ZLAC8015D SOFTWARE INSTRUCTION

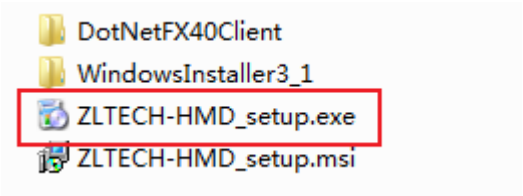
--POSITION MODE

Version	Detail	Date
V1.0	First Edition	2020-10-19

CONTENTS

1. INSTALL SOFTWARE

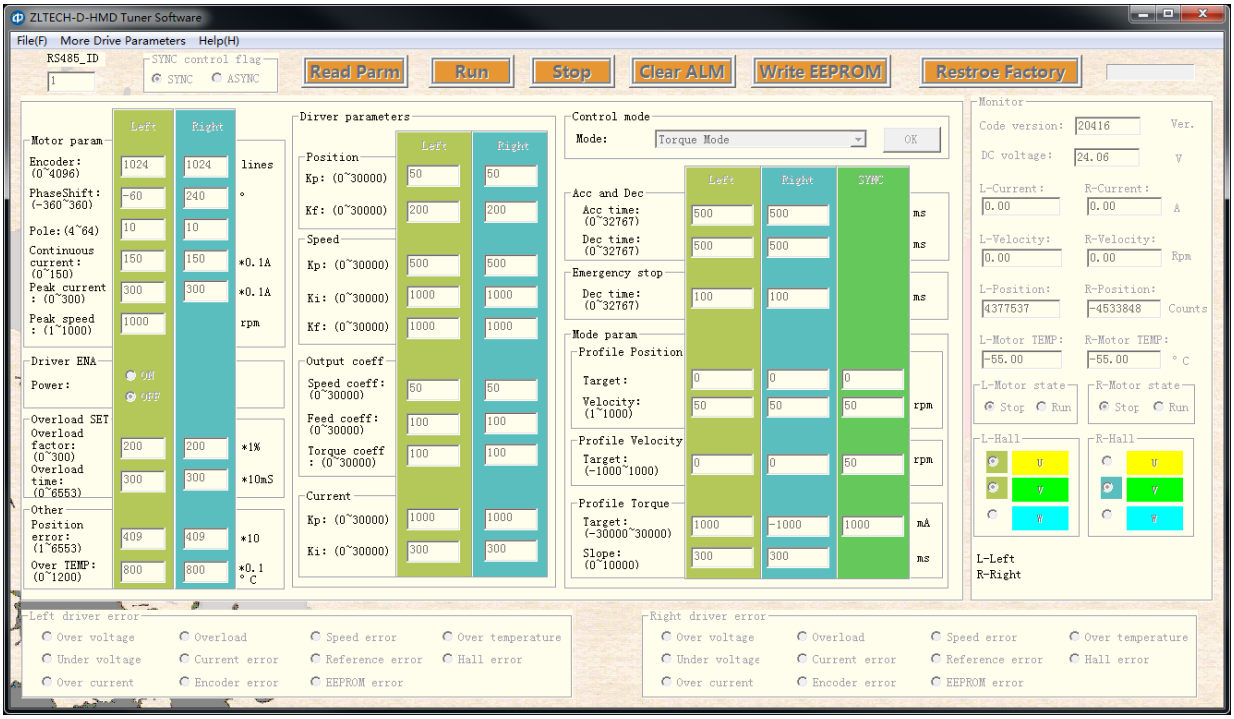
1. Prepare a computer with Windows system, copy the installation package to any folder.



2. Open the installation file in the red box above.

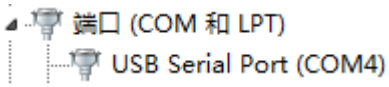
3. A shortcut of ZLTECH driver software is generated on the desktop finally.

4. Open the software, and the software interface appears as shown below.



2. OPEN SOFTWARE

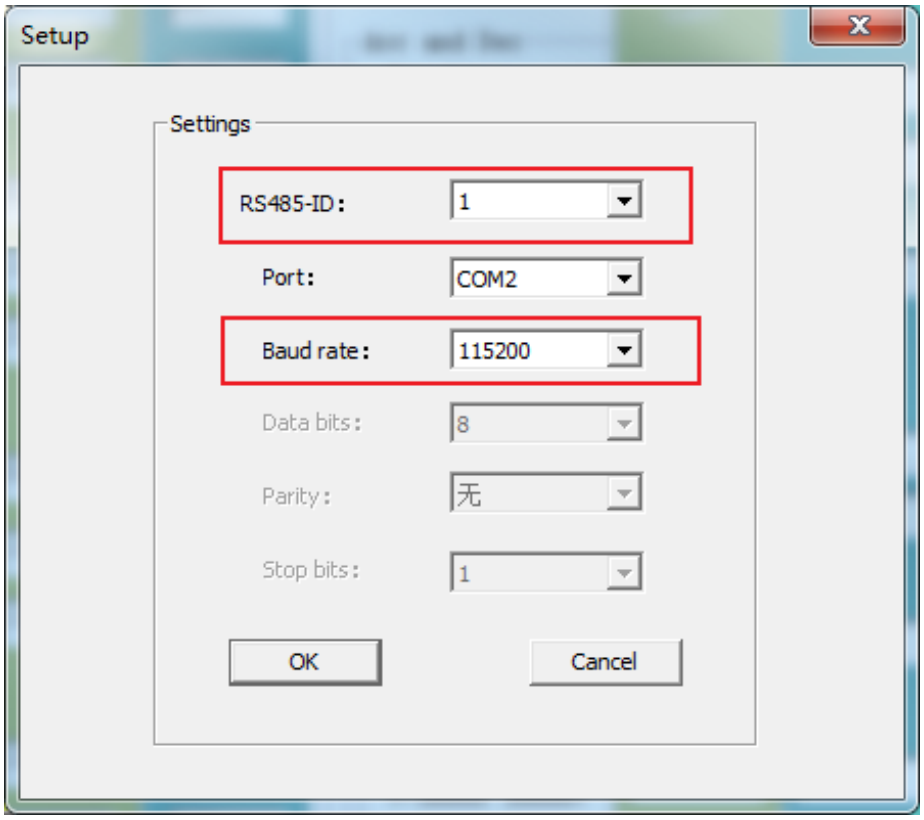
1. Use USB to convert RS485 port to connect the driver to the computer, and check if the COM port of computer's device manager identifies the corresponding serial device.



As shown in the above picture , the current COM4 is connected to a USB serial device.

Note: User needs to provide their own USB to RS485 adapter module

2. Open the software, click "File-Serial Port Configuration", after confirming that the configuration is correct, click "Apply Settings" to make the configuration take effect;

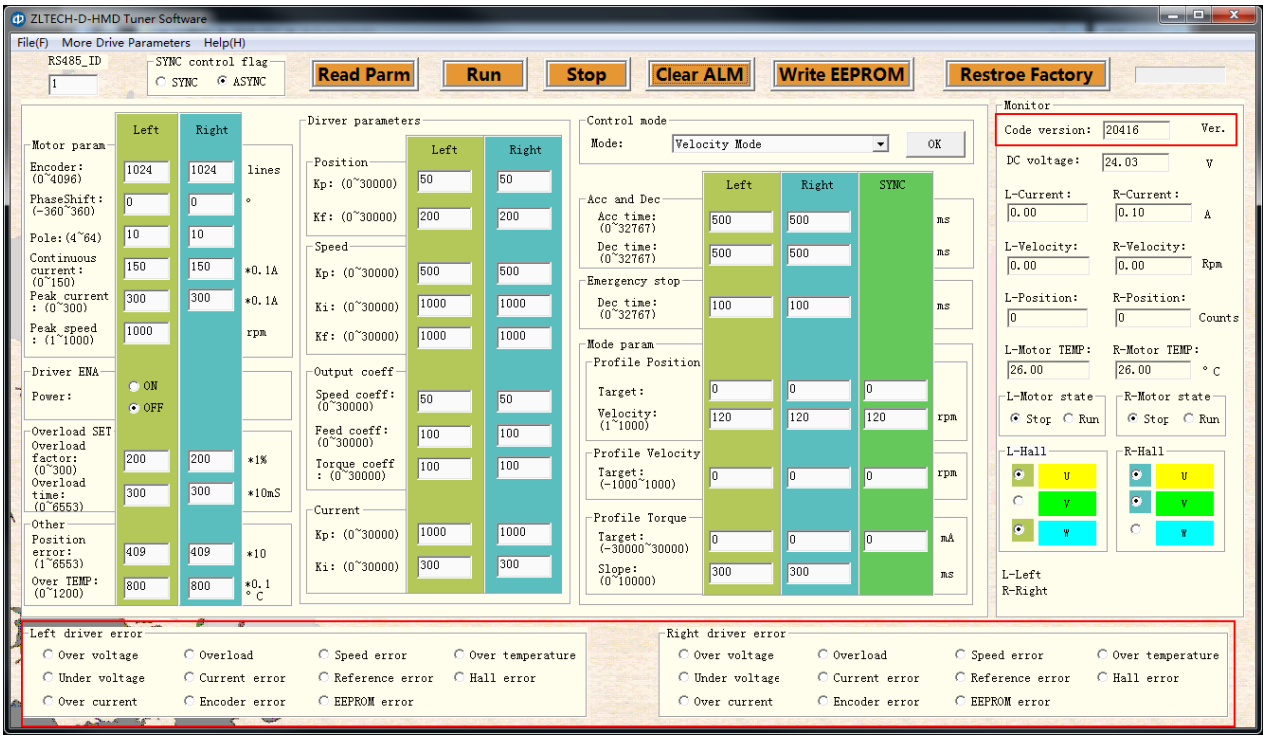


RS485 address: select the corresponding address according to the DIP switch (default is 1).

Serial port number: select the corresponding interface according to the COM port of the device manager.

Baud rate: default is 115200.

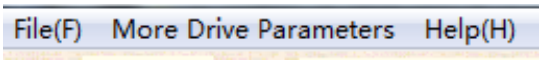
3. Open the serial port, click "File-Open Serial Port" to automatically read the driver parameters.



Note: Please note that Ver. is the latest version. if the version you use is not the latest version, please contact us in time to upgrade.

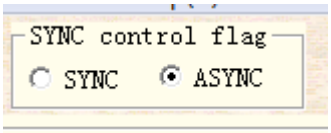
3.SOFTWARE INTERFACE FUNCTION DESCRIPTION

1. Menu bar description



File: configure the serial port, restore parameters from the hard disk to the software interface, or save the software interface parameters to the hard disk.
More Drive Parameters: configure IO port function, configure RS485 or CAN communication parameters, configure emergency stop mode, etc.
Help: View driver manuals, communication manuals, etc.

2. Control Flag

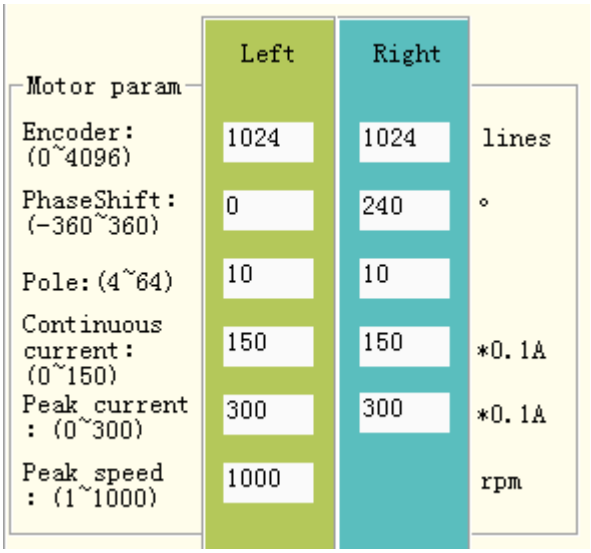


Through the control flag, you can choose to control the left motor and right motor synchronously or asynchronously.

3. Control bar

Read Parm: read the current parameters of the driver to the interface
Run: switch the control state of the driver to the enabled state (the motor cannot rotate freely in the enabled state) (the driver must work in any control mode of position/velocity/current).
Stop: switch drive control state to stop state.
Write EEPROM: write parameters on the software interface to EEPROM.
Restore Factory: restore the driver parameters to the default values and write them into EEPROM.

4. Motor Parameters

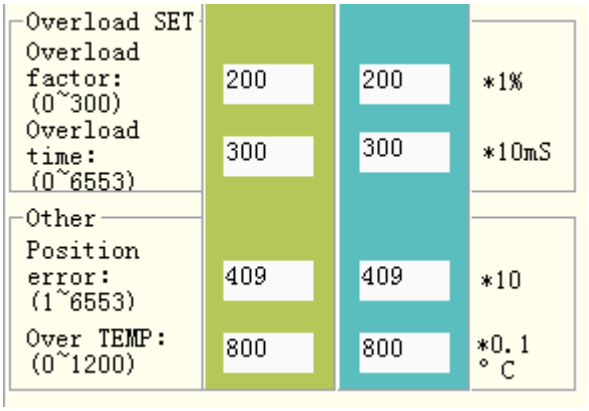


Note: Please fill in the above parameters under the guidance of the manufacturer, please do not modify them at will!

5. Power on and Enable

Select whether the initial control state of the driver after power-on is enable state or shutdown state.

6. Failure configuration



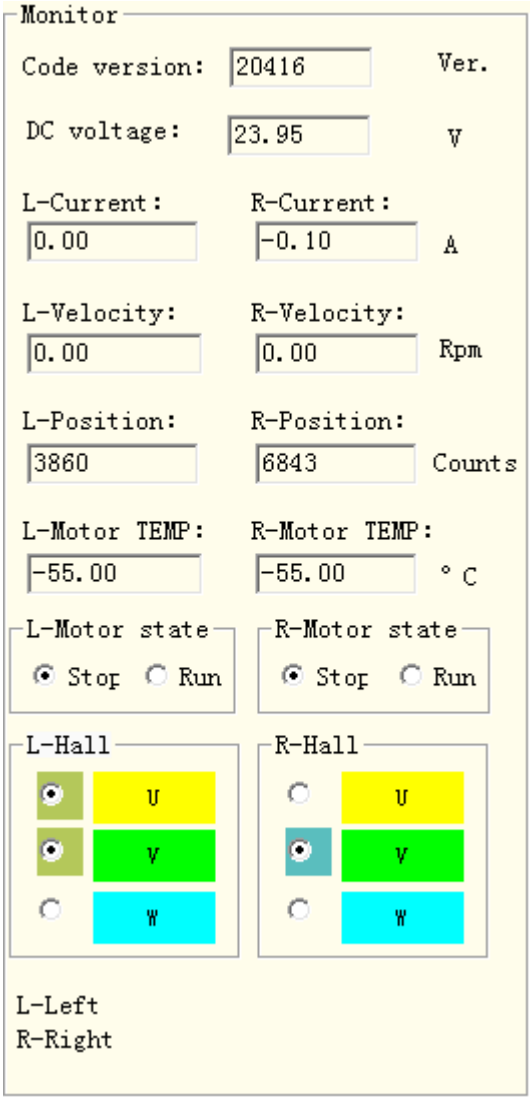
Overload factor: this factor * rated current is the threshold value of overload fault judgment.

Overload time: the time that the output current of the driver is allowed to reach the overload current, and the overload fault will be triggered after exceeding it.

Position error: the maximum allowable difference between the feedback position and the target position, and the position error will be triggered after exceeding it (position error is only valid in position mode);

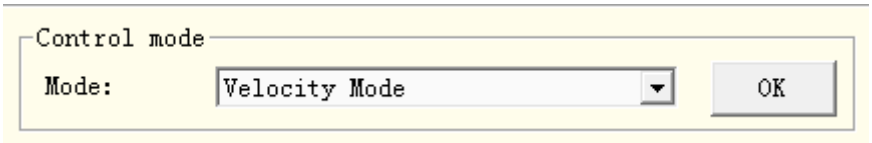
Over TEMP: the upper limit of the allowable motor temperature, if exceeded it, over TEMP error will be triggered.

7. Driver PID Parameters



Note: About the adjustment method, please refer to 5. PID adjustment (P9).

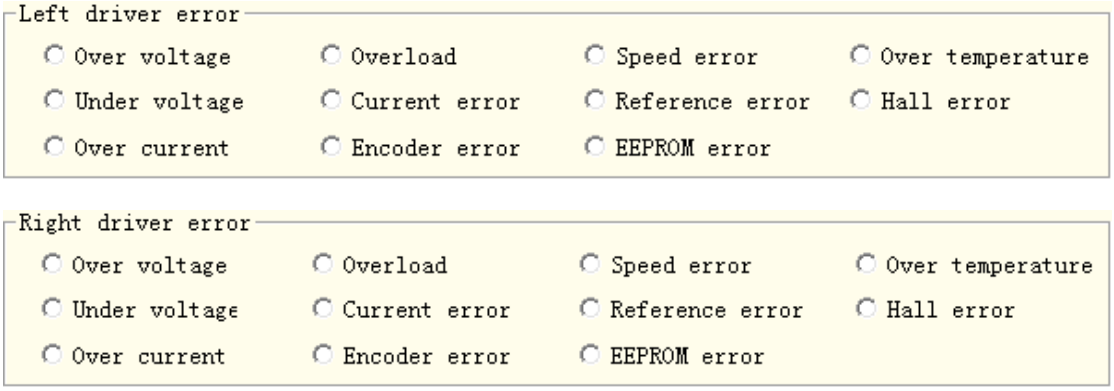
8. Control Modes



The driver supports 3 control methods: Position Mode (relative/absolute)/Velocity Mode/Current Mode. The default control mode is Velocity Mode.

Note: In absolute position mode, the absolute position origin point needs to be set. For details, please refer to address 0x2006.

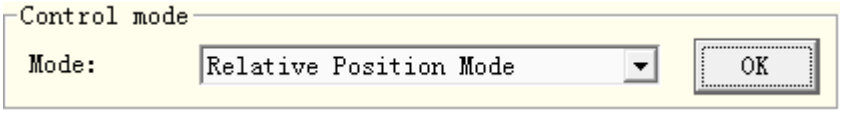
9. Monitor Panel



Note: Please refer to Appendix A (P13) for detailed fault description.

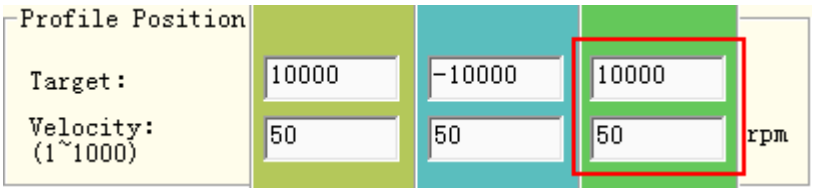
4. CONTROL INSTRUCTION IN POSITION MODE

1. Configure the relative position mode, click "OK" to make the configuration effective.



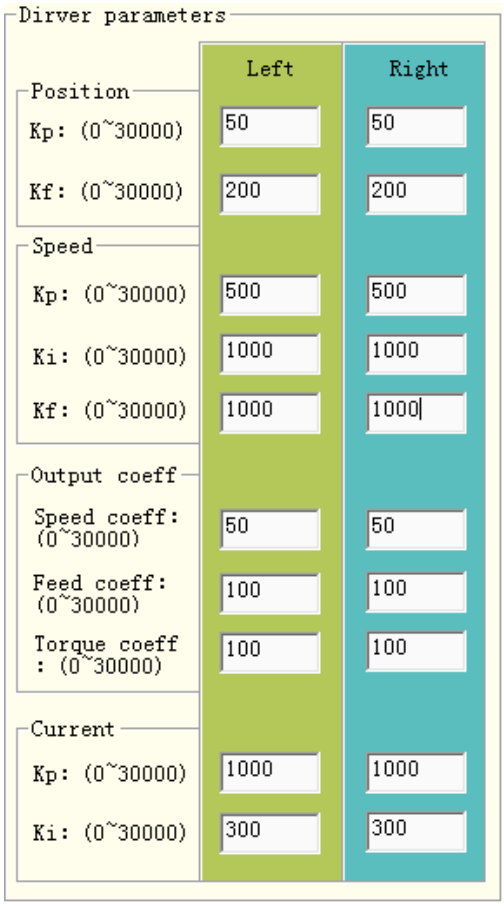
2. Click "Start" to enable the driver.

3. Fill in the target position and velocity, press the space key to make the filled value valid, and the motor run.



Note: The target position value of right driver will be inverted automatically by software.

5. PID REGULATION



Speed Loop:

Kp/Ki: velocity loop gain, the larger the value, the faster the speed response of the velocity mode operation, the greater the torque output. Excessive large value may cause motor jitter.
Kf: default value.
Output coefficient:
Speed coefficient: the smaller the value, the smoother the speed, that is, the slower the response.
Feed coefficient: default value.
Torque coefficient: default value.

Position Loop:

Kp: When the motor is running in position mode, the larger the value of PID gain, the faster the position response.
Kf: The proportional coefficient of the speed response when the motor is running in position mode. The larger the value, the faster the speed response of the position mode.

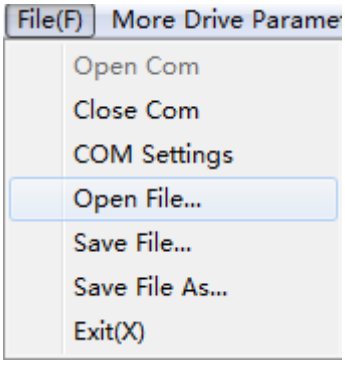
Current Loop:

Kp/Ki: Current loop gain, the larger the value, the faster the current response and the larger the torque output. Excessive large value may cause motor jitter and increase noise.

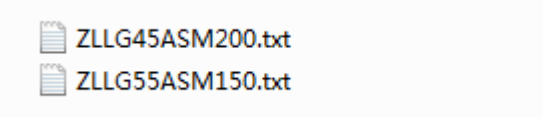
Note: The above parameters will take effect immediately, but they will be lost after power-off, so they need to be confirmed to write to EEPROM to save.

6. WRITE PARAMETERS/SAVE PARAMETERS

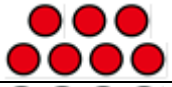
1. Click "File"-"Open File" to import the parameters of the local storage parameters (*.txt format) into the current software interface, click "Write to EEPROM" to write the parameters to the driver and save them.



2. Click "File"-"Save As" to save the current parameters of the software interface to the computer. Click "Save" to overwrite the current parameters to the local document. Save the parameter file format as *.txt text format.



APPENDIX A. FAULT DESCRIPTION

Status	Situation	Status indicator LED description	
Over-Voltage	The power supply voltage exceeds the maximum rated voltage.	1 Red	
Under-Voltage	The power supply voltage is lower than the minimum working voltage.	2 Red	
Over-Current	Phase current through the motor exceeds short-circuit between phases	3 Red	
Over-Load	The phase current through the motor exceeds the set overload current	4 Red	
Current out-of-tolerance	Control current and output current are out of tolerance	5 Red	
Position out-of-tolerance	The given position is out of tolerance with the output position	6 Red	
Speed out-of-tolerance	The given speed and output speed are out of tolerance	7 Red	
Internal reference error	Internal fault of the driver	8 Red	
Parameter reading error	EEPROM parameters read error	9 Red	
HALL fault	The HALL cable is not plugged in or the signal is incorrect	10 Red	
High motor temperature	Motor temperature is too high	11 Red