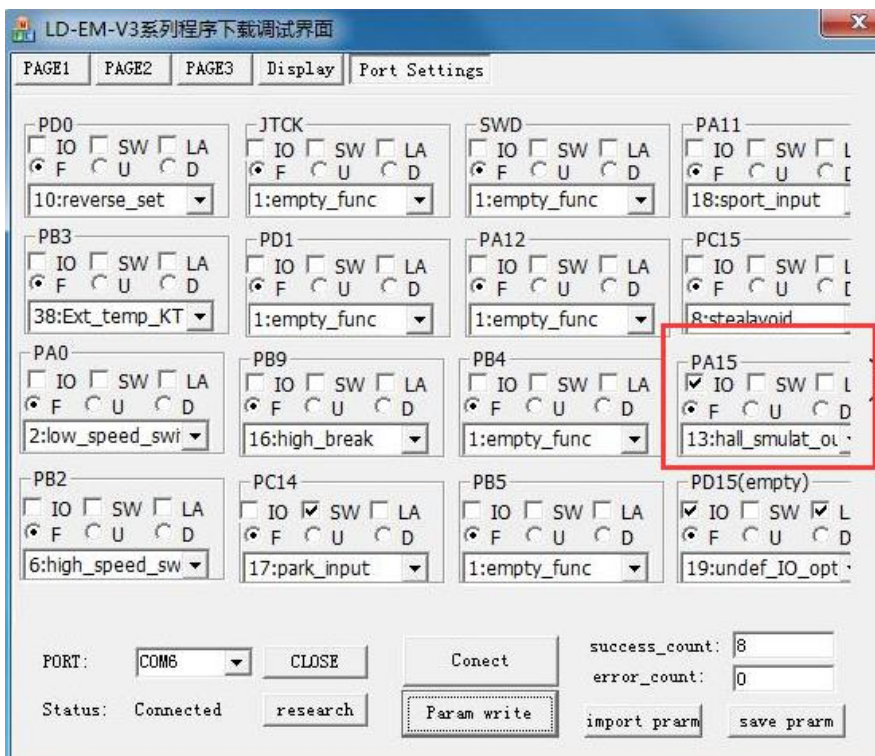
7. Port setting interface

7.1 Hall Speed Setting

For EM30S/50S/100S/150S models, If you match with Hall Type Display, pls. Choose "IO" and "F", "13: Hall".



For EM200S model, If you match with Hall Type Display, pls. Choose "IO" and "F", "13: Hall".



7.2 Three Speed Setting

For EM30S/50S/100S/150S models, when three speed achieved by switch.

PD0-low speed, PD1-high speed, PB3- middle speed. Pls. Keep same with below data which marked in red.

LD-EM-V3系列程序下载调试界面

PAGE1 PAGE2 PAGE3 Display Port Settings

PD0 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 2:low_speed_swi	JTCK <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	SWD <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	PA11 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func
PB3 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 24:speed_limit	PD1 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 6:high_speed_sw	PA12 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	PC15 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func
PA0 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 28:low_break	PB9 <input checked="" type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 11:single_wire_cc	PB4 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 10:reverse_set	PA15 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func
PB2 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	PC14 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	PB5 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 16:high_break	PD15(empty) <input checked="" type="checkbox"/> IO <input type="checkbox"/> SW <input checked="" type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 19:undef_IO_opt

PORT: COM1 CLOSE Connect success_count: 0
 Status: Connected research Param write error_count: 0
 import prarm save prarm

For EM200S, when three speed achieved by switch.

PA0-low speed, PB2-high speed. Pls. Keep same with below data.

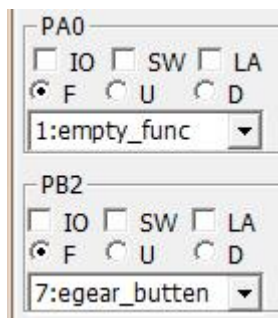
PA0 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 2:low_speed_swi
PB2 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 6:high_speed_sw

For EM30S/50S/100S/150S models, when three speed achieved by button for press.

PD1-egear button, PB3- sport mode. Pls. Keep same with below data which marked in red.



For EM200S, when three speed achieved by button for press.
PA0-empty, PB2-egear button. Pls. Keep same with below data.



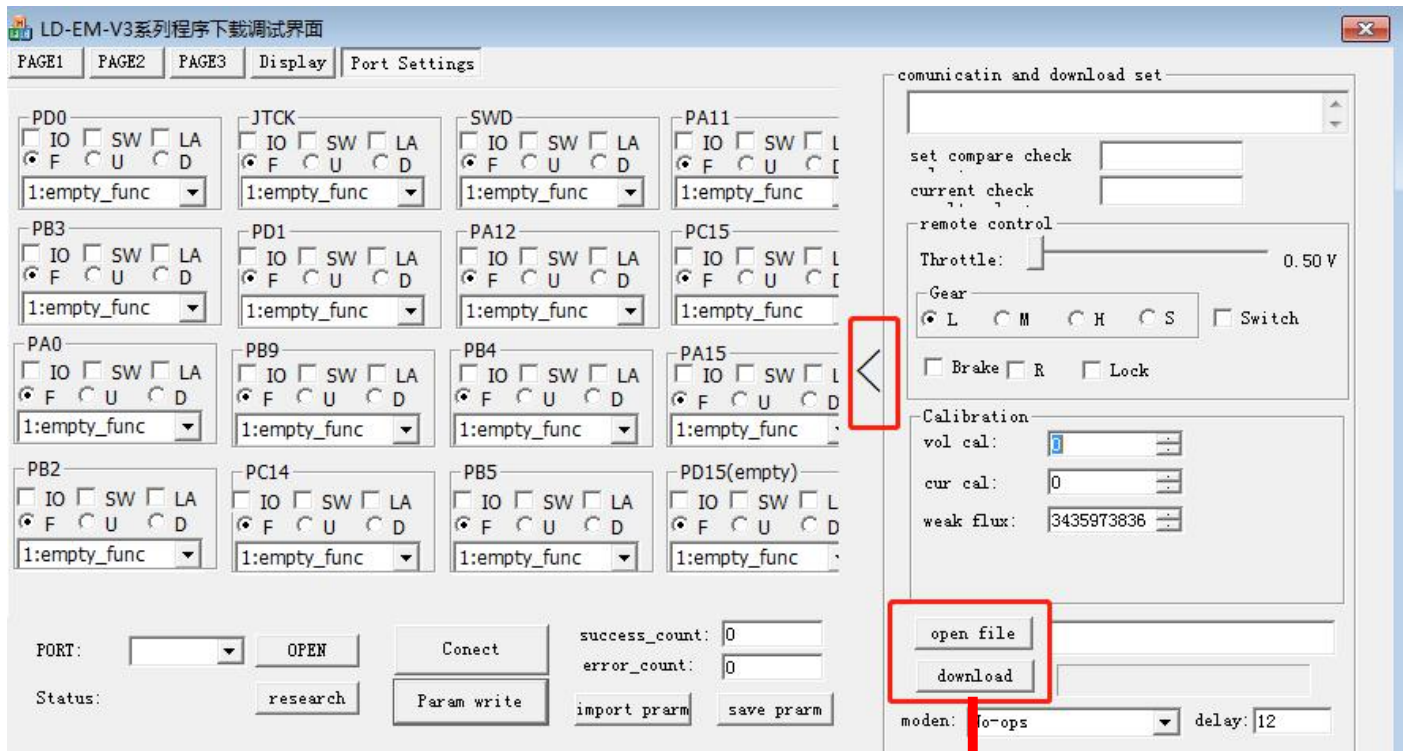
8. Remote Operation

Software update download and debugging

Pls. use it under the guide of our company engineer.

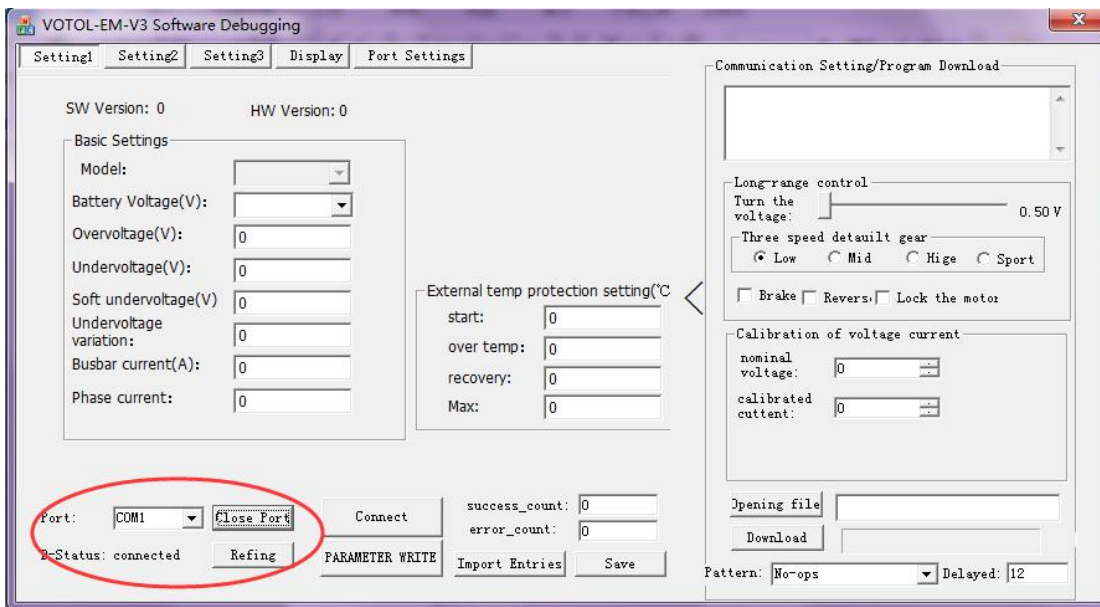
It's used for the updated software, current calibration, remote operation.

Click "opening file" --> choose the ".bin" file --> Click "download". When it shown in 100%, the file import succeed.

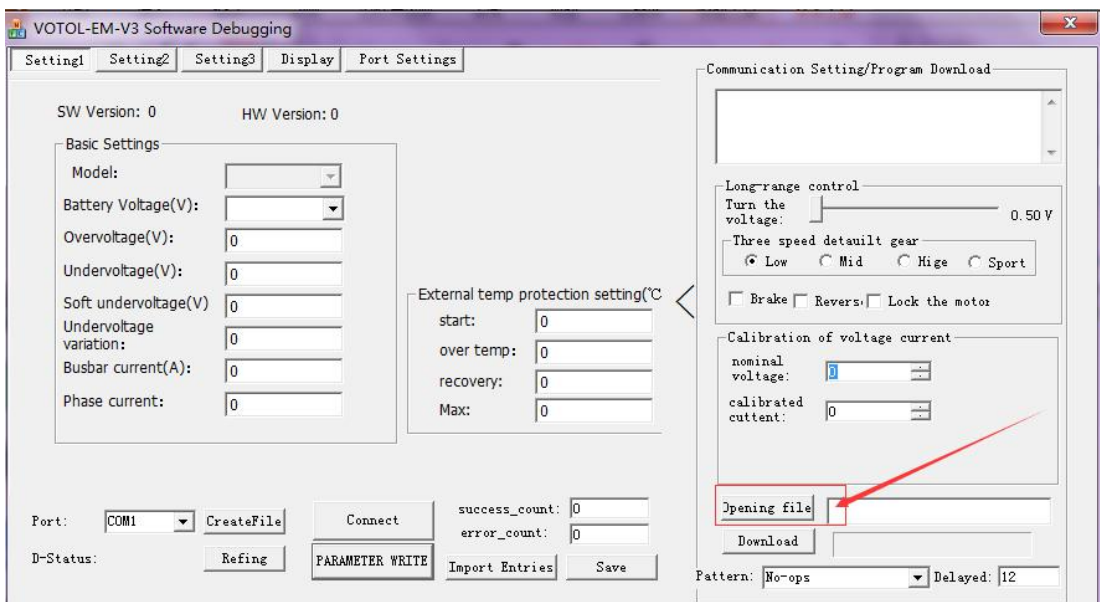


If you encounter a situation where the controller cannot communicate, you can try to brush the bottom program, the steps are as follows

1. Closed ignition.
2. Open the upper computer (ie the debugging software), open the serial port, no need to click " connect ".



4. Open iginiton, open file "CAN. Bin" file.



5. Then connected normally.

9. FAQ

9.1 Match a new brand controller

For simple test adjust, pls. make sure the connection no problm for phase wire and hall wire, set correct data for motor poles and hall shift. Hall shift is import. You can try it from -180 to 180.

Pls. Refer to 4.1 setting guide.

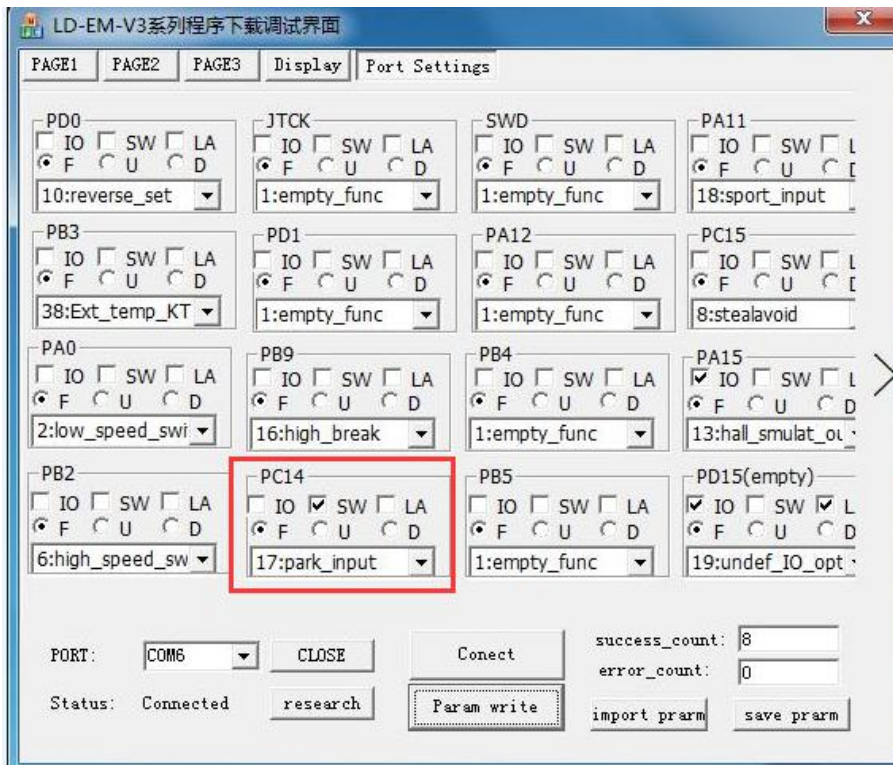
9.2 Parking function setting

The parking function was achieved by button for press or a switch.

And PC14 port set like below.

Choose “SW” & “F”, and touch your parking wire to any GND wire shortly(or a button connect), you can see the P gear shown in your display, it means your park function was achieved.

Choose “LA” & “F”, connect your park wire and GND to a switch, you can see the P gear shown in your display when you switch it, it means your park function was achieved.



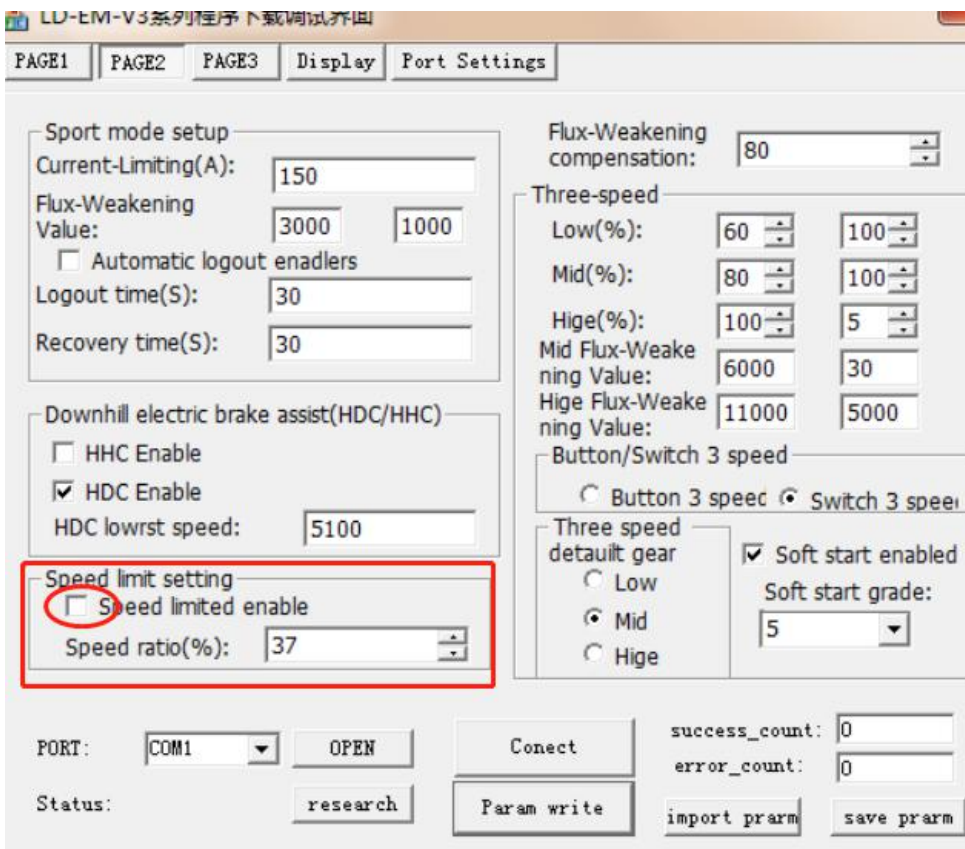
9.3 Stop twist throttle, motor still running

When you stop twist throttle, the motor still running and no stop, you can try other data for hall shift.

Like change -60 to 120, and try more data for test. Follow 4.1 setting guide.

9.4 how to set speed limit

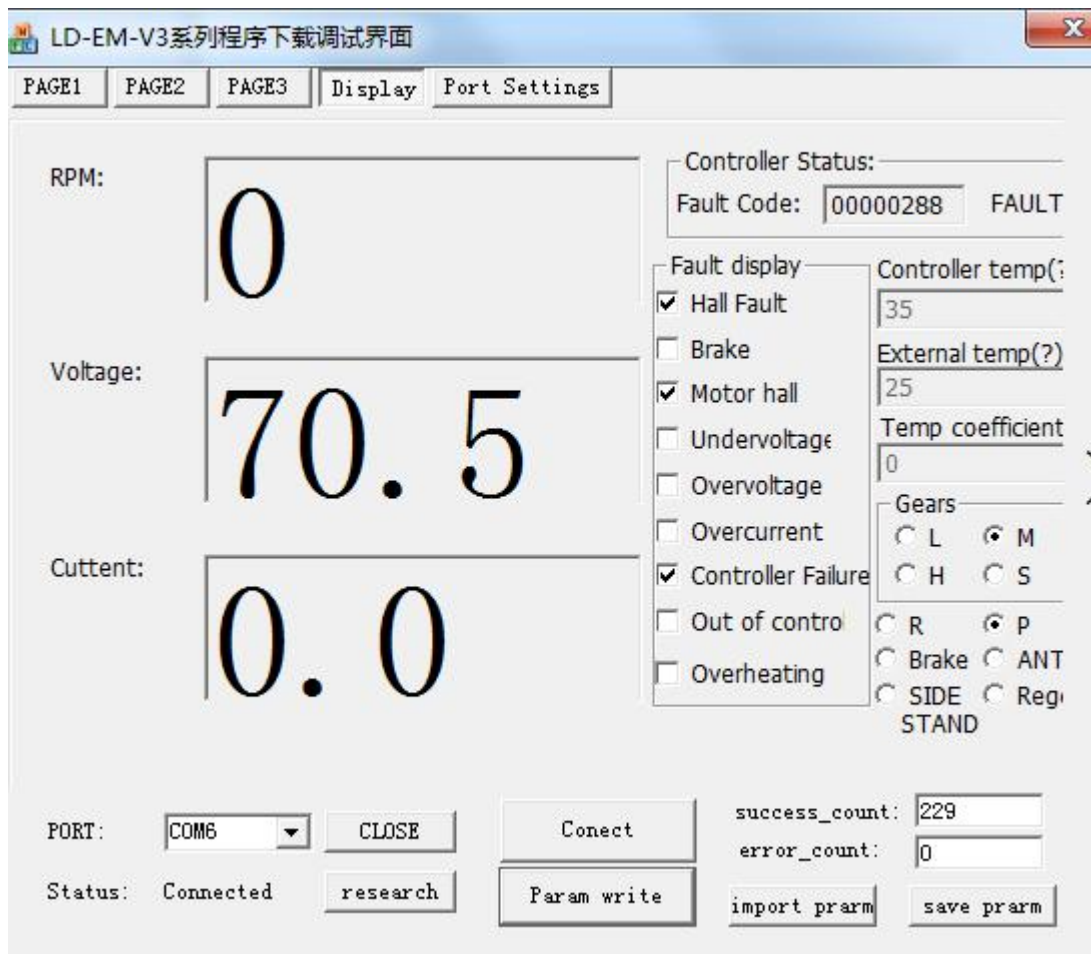
Choose a function wire you don't used (like sport wire), it's PB3 port in software, choose it in "24: speed_limit", and choose "speed limit" in page 2 of software, set your data of speed limit percent. If you want it with speed limit once running and no switch to achieve, just make a plug to connect speed limit wire to GND directly.



9.5 Controller fault or Hall error

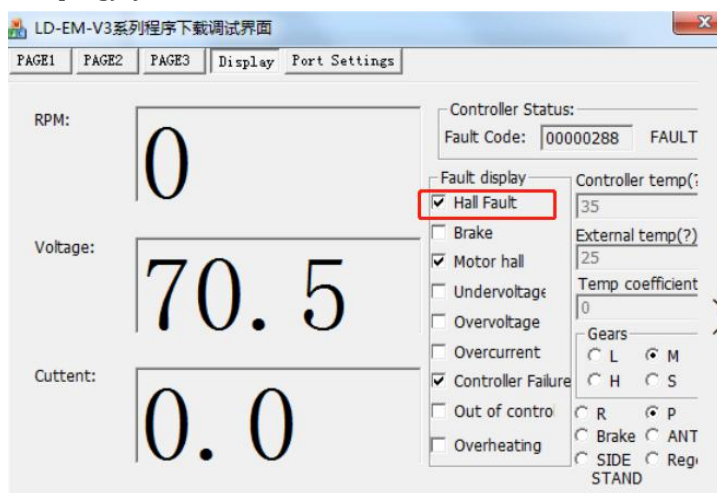
If the controller running on road no problem, but software showing controller fault when connect with PC, it's no problem for controller, no worry for that. If the controller cannot running on road, and software showing hall

error(in the condition of hall connected), pls. check the plug connection first, if connection no problem, pls. test the hall volt from motor, Hall positive and hall negative is 5v, the volt of three hall signal wire is the same, if it's not same, it should be the motor hall fault/damaged.



9.6 Test Controller Hall error

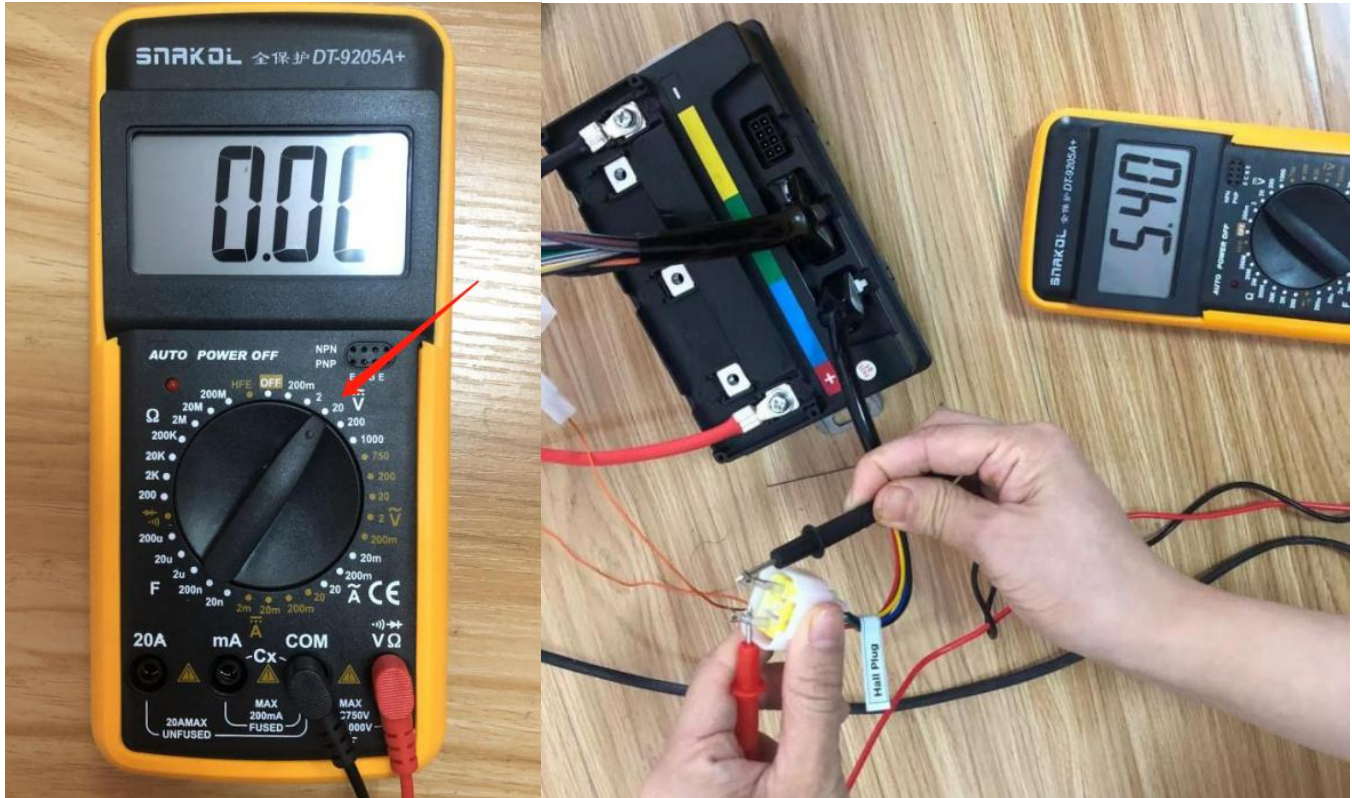
When there with controller Hall fault, and everything connected well(like battery, ignition, motor phase wire, motor hall plug), you can test the controller hall volt to check.



- 1) Connect the positive and negative the battery to controller

- 2) Ignition connected and power on
- 3) Measure the positive and negative poles of the controller Hall, it should be around 5v. If with other date like 0.9v, then the hall port is damaged.

We tested all controllers before shipping, the hall port without problem, this damage should be caused by wrong wire connection of hall plug, some motor hall plug with different color sequence, and just plug it in directly, hall negative and positive wrong connect will damaged it soon when power on.



9.7 Reverse function not work

If your reverse function wire connected well and your display shown R gear but motor didn't reverse, pls. Check with your software parameters, sometimes there will be two port with reverse, pls. remove one to empty, then it will be work.

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PB3 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 18:sport_input	PD1 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 6:high_speed_sw	PA12 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 8:stealavoid	PC15 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 9:lamehome
PA0 <input type="checkbox"/> IO <input type="checkbox"/> SW <input checked="" type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 10:reverse_set	PB9 <input checked="" type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 11:single_wire_cc	PB4 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 12:side_sustain	PA15 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func
PB2 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 1:empty_func	PC14 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 10:reverse_set	PB5 <input type="checkbox"/> IO <input type="checkbox"/> SW <input type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 16:high_break	PD15(empty) <input type="checkbox"/> IO <input type="checkbox"/> SW <input checked="" type="checkbox"/> LA <input checked="" type="radio"/> F <input type="radio"/> U <input type="radio"/> D 41:high_break_pl

PORT: COM1 OPEN Connect success_count: 0

Status: research Param write error_count: 0

import prarm save prarm