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Chapter 1

HCX-Setup Introduction

This chapter gives a brief description of HCX-Setup.

1.1 Main Functions of HCX-Setup

1.2 Checking for Updates

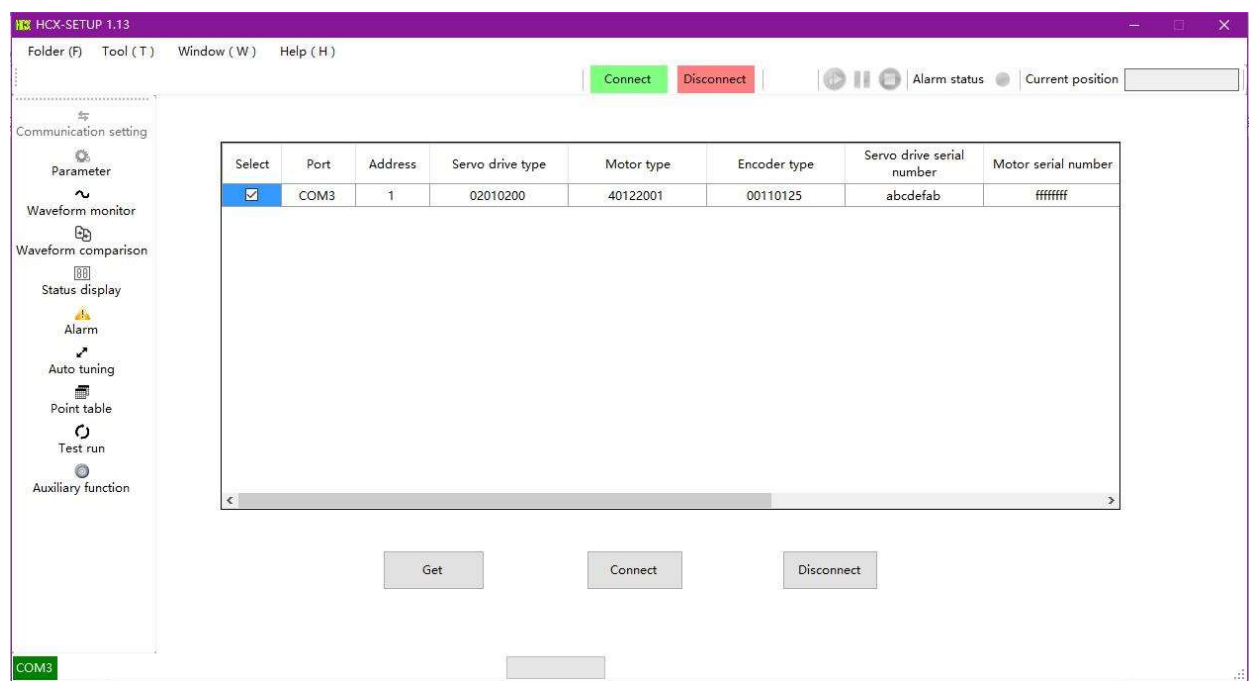
1.3 Checking HCX-Setup Version

1.1 Main Functions of HCX-Setup

HCX – Setup is a debugging software for HCFA SV-X3, SV-X5, SV-S6 series servo drive. The main functions include Read/Write parameters to servo drive, Waveform monitoring, Waveform comparison, Servo status display, obtaining servo drive Alarm message, executing Point Table operation, Fine tuning, Forced Servo ON/OFF, Home position operation, Test run, reading/clearing encoder information, setting I/O signal.

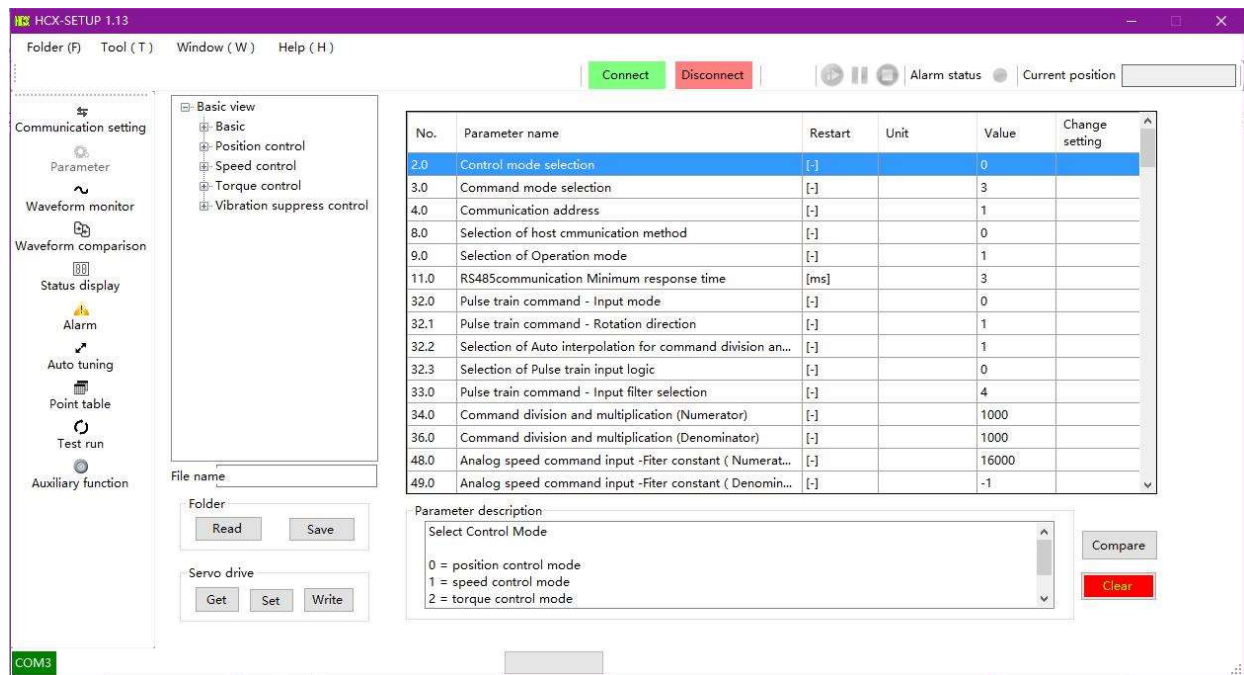
HCX - Setup main screen

The following is the main screen for HCX-Setup.



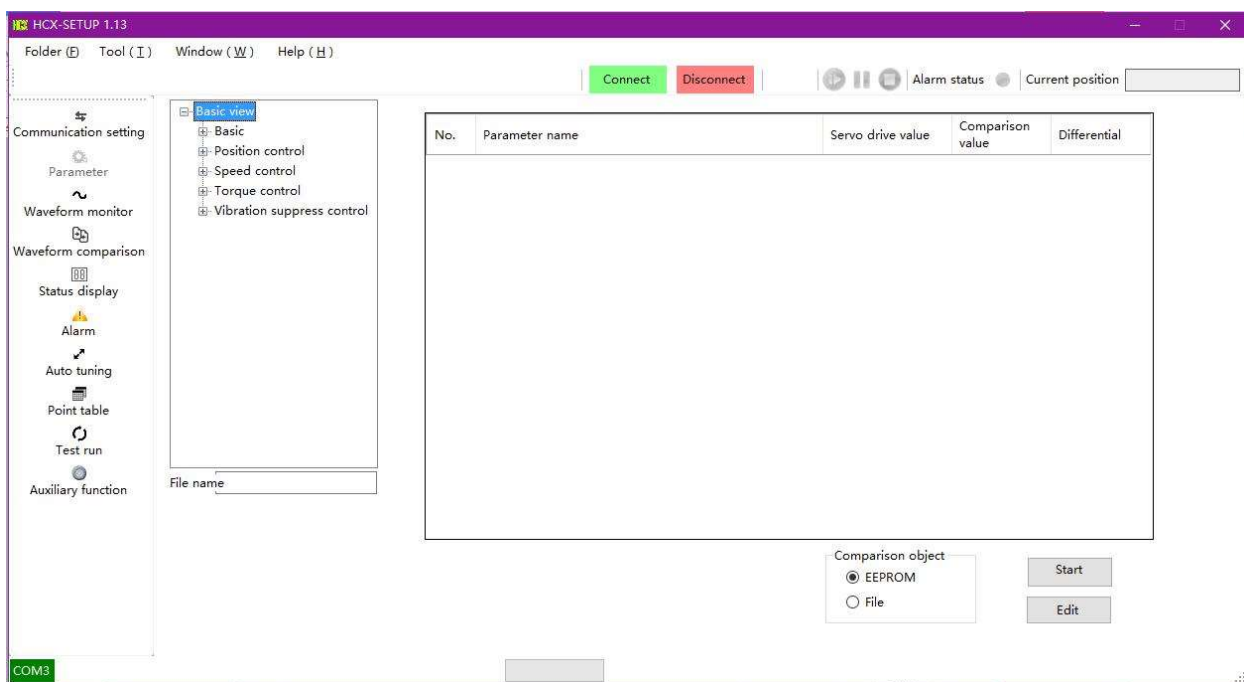
Read, write and set parameters

This section describes how to read, set and write parameters from/to the servo drive.



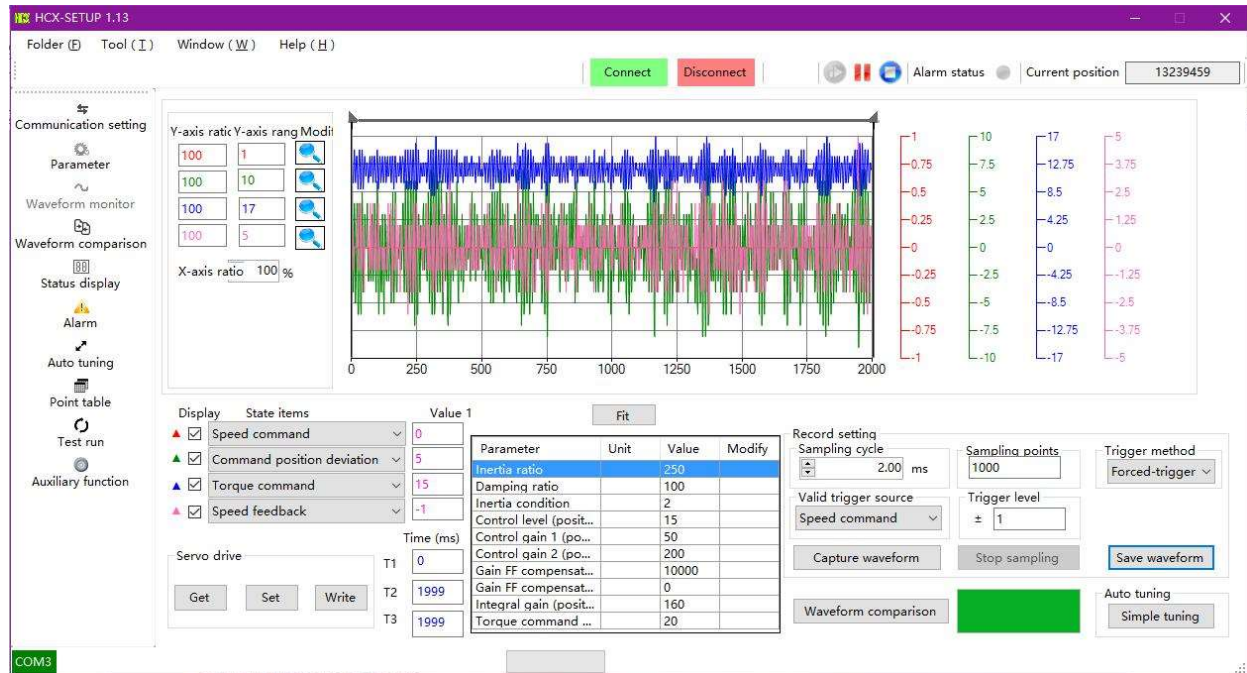
Parameters comparison

Compare the current parameters to the parameters stored in the local(or in the EEPROM).



Waveform monitoring

Read the state of the servo drive and convert it into waveform(or read the local waveform).



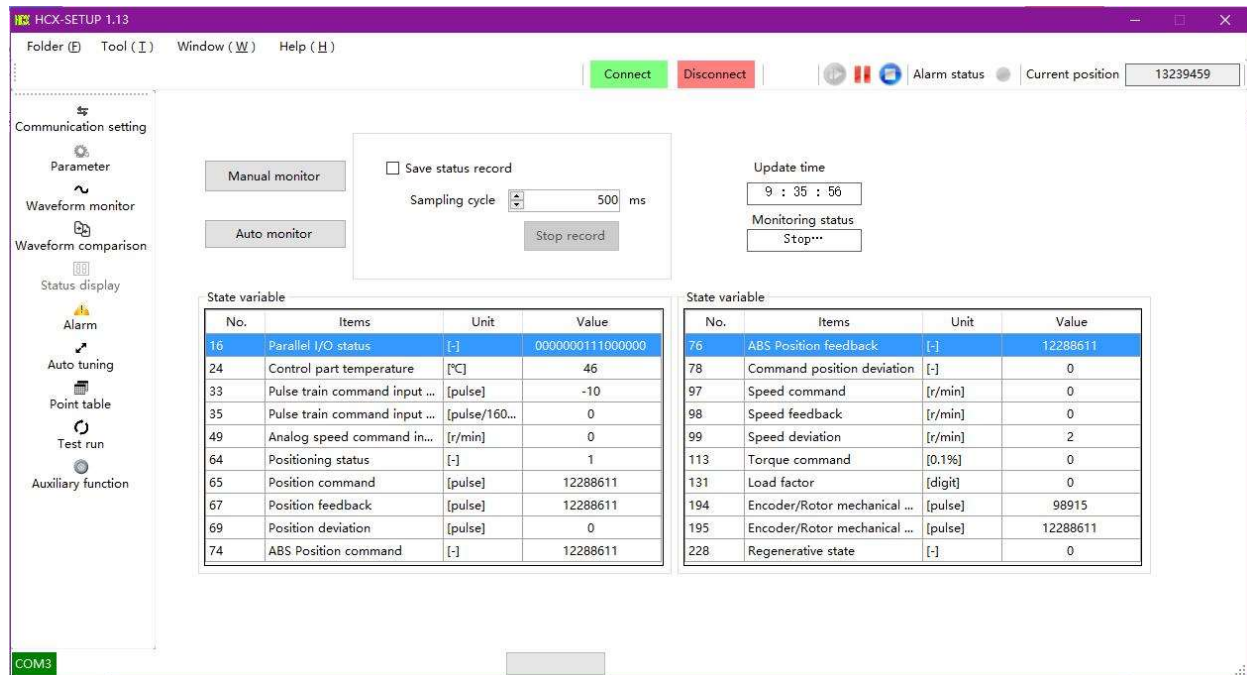
Waveform comparison

Compare the current waveform to the waveform data stored in the local.



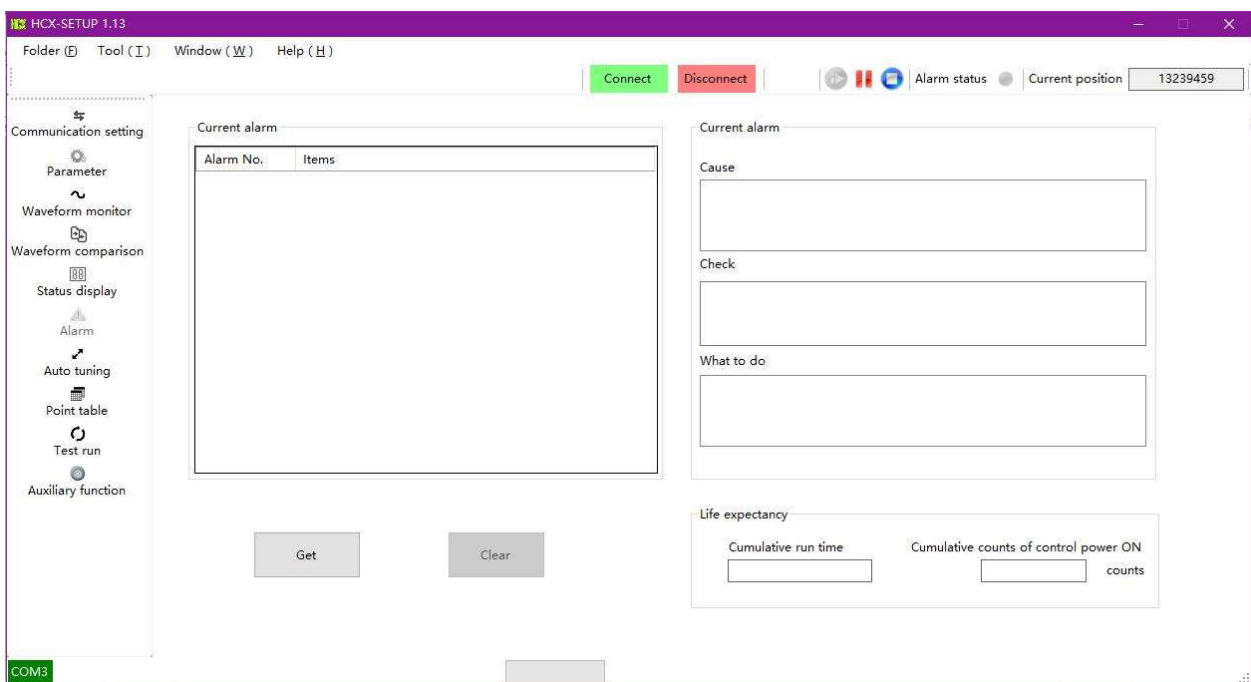
State variable display

Read the state variable from the servo drive and show them in the program screen.



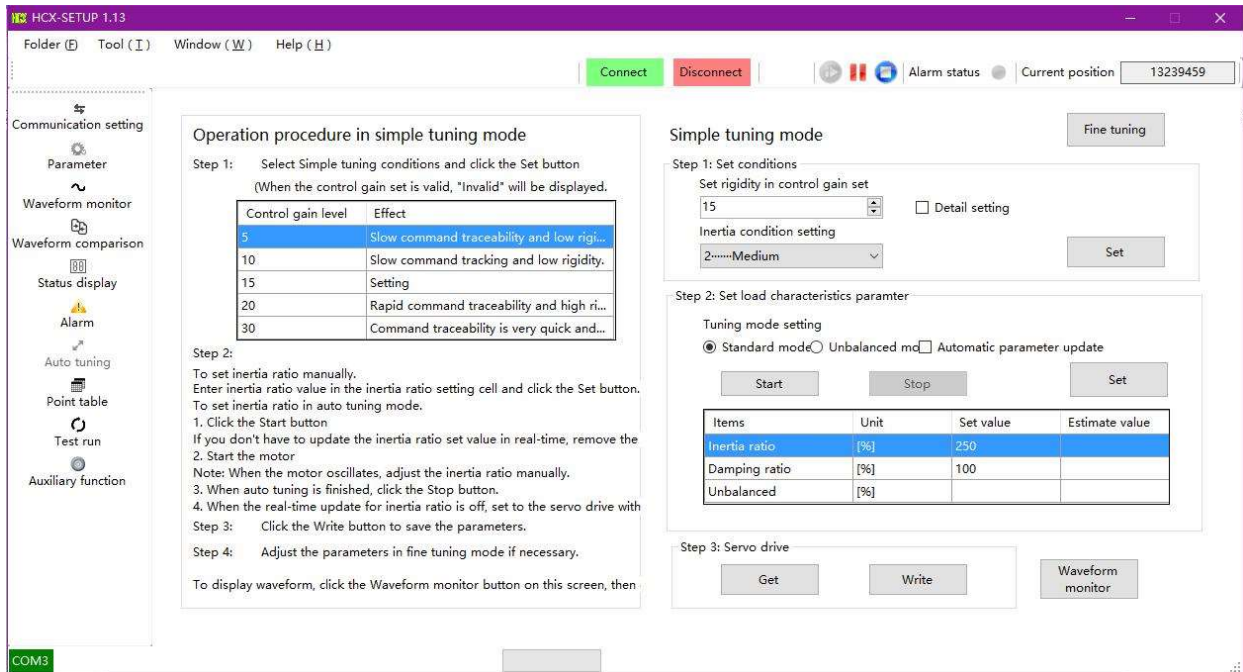
Obtain alarm message

Obtain the alarm message from servo drive and show the alarm code, cause and what to do.



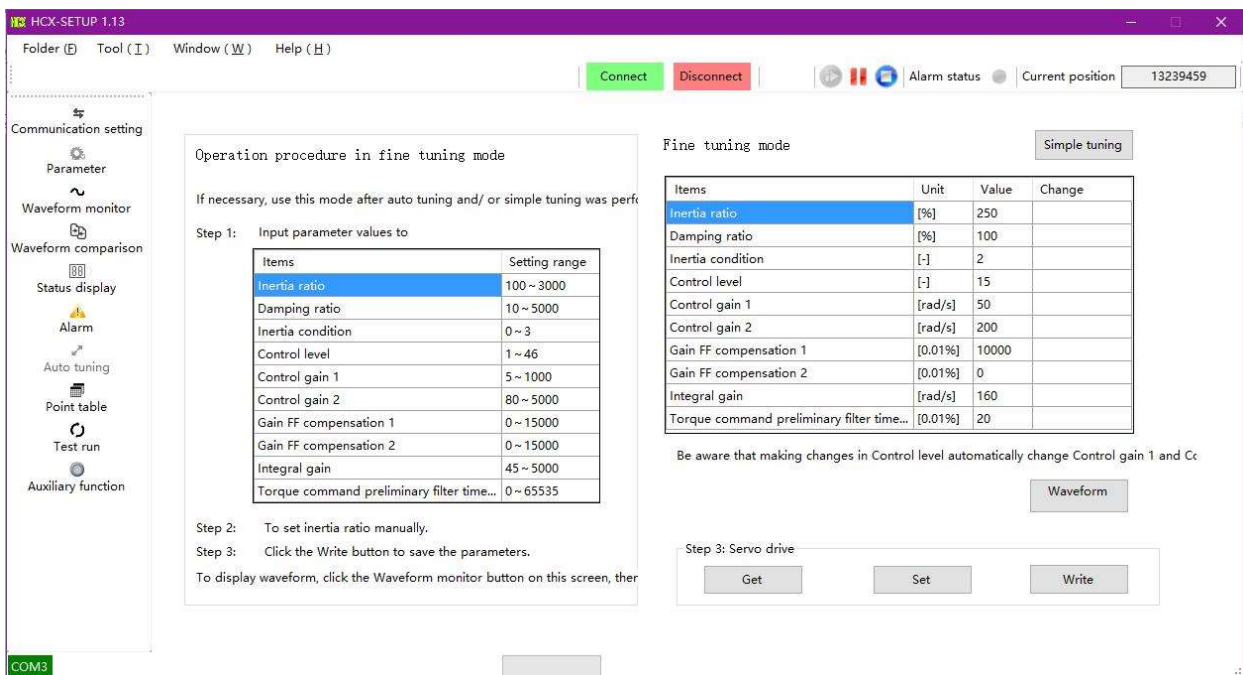
Auto tuning

Set the Control gain and load characteristics parameters.



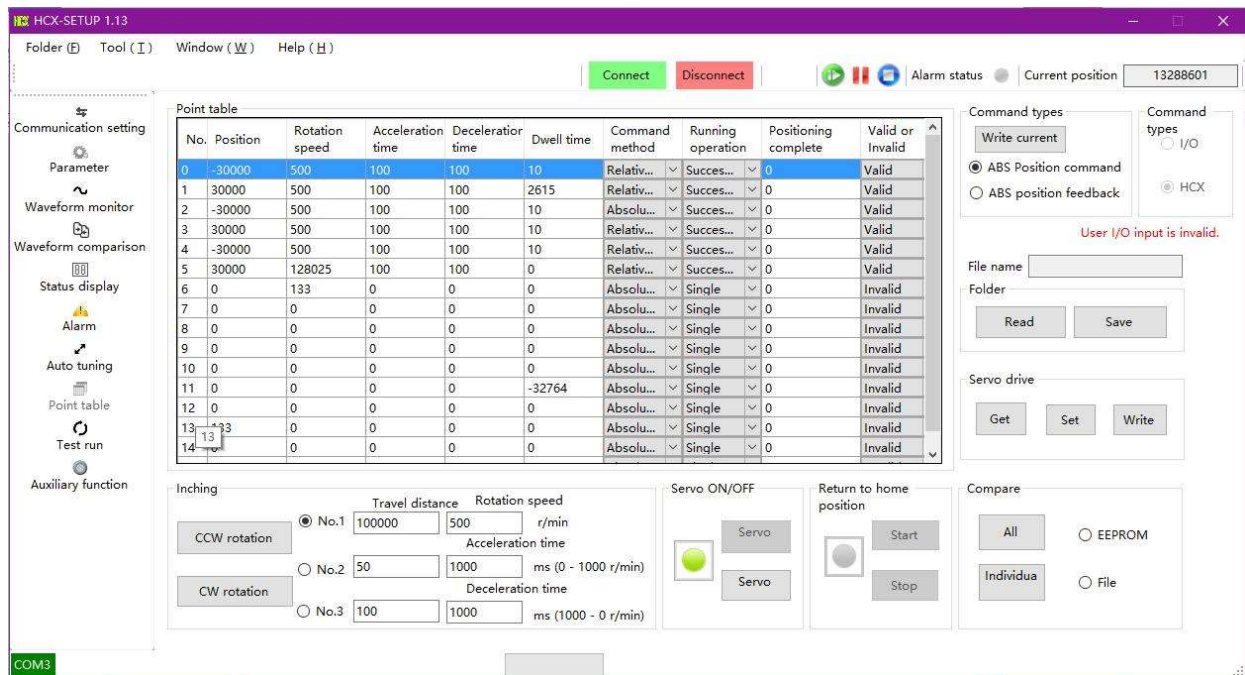
Fine tuning

Set the parameters of inertia ratio, damping ratio, inertia condition, control level, integral gain for the servo drive.



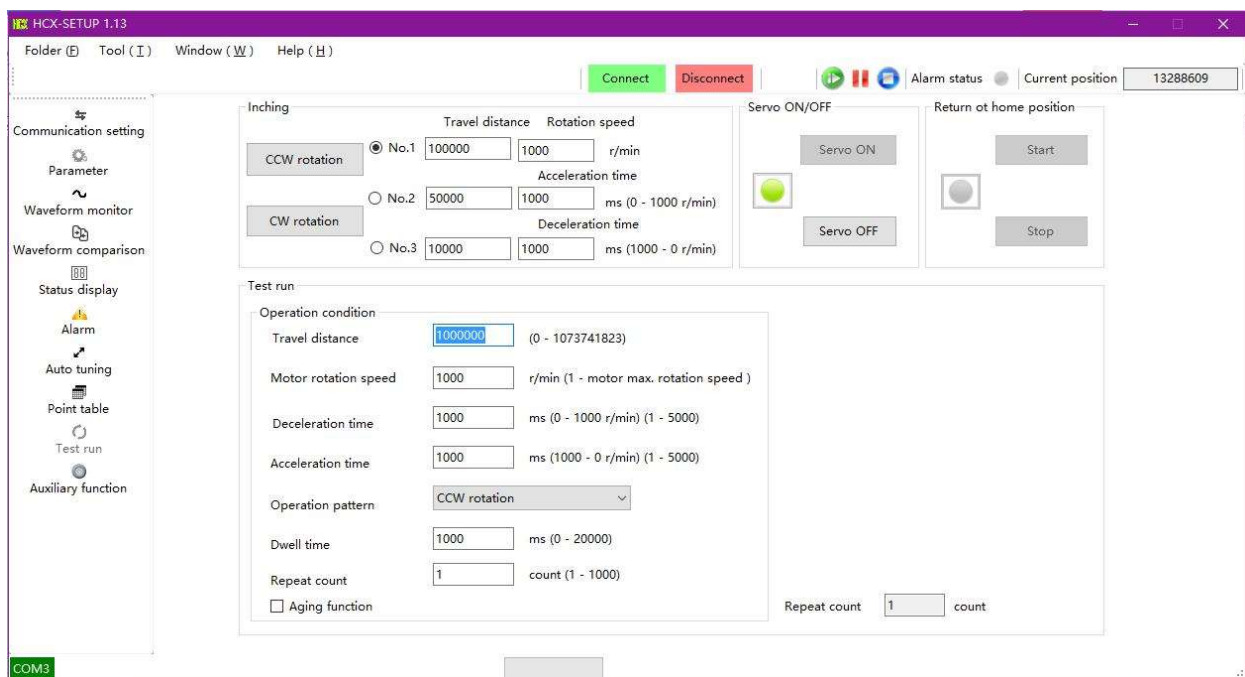
Point table operation

Set the Point table parameters and perform Point table operation.



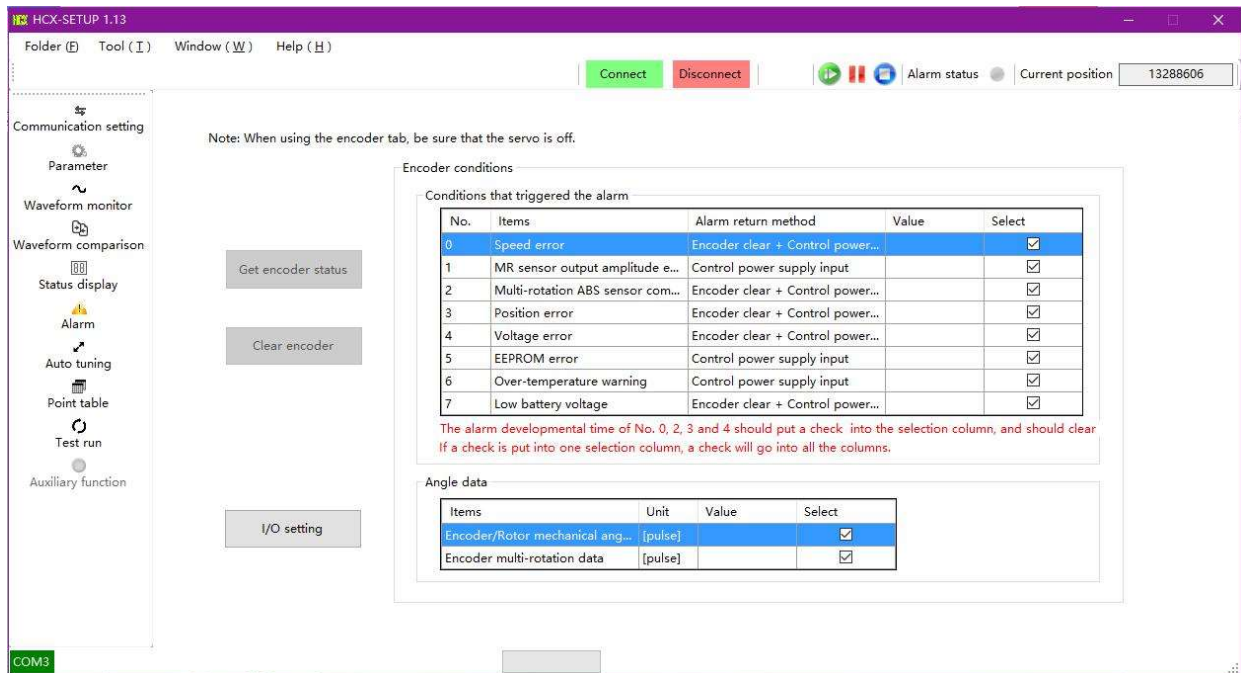
Inching, test run, servo ON/OFF, home position return

Perform the inching, test run, servo ON/OFF and home position return operation.



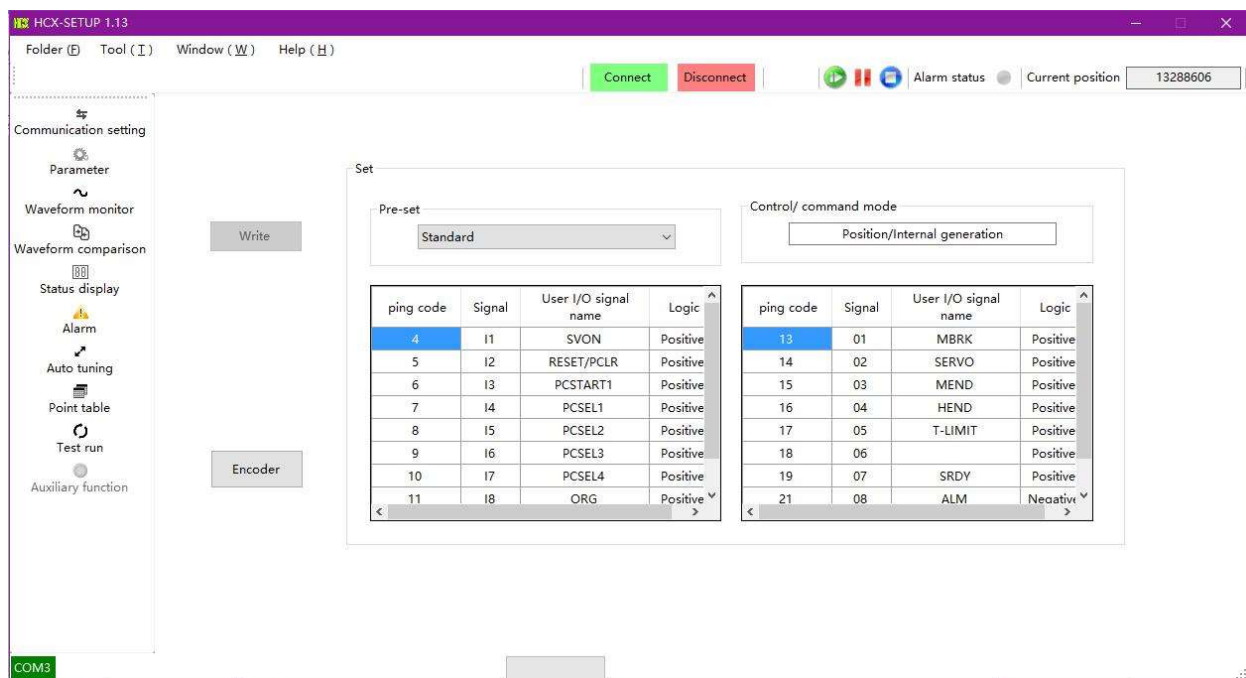
Obtain/ clear encoder

Obtain encoder status and clear encoder.



User I/O setting

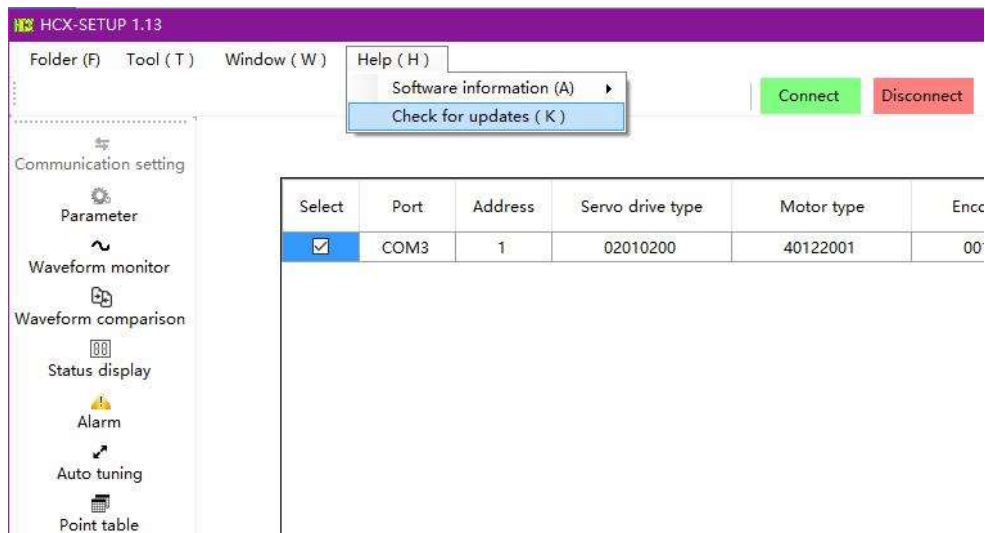
Set the parameters of inertia ratio, damping ratio, inertia condition, control level, integral gain for servo drive.



1.2 Checking for Updates

Operation procedures

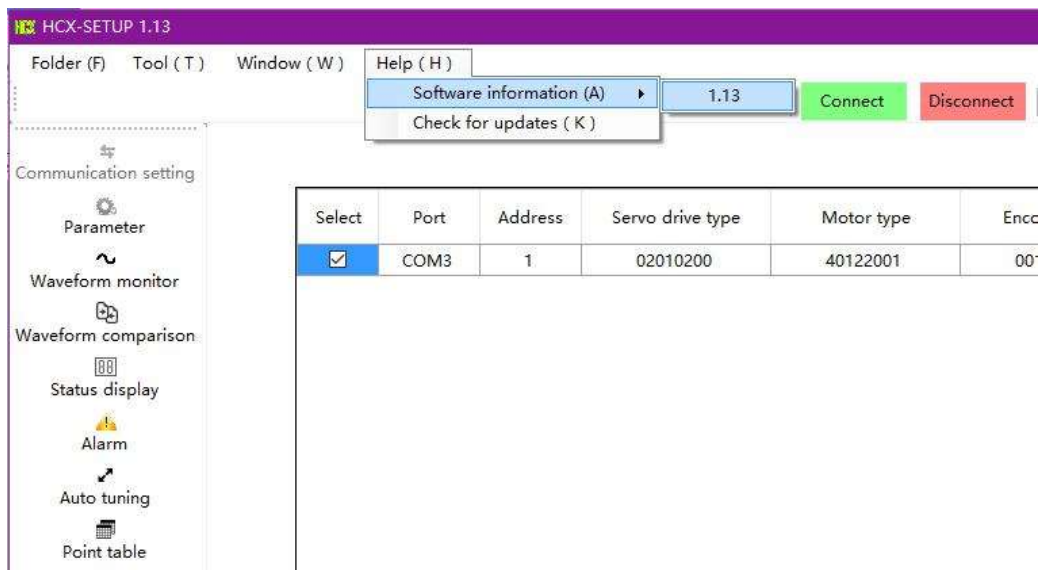
Select [Help] ⇒ [Check for updates]



1.3 Checking HCX-Setup Version

Operation procedures

Select [Help] ⇒ [Software information]



Chapter 2

Screen Configuration and Basic Operation

This chapter gives a brief introduction of HCX-Setup screen.

2.1	Start and Exit of HCX-Setup
-----	-----------------------------

2.2	Language Switch
-----	-----------------

2.3	Screen Configuration
-----	----------------------

2.1 Start and Exit of HCX-Setup

This chapter gives the operation method of HCX – Setup starting and exiting.

Start

Operation procedures

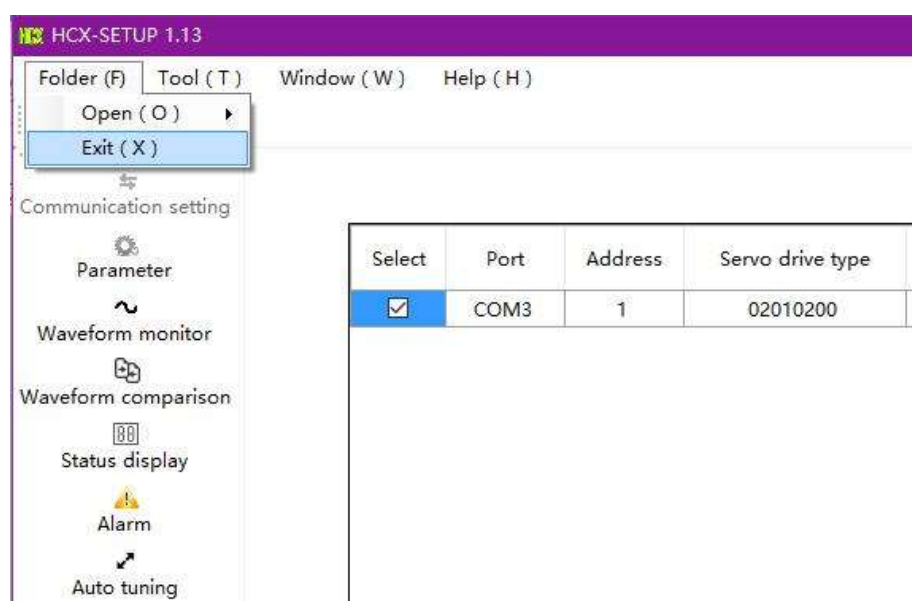
Start Menu in Windows ⇒ [All program] ⇒ [HCX Setup] ⇒ [HCX-Setup]



Exit

Operation procedures

Select [Folder] ⇒ [Exit]



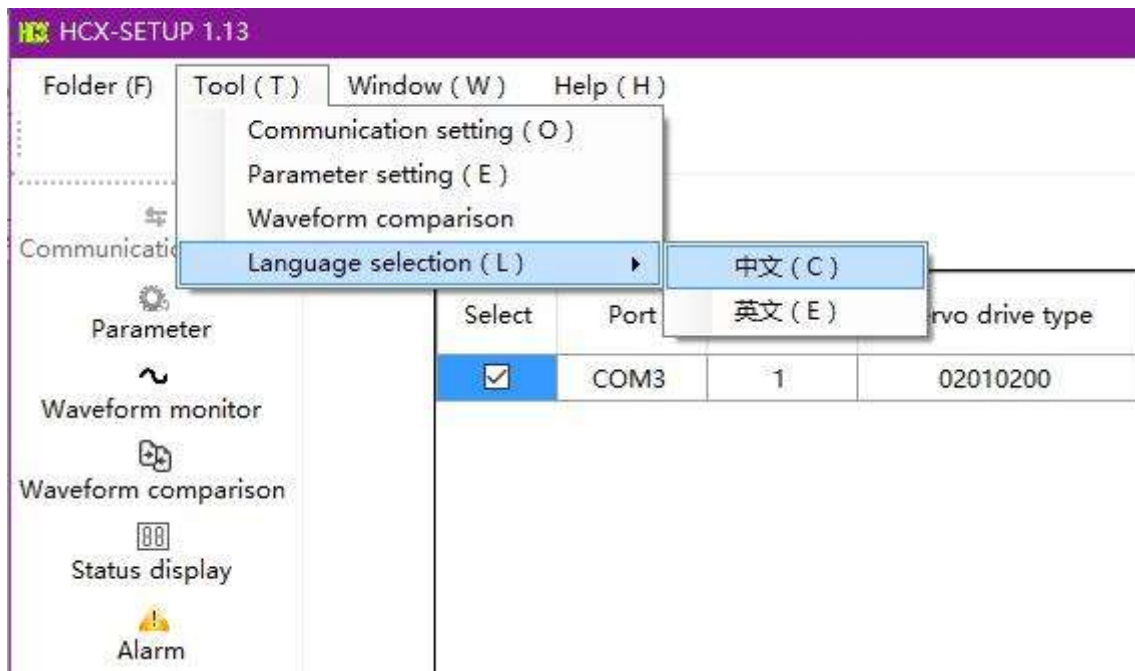
2.2 Language Switch

HCX – Setup supports the multi-language display.

Screen display

Operation procedures

Tool ⇒ [Language selection] ⇒ [Select the language]



2.3 Screen Configuration

This section gives the explanation of screen after starting HCX-Setup.

Screen display



Chapter 3

Communication Setting

This chapters mainly describes the communication connection between HCX–Setup and servo drive.

3.1 Getting Communication Port Address of Servo Drive

3.2 Connecting to Servo Drive

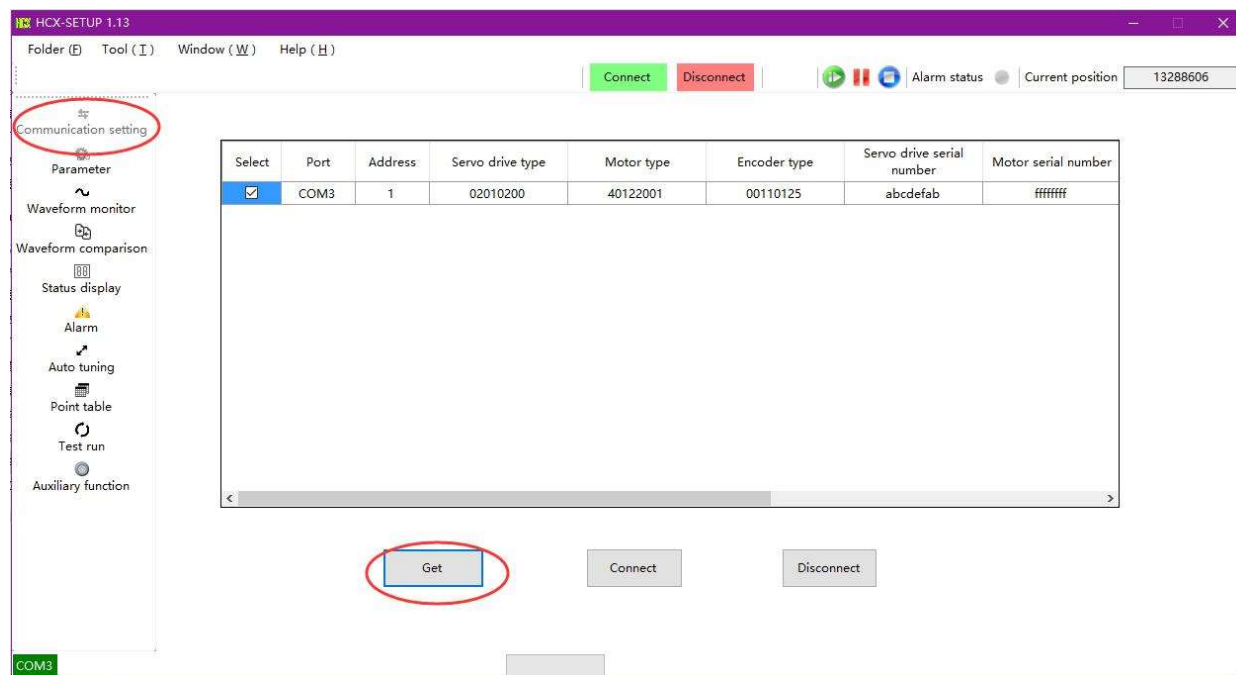
3.3 Disconnecting Servo Drive

3.1 Getting Communication Port Address of Servo Drive

Obtain the servo drive's version and other information

Operation procedures

After select "Communication Setting", click "Get" to obtain the information of servo drive and motor.



【Description】

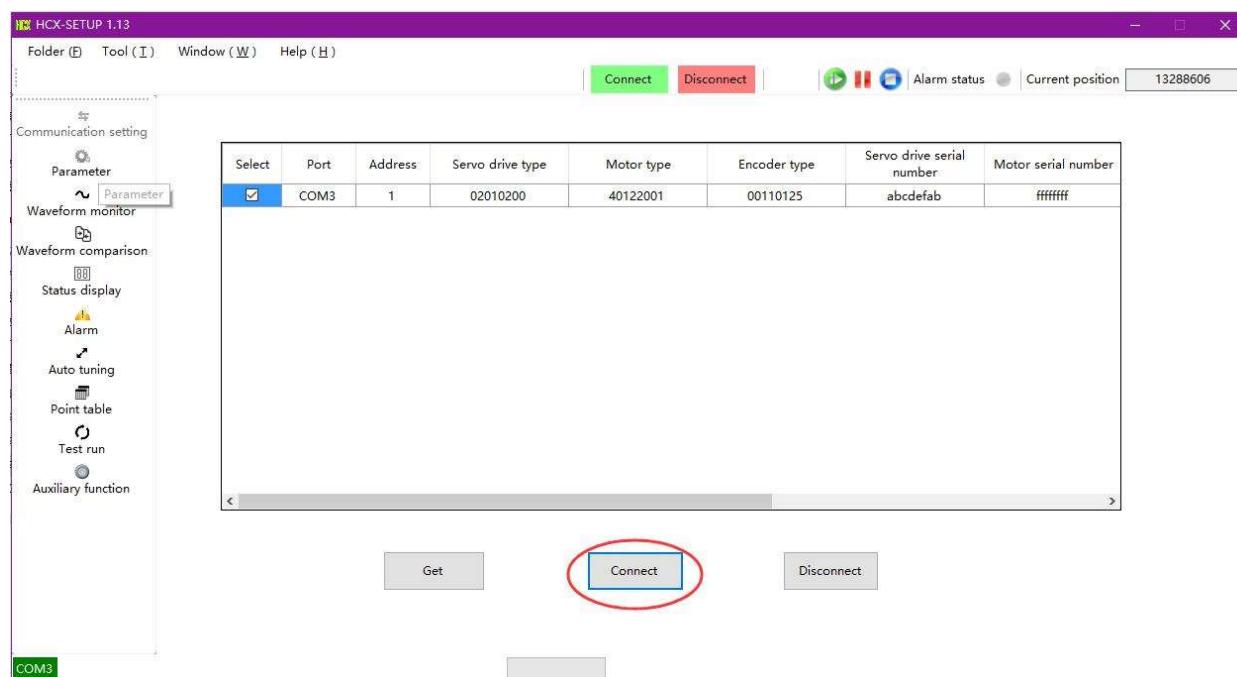
Port :	Display the port No. of current servo drive after communication succeeds.
Address :	Display the communication address of current servo drive after communication succeeds.
Servo drive type :	Display the type of current servo drive after communication succeeds.
Motor type :	Display the motor type connecting to servo drive after communication succeeds.
Encoder type :	Display the motor encoder type connecting to the servo drive after communication succeeds.
Servo drive serial number :	Display the serial number of servo drive after communication succeeds.
Motor serial number :	Display the serial number of motor connecting to the servo drive after communication succeeds.
Encoder serial number :	Display the motor encoder serial number connecting to the servo drive after communication succeeds.
Version :	Display the version of the current servo drive after communication succeeds.
Extension information :	Display the extension information of the current servo drive after communication succeeds.
Servo drive build :	Display the manufacturing date of the current servo drive after communication succeeds.

3.2 Connecting to Servo Drive

Connecting to Servo Drive

Operation procedures

After select "Communication setting", click "Connect" to connect to the servo drive.



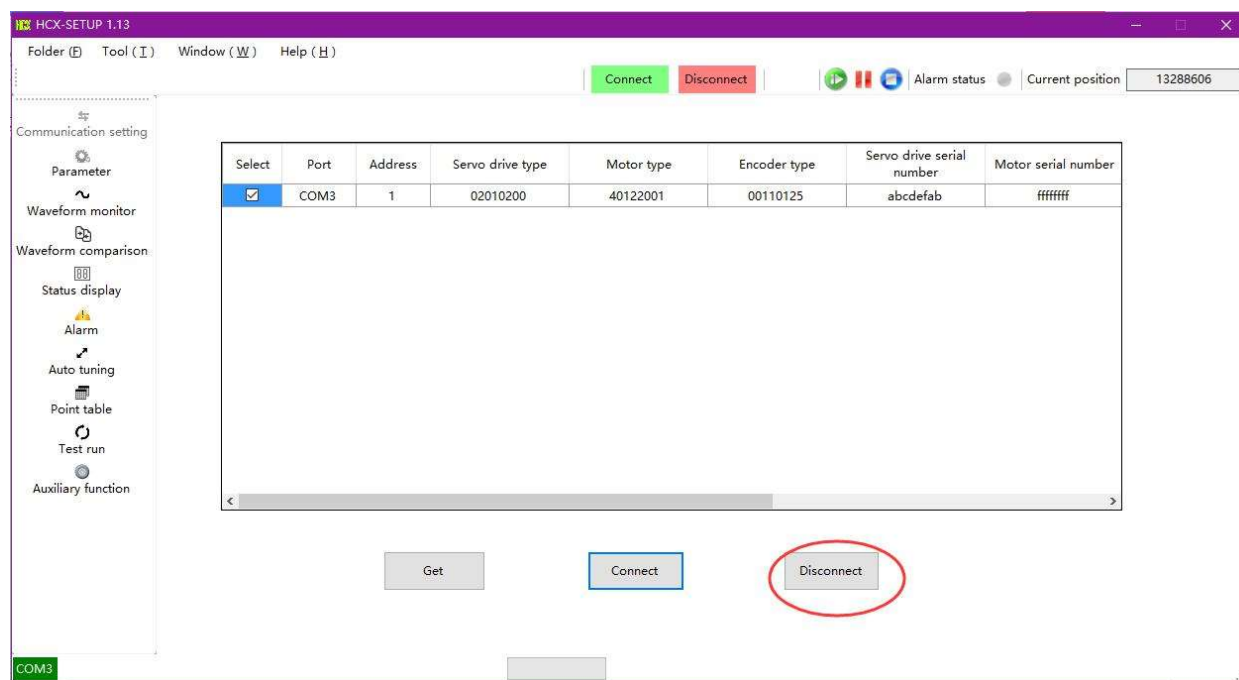
You can have the on-line operation such as reading, setting and writing parameters into servo drive after the servo drive is connected successfully.

3.3 Disconnecting Servo Drive

Disconnecting Servo Drive

Operation procedures

Select "Communication setting " and click "Disconnect" to cut off the connection to the servo drive.



Parameters reading, setting and writing to the servo drive cannot be done after disconnect the servo drive.

Chapter 4

Parameters Reading and Writing

This chapter mainly gives the description of parameter reading , setting and writing.

4.1 Getting Parameters from Servo Drive

4.2 Changing and Setting Parameters in Servo Drive

4.3 Writing Parameters into the Servo Drive

4.4 Saving Parameters

4.5 Reading Parameters

4.6 Parameters Comparison

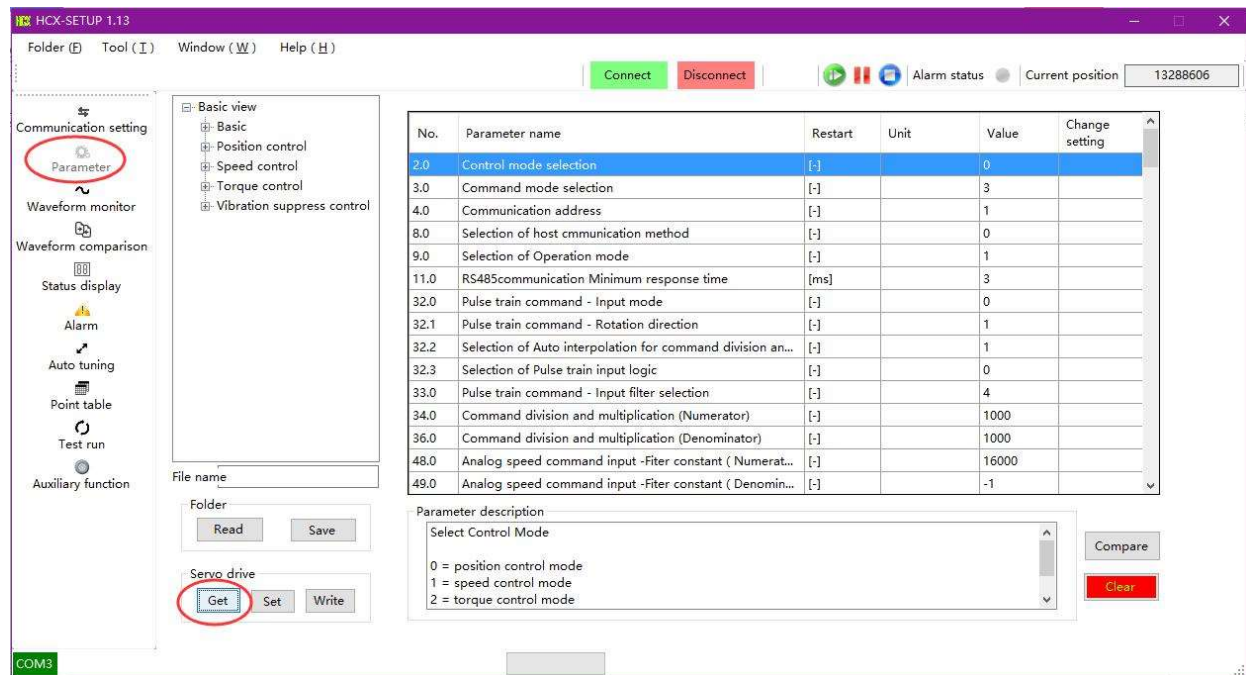
4.7 Clearing Parameters

4.1 Getting Parameters from Servo Drive

Get the parameters from the servo drive

Operation procedures

Select “Parameters” and click “Get” in “Servo Drive” to get the parameters in servo drive.



【Description】

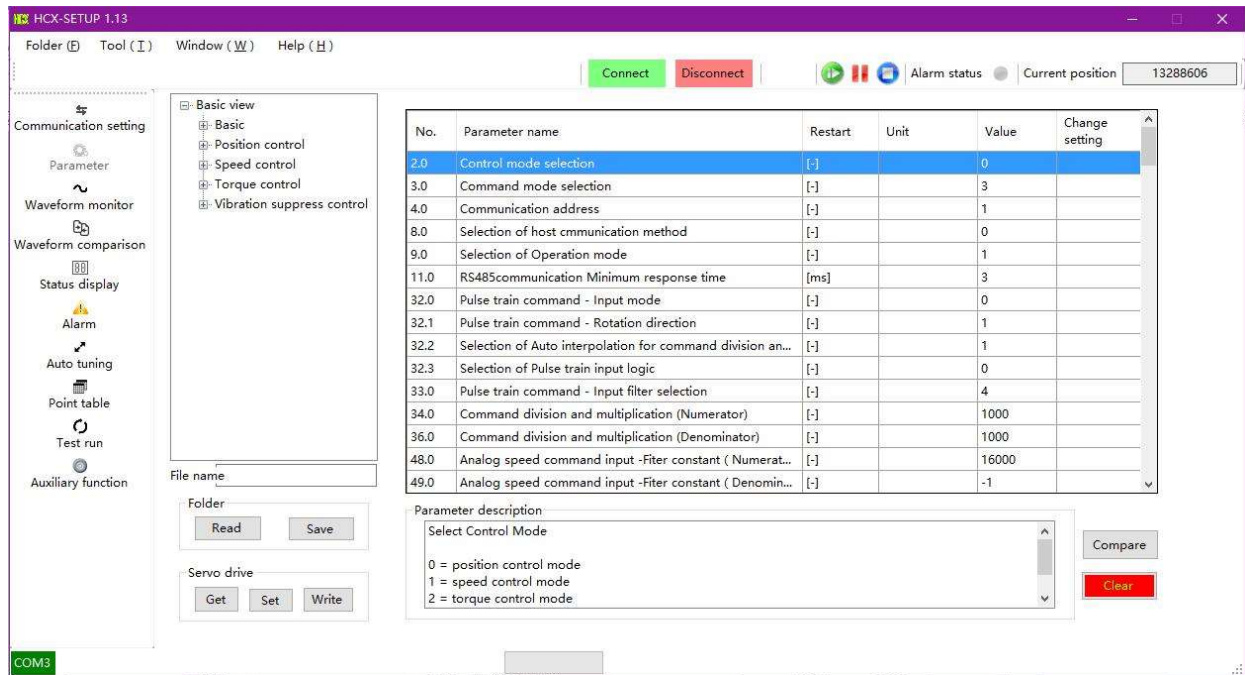
- Basic view : Display the parameter classification of the servo drive.
- No. : Parameter number.
- Parameter name : Display the parameter name in accordance with the parameter No..
- Restart : Whether to restart the servo drive after changing the parameter (to make the modified parameter value valid). 0: NO 1: YES
- Unit : Select the unit for parameter value.
- Value : Select the digital value for the parameters.
- Change setting : Make a mark if the current value is modified or not.
- Parameter description : Select the function description and setting range for parameters.

4.2 Changing and Setting Parameters in Servo Drive

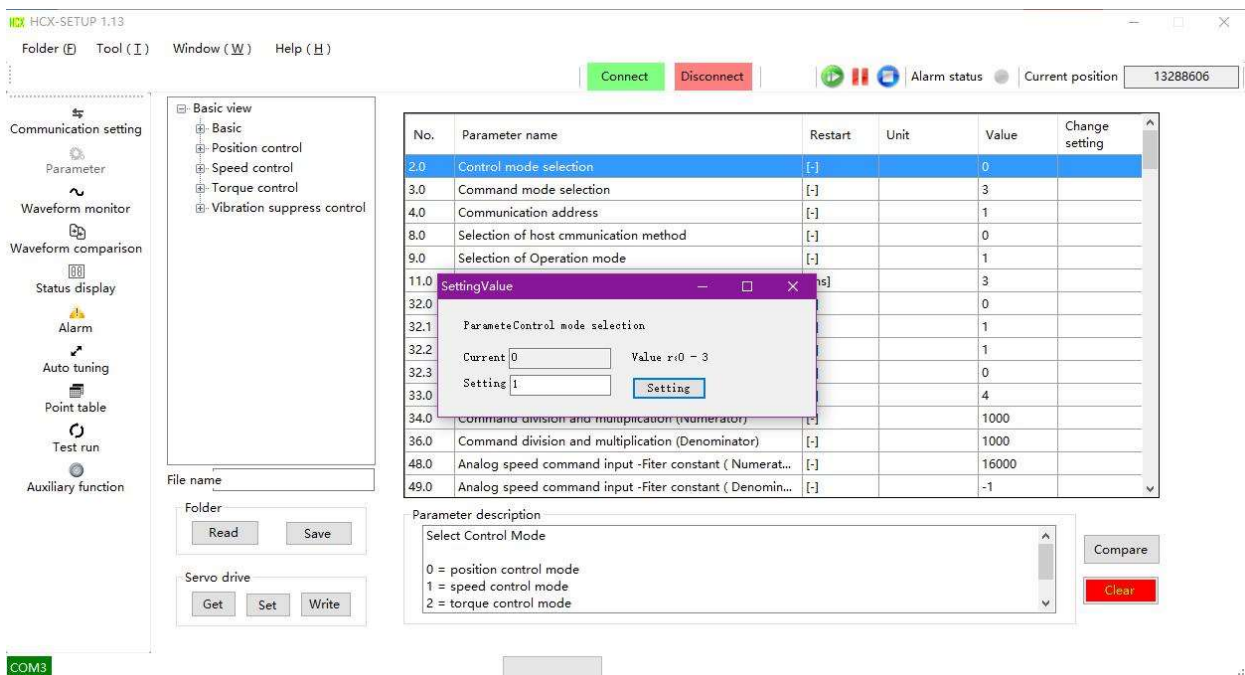
Change parameters in servo drive

Operation procedures

1. Select "Parameter" and click the "Get" in Servo Drive to get the internal parameters in servo drive.



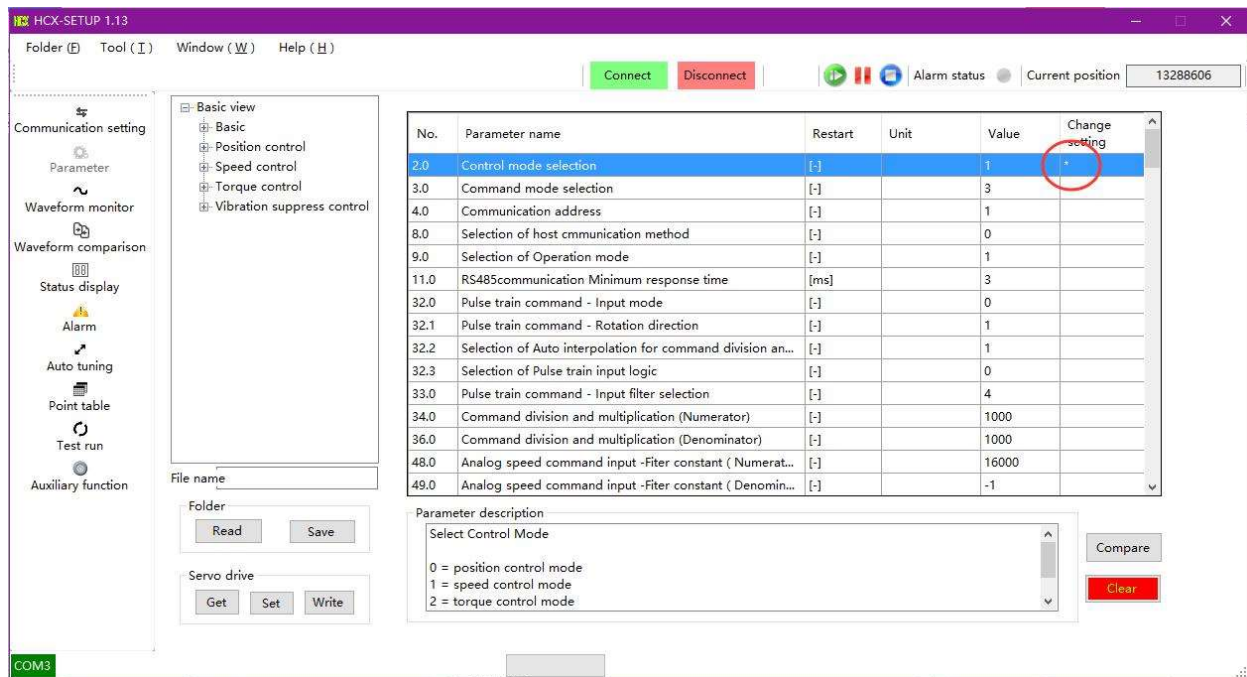
2. Double-click the parameter value to be modified, "Setting Value" dialog box pops up. Enter the value and click the "Setting" button.



Set parameters in servo drive

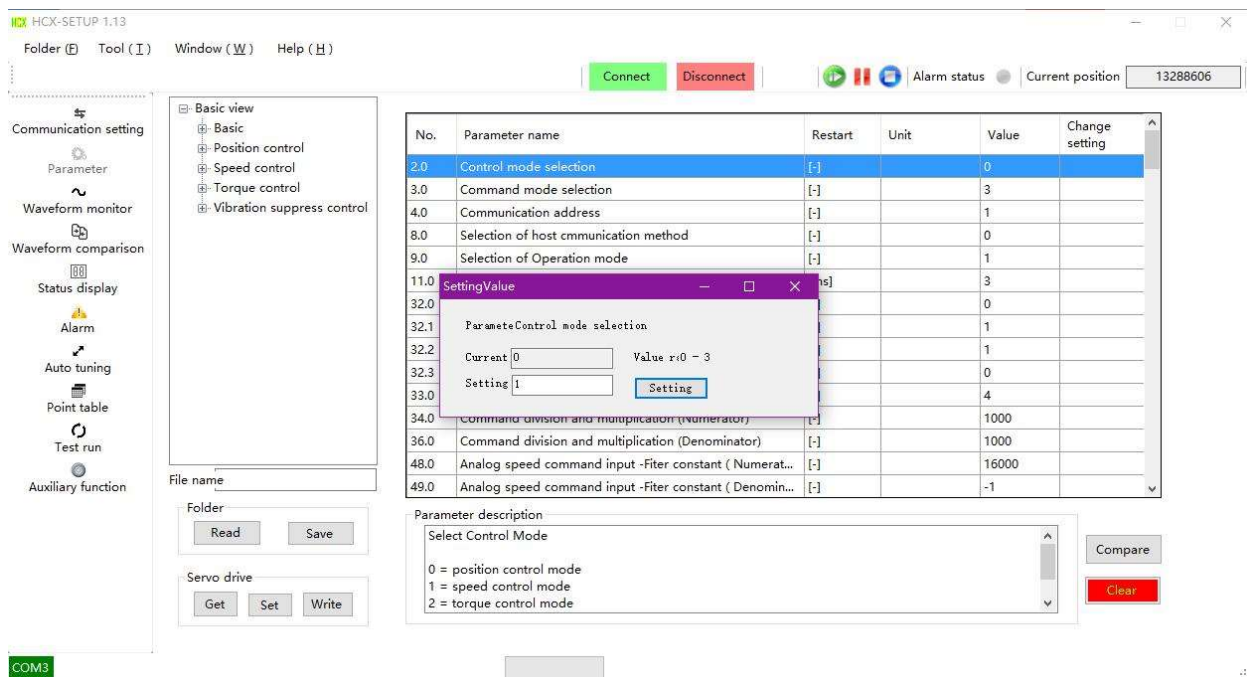
Operation procedures

1. The modified parameters will be marked in asterisk (*) in "Changing setting" column.



2. Change the parameters and click "Set", the parameters will be written into RAM of the servo drive.

Note: Setting parameters is just to write the parameters into RAM, and the value will be lost after restart the servo drive. To retain the modified data, click "Write" in "Servo drive" after setting.

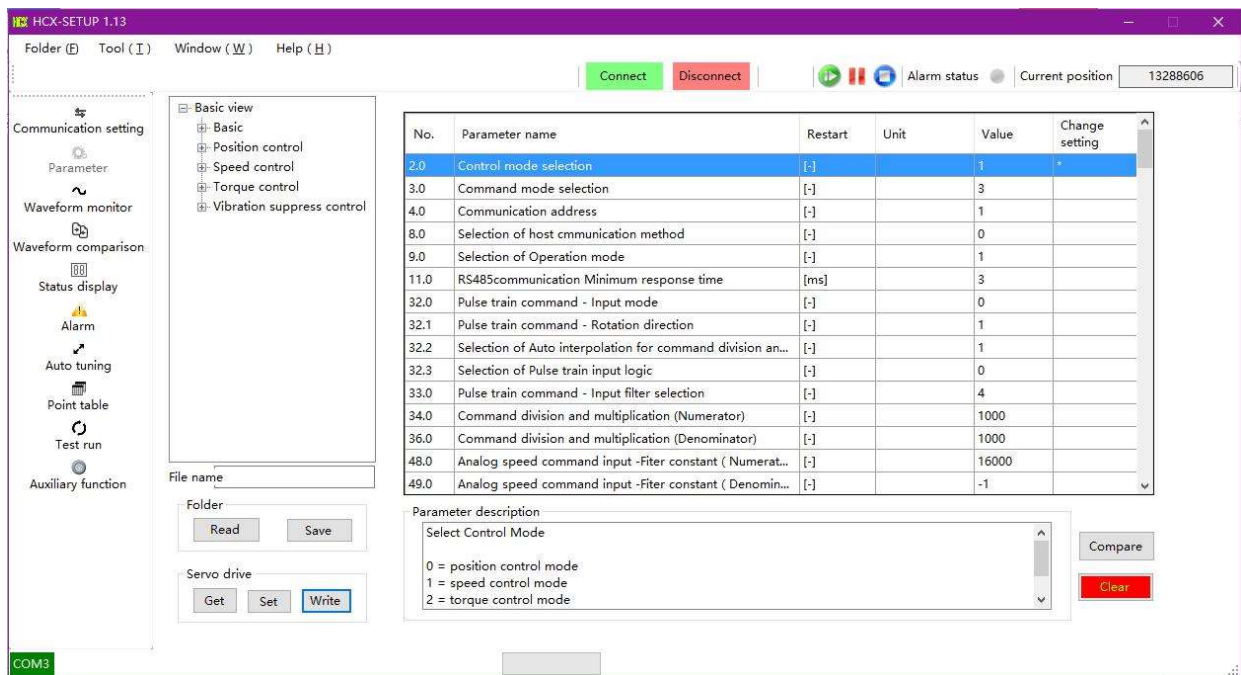


4.3 Writing Parameters into the Servo Drive

Write the parameters into the servo drive

Operation procedures

After setting the parameters, the parameters have been written into RAM. However, the parameter value will be lost after restarting the servo drive. To avoid this, click “Write” to write the parameters into EEPROM of servo drive and the data can be retained.

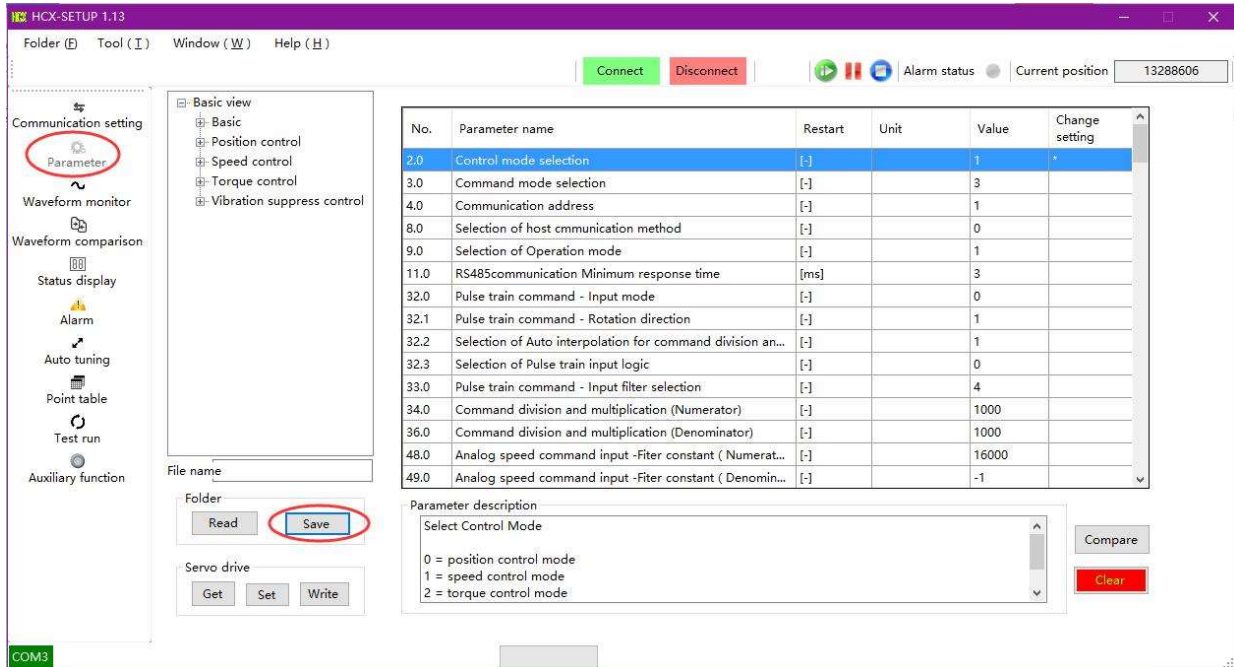


4.4 Saving Parameters

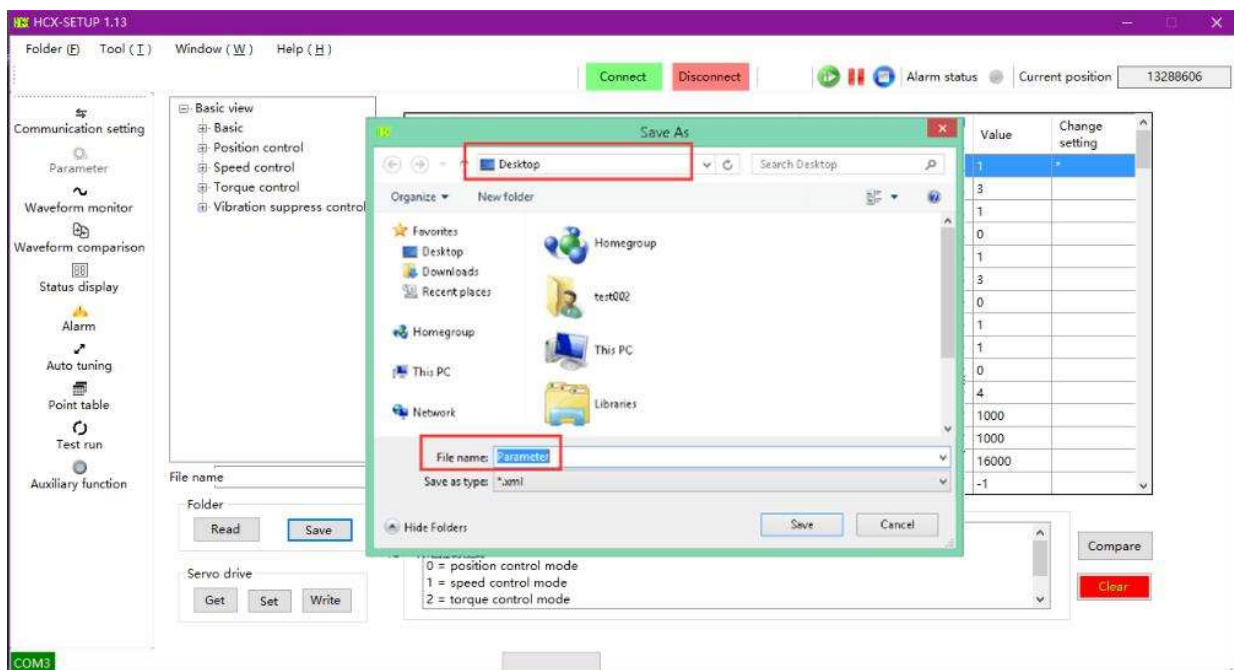
Save the current parameters to the local computer

Operation procedures

1. Click "Save" button in Folder in parameter screen.



2. "Save as" dialog box pops up. Select the file path to be stored, enter the file name for the parameters and click "Save" .

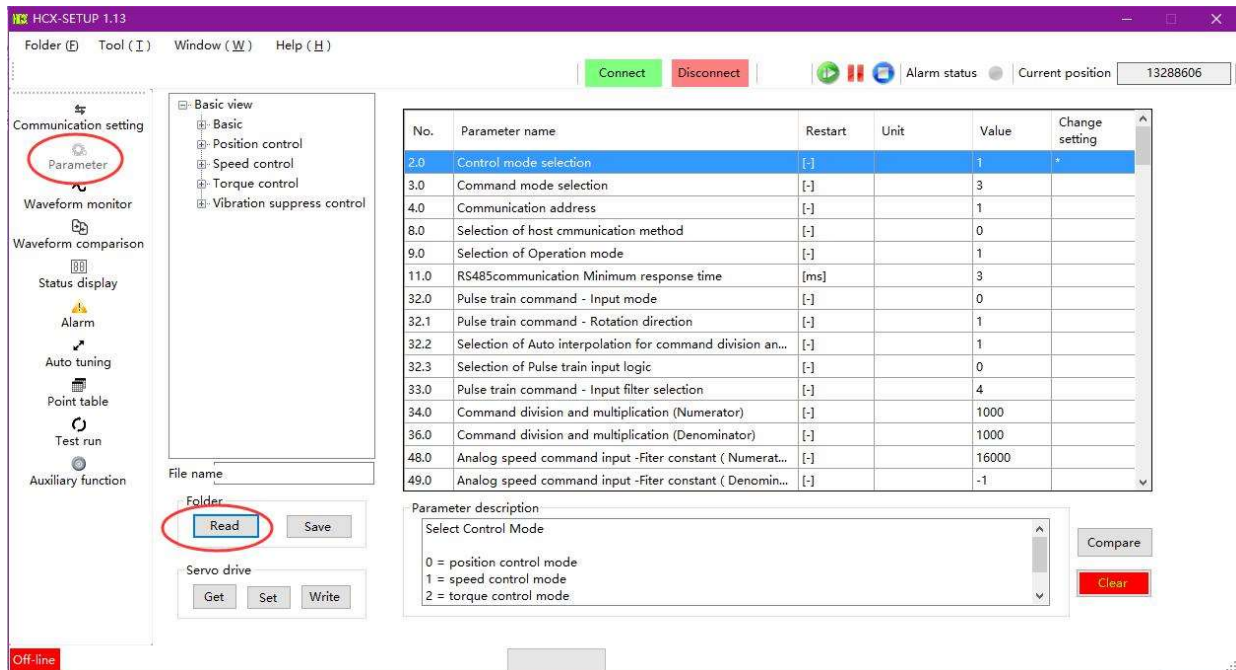


4.5 Reading Parameters

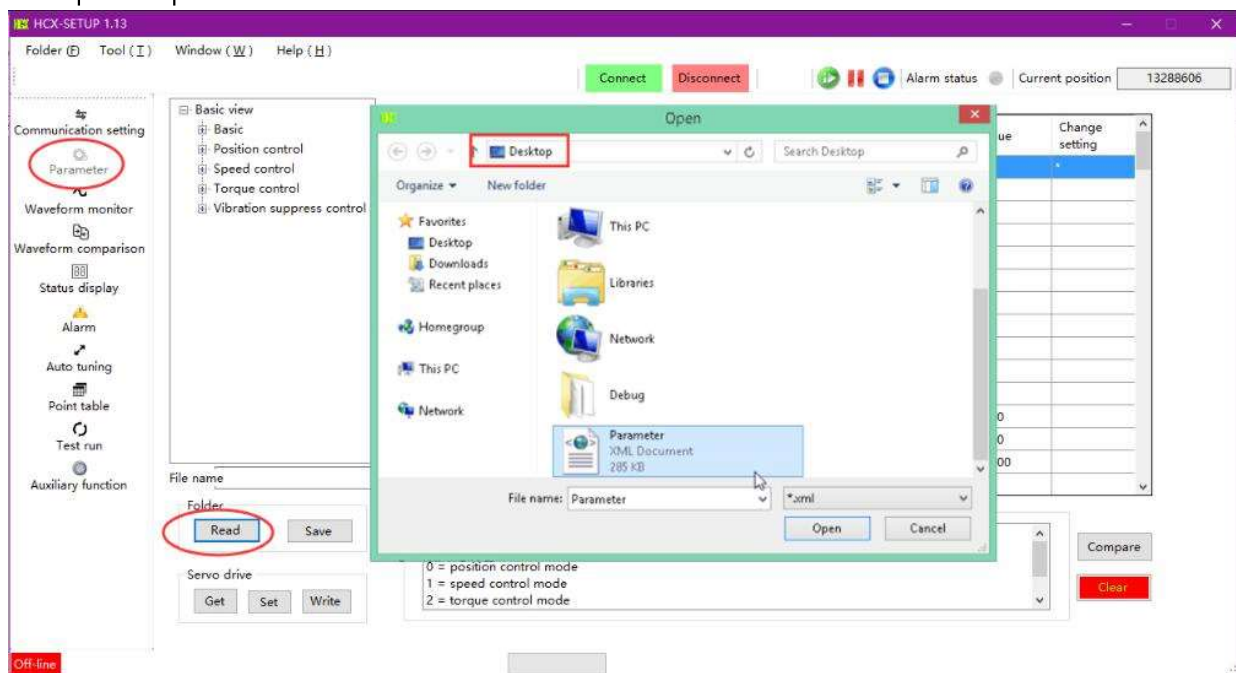
Read the parameters stored in the local computer

Operation procedures

1. Click "Read" button in the Parameter screen.



2. "Save as" dialog box pops up. Select the file path and file name to be read and click "Open" to open the parameters.

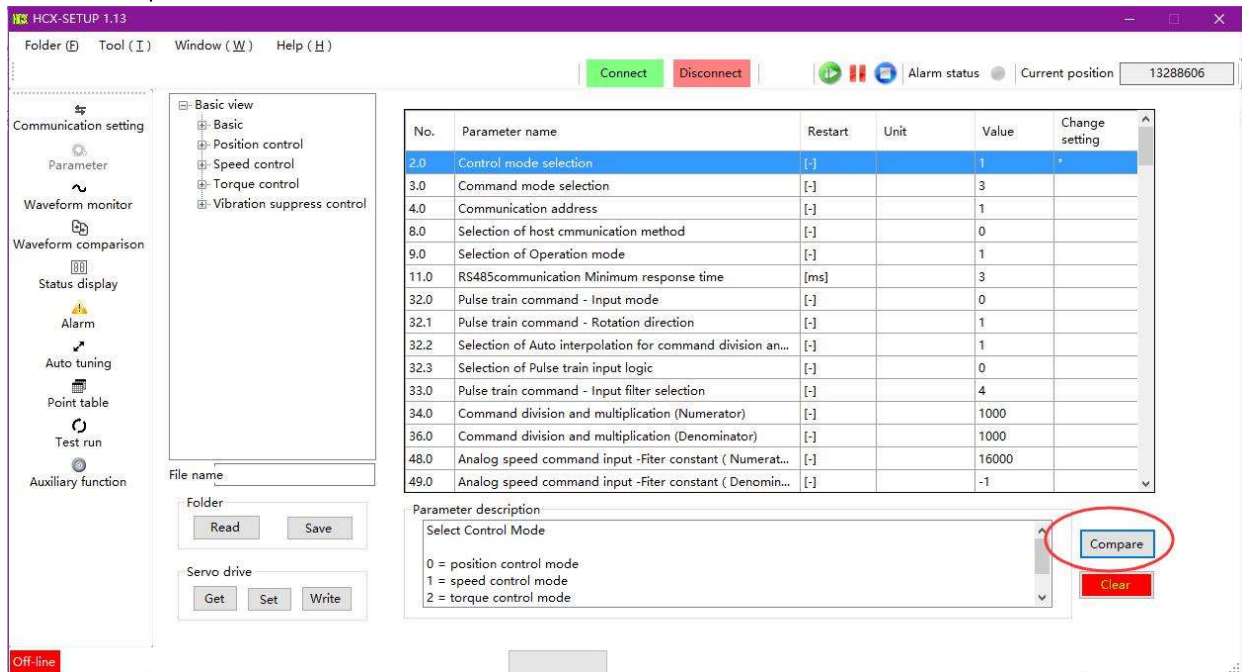


4.6 Parameters Comparison

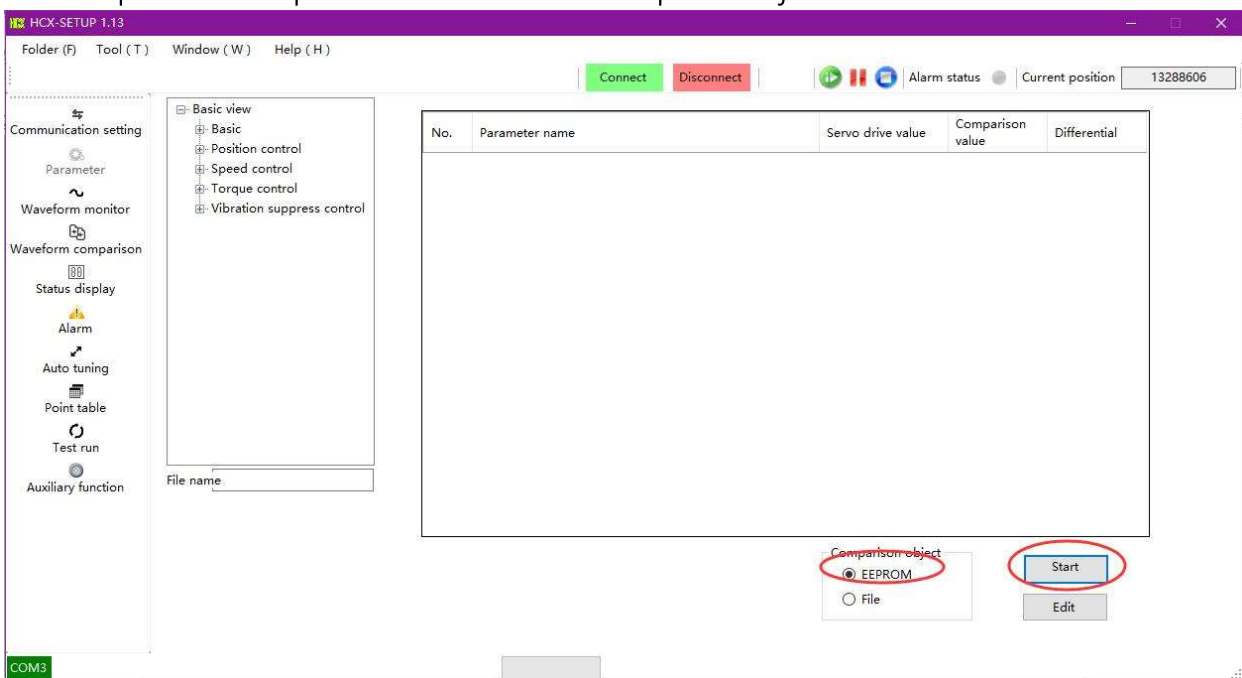
Compare the current parameters to the parameters saved in the local (or in EEPROM)

Operation procedures

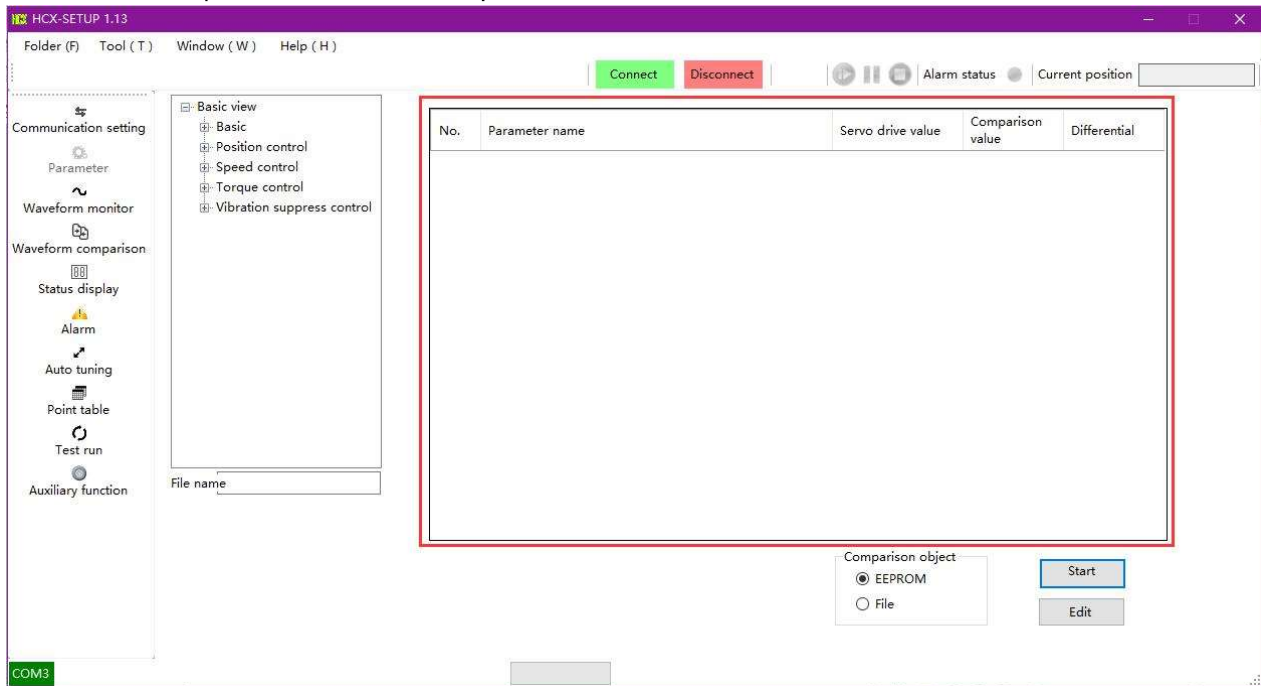
1. Click "Compare" button in the Parameter screen.



2. Switch to parameter comparison screen and click "Comparison object".



3. Click "Start comparison" button to output the results.

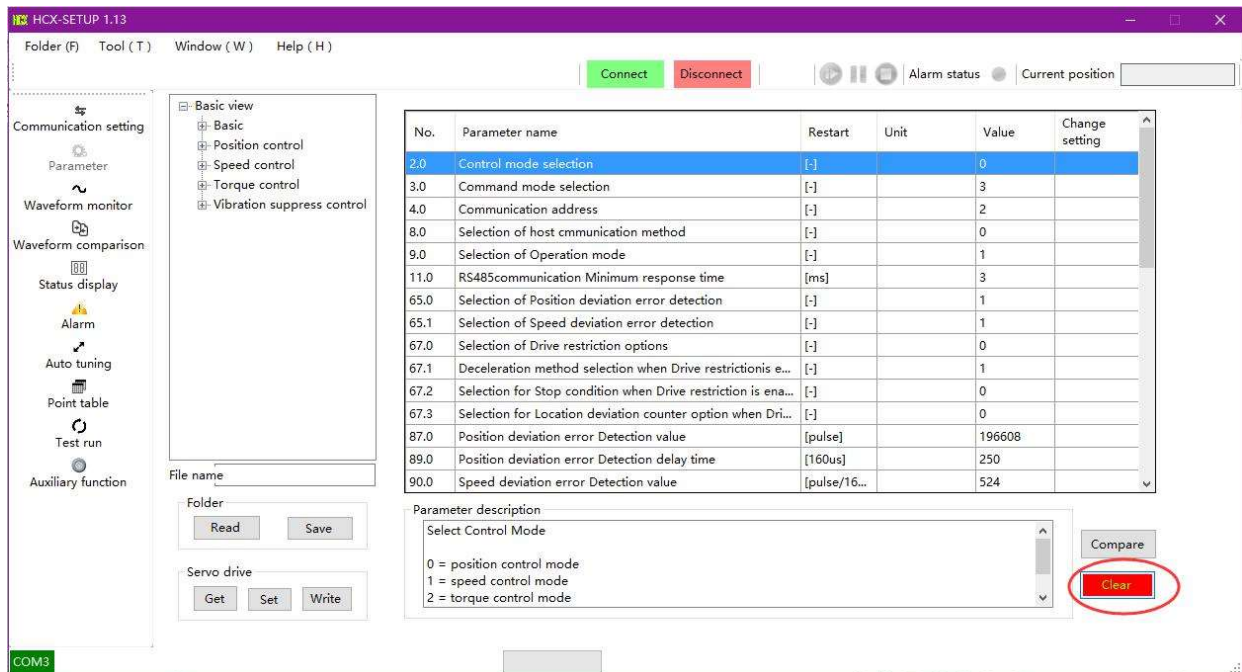


4.7 Clearing Parameters

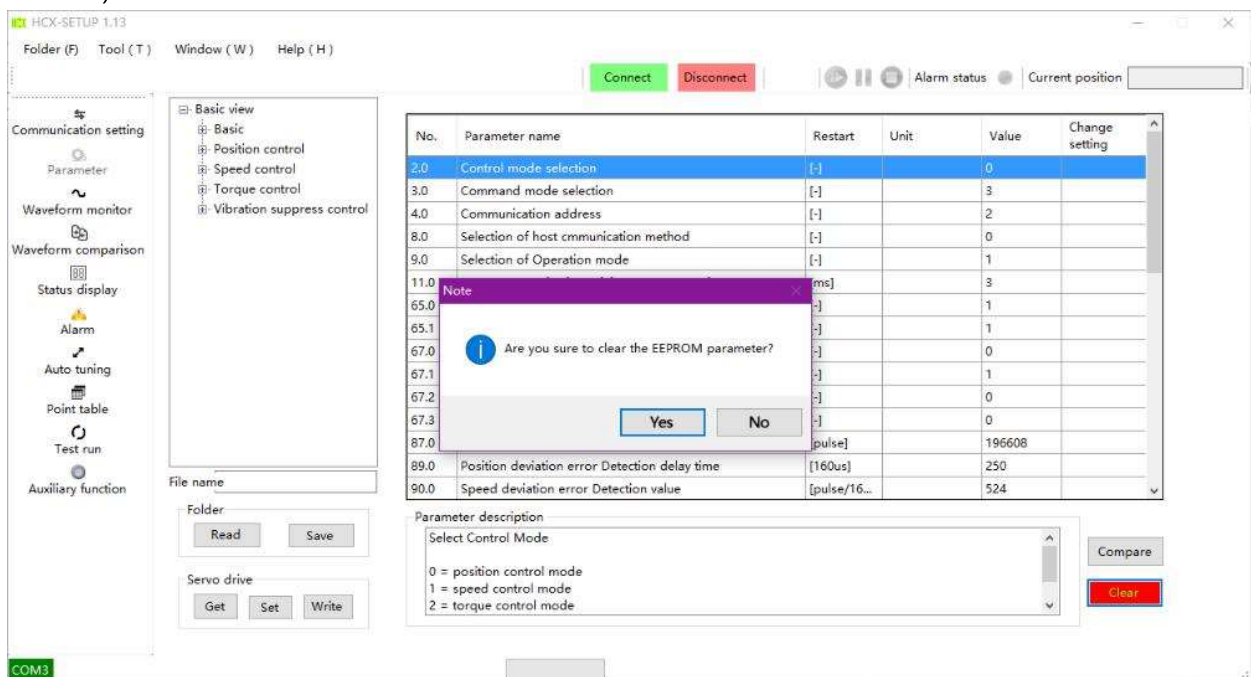
Clear the parameters in the servo drive

Operation procedures

1. Click "Clear" button in the Parameters screen.



2. "Clear" dialog box pops up and select "Yes". (Parameters cannot be cleared when servo is ON. Make sure it's OFF.)



This chapter mainly describes the obtaining of the waveform.

5.1 Getting Waveform

5.2 Description of Waveform Monitoring Screen

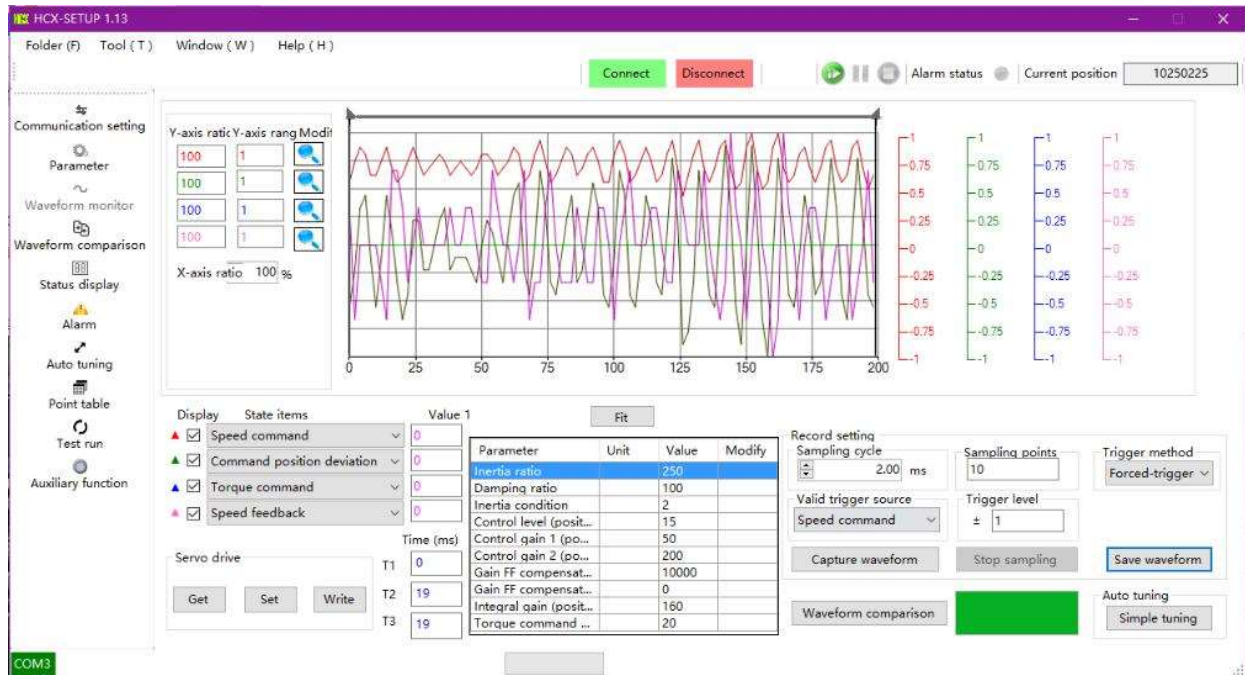
5.3 Waveform Comparison

5.1 Getting Waveform

Get waveform

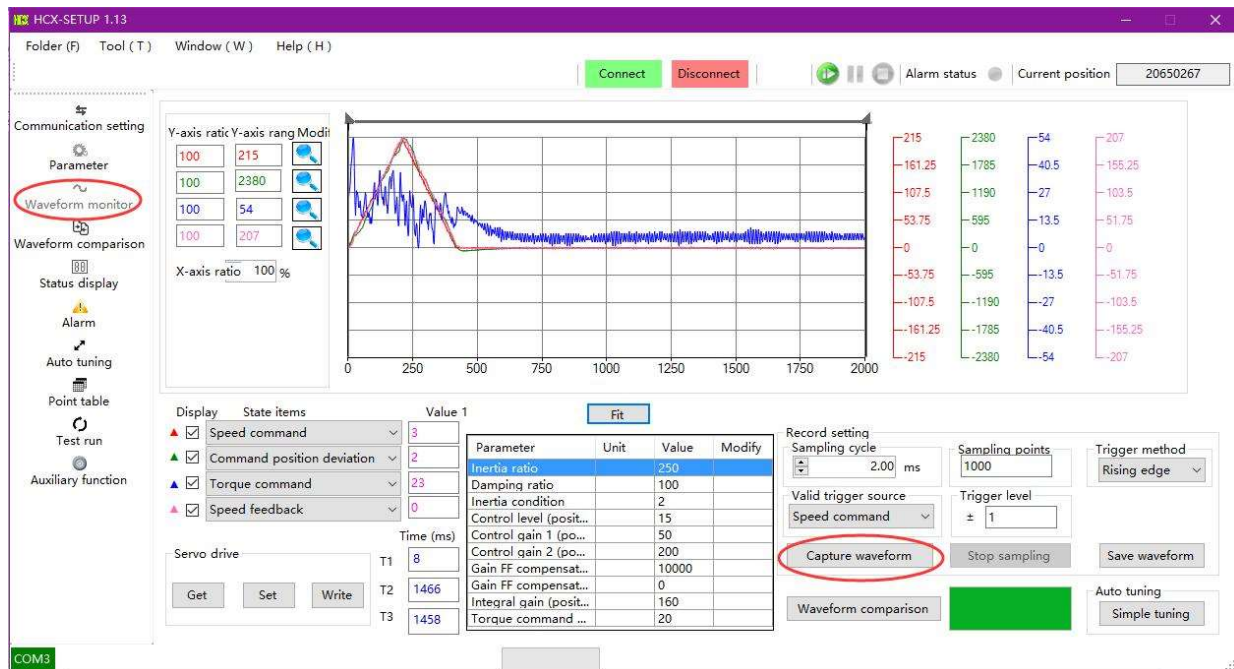
Operation procedures

Select “Waveform Comparison” button to set the parameters. Click “Capture waveform” button to get the waveform data.



5.2 Description of Waveform Monitoring Screen

Description of Waveform Monitoring Screen



【Description】

- Display : Whether to show the specified state items.
- State items : Select the state items that need to be monitored.
- Value 1 : The value of time T1.
- Time[ms] : T1: the start time of waveform monitoring, T2: the end time of waveform monitoring , T3: total time of waveform monitoring.
- Get : Get the parameters in the servo drive.
- Set : Set the parameters in the servo drive.
- Write : Write the parameters into the servo drive.
- X-axis ratio : Set the ratio for X-axis.
- Y-axis ratio : Set the ratio for Y-axis.
- Sampling cycle : Set the sampling period of waveform.
- Trigger method : Set the trigger method of getting waveform.
- Valid trigger source : Set the trigger source of getting waveform.
- Trigger level : Set the trigger level of getting waveform.
- Capture waveform : Start to get the waveform data.
- Stop : Stop getting waveform data.
- Save waveform : Save the waveform data.
- Waveform comparison : Compare the waveform data and jump to the waveform comparison screen.

5.3 Waveform Comparison

Compare two waveforms' files data

Operation procedures

Select "Waveform comparison" button and open the waveform files in turn.



Chapter 6

Status Display

This chapter mainly gives the description of state variable.

6.1 Manual Monitoring

6.2 Automatic Monitoring

6.3 Description of State Variable Screen

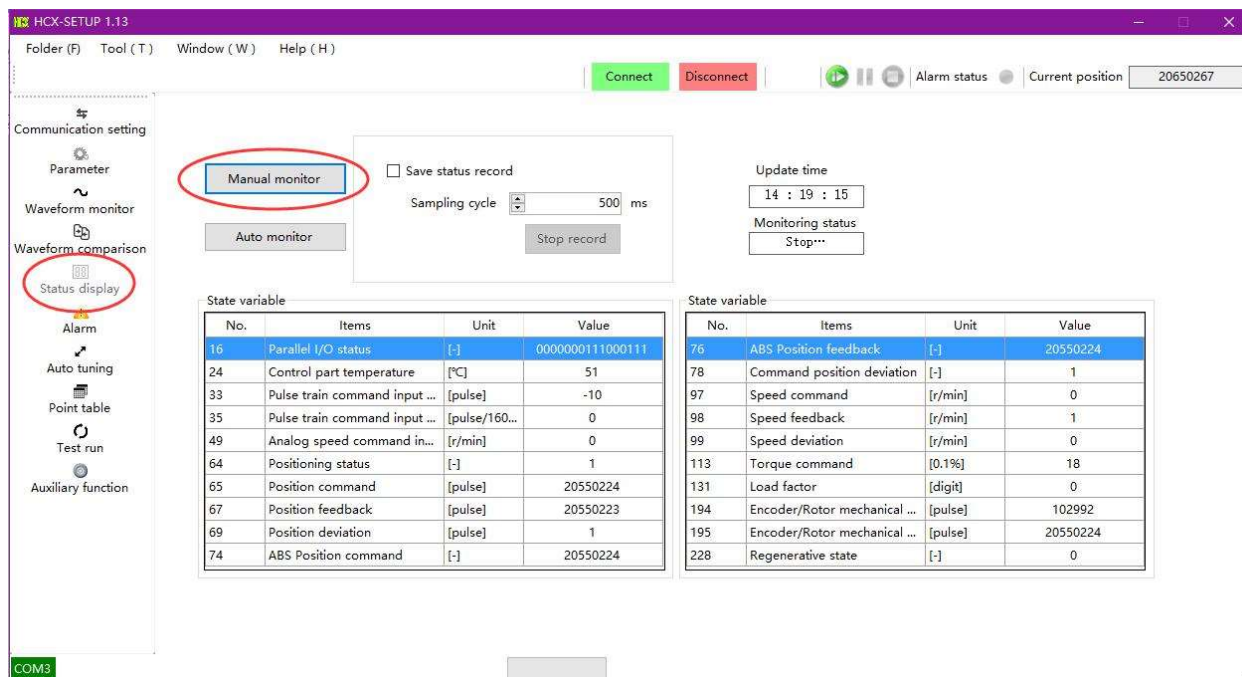
6.1 Manual Monitoring

Read state variables by manual

Operation procedures

Select 'Status display' button and click "Manual monitor" to monitor by hand.

(In Manual monitoring, the state variables data can be read only once and cannot be updated in real time)



6.2 Automatic Monitoring

Read state variables automatically

Operation procedures

Select 'Status display' button and click "Auto monitor" to have the monitoring automatically.

(In Auto monitoring, the state variables data can be read repeatedly and updated to the main screen)

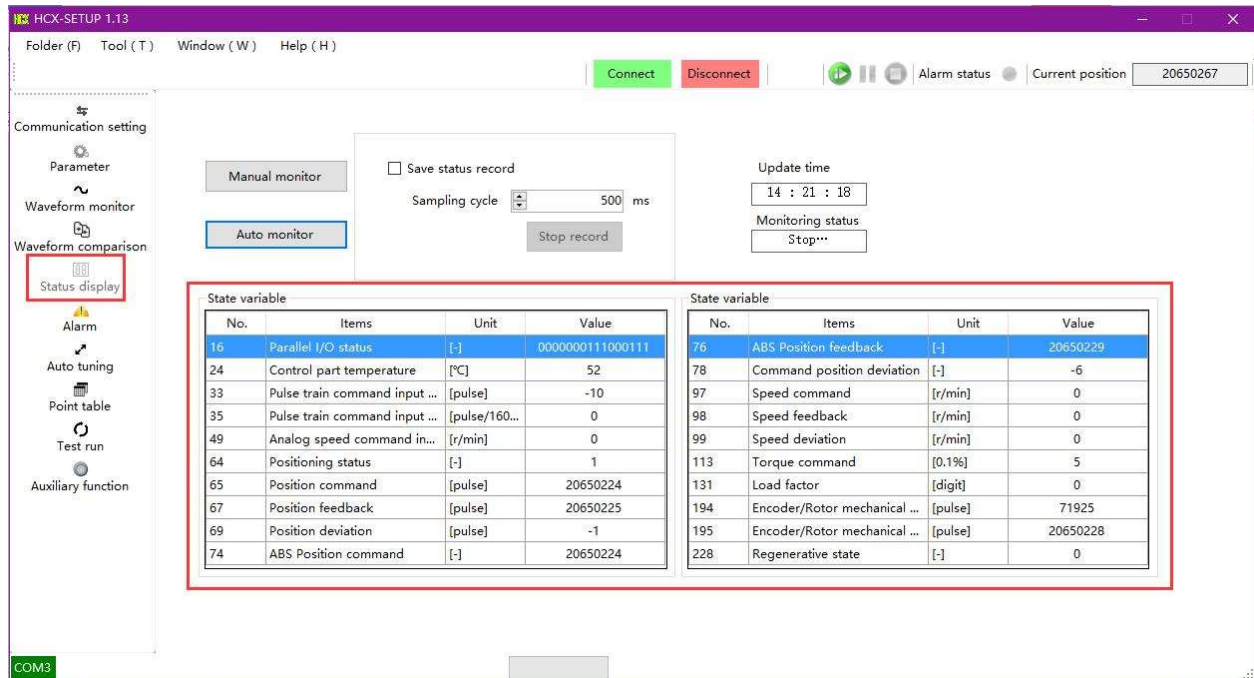
The screenshot shows the HX-SETUP 1.13 software interface. On the left, a vertical menu lists various functions: Communication setting, Parameter, Waveform monitor, Waveform comparison, Status display (highlighted with a red circle), Alarm, Auto tuning, Point table, Test run, and Auxiliary function. In the center, there are two buttons: 'Manual monitor' and 'Auto monitor' (highlighted with a red circle). To the right of these buttons are settings for 'Save status record' (unchecked), 'Sampling cycle' (500 ms), and a 'Stop record' button. Further right, there are fields for 'Update time' (14 : 21 : 18) and 'Monitoring status' (Stop...). At the bottom left, a green 'COM3' indicator is visible. The main area displays two tables of state variables.

No.	Items	Unit	Value
16	Parallel I/O status	[-]	0000000111000111
24	Control part temperature	[°C]	52
33	Pulse train command input ...	[pulse]	-10
35	Pulse train command input ...	[pulse/160...	0
49	Analog speed command in...	[r/min]	0
64	Positioning status	[-]	1
65	Position command	[pulse]	20650224
67	Position feedback	[pulse]	20650225
69	Position deviation	[pulse]	-1
74	ABS Position command	[-]	20650224

No.	Items	Unit	Value
76	ABS Position feedback	[-]	20650229
78	Command position deviation	[-]	-6
97	Speed command	[r/min]	0
98	Speed feedback	[r/min]	0
99	Speed deviation	[r/min]	0
113	Torque command	[0.1%]	5
131	Load factor	[digit]	0
194	Encoder/Rotor mechanical ...	[pulse]	71925
195	Encoder/Rotor mechanical ...	[pulse]	20650228
228	Regenerative state	[-]	0

6.3 Description of State Variable Screen

Description of State Variable Screen



【Description】

- Manual monitoring : Read the state variables data once by clicking and displayed in the state variable list.
- Auto monitoring : Read the state variables data repeatedly by clicking and displayed in the state variable list in real time.
- Stop record : Valid in Auto monitoring. The function of "Auto monitoring" will stop after click "Stop record" .
- Sampling cycle : Set the period of reading state variables.
- Update time : The last time that read the state variable.
- Monitoring status : Show whether the HCX-Setup is monitoring the servo drive or not.
- Save status record : Save the record in the current state variable list into the local computer after ticking.
- No. : State variable number.
- Item : State variable name.
- Unit : State variable unit.
- Value : State variable value.

Chapter 7

Alarm Function

This chapter mainly describes the alarms in HCX-Setup.

7.1 Getting Alarms

7.2 Clearing Alarms

7.3 Description of Alarm Screen

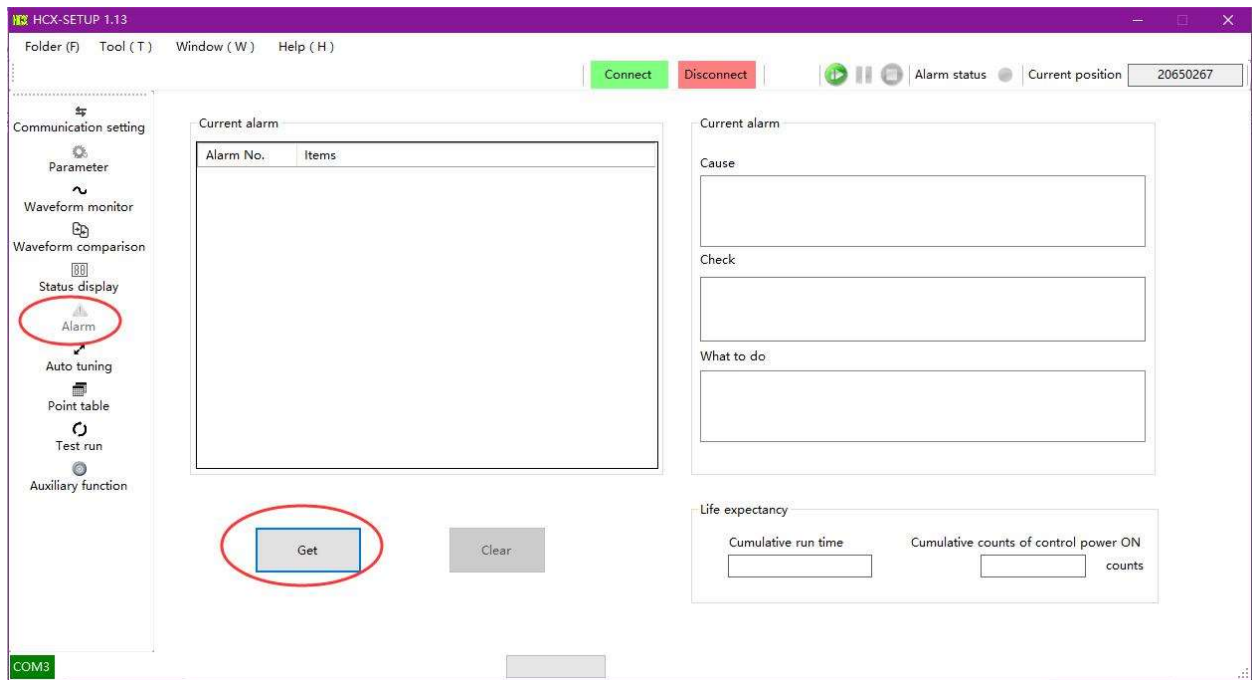
7.4 Alarm List

7.1 Getting Alarms

Get the alarm message in the servo drive

Operation procedures

Select "Alarm" and click "Get" button to get the alarm message.



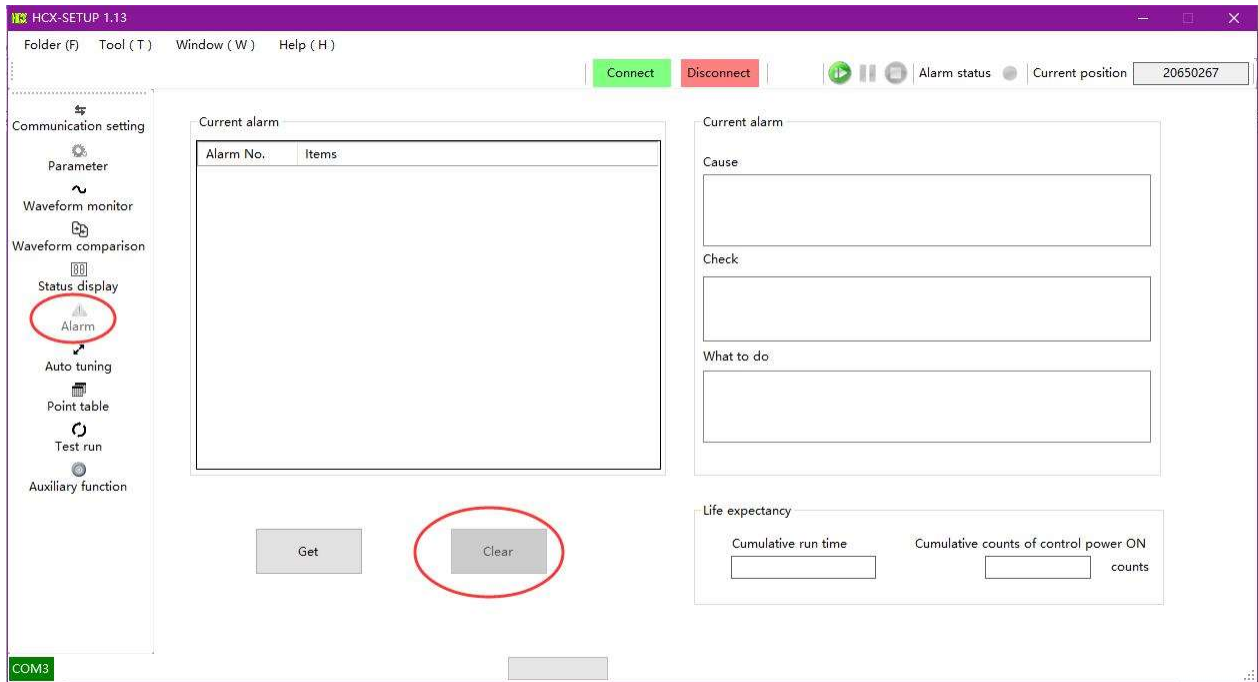
7.2 Clearing Alarms

Clear alarms

Operation procedures

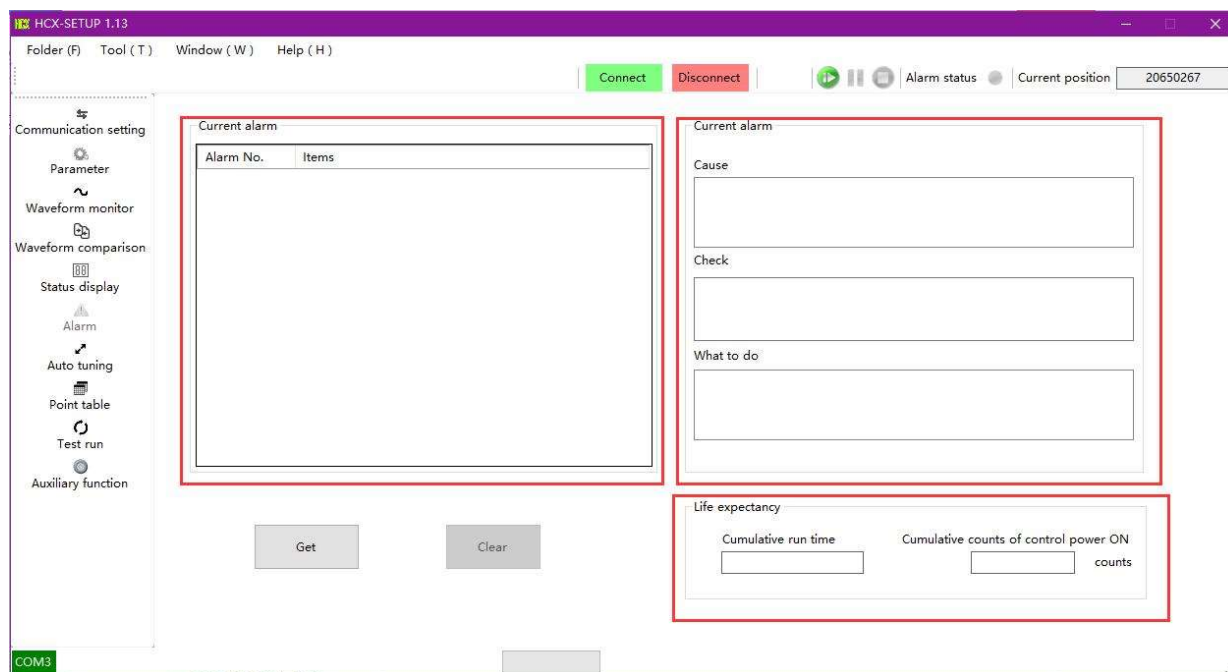
Select "Alarm" and click "Clear" button to clear the alarm list.

(Clear the alarm message in the current alarm list, not the message in the servo drive.)



7.3 Description of Alarm Screen

Description of Alarm Screen



【Description】

Get :	Get the alarm message in the servo drive.
Clear :	Clear the alarm message in the alarm list (including Alarm code, Cause, Check and What to do)
Alarm code :	Corresponding alarm code occurs in the servo drive.
Item :	Alarm message.
Cause :	Show the possible cause that alarm occurs.
Check :	Check whether the software and hardware operation is correct.
What to do :	Show the method of removing the current alarm message.
Cumulative run time :	Show the total run time of servo drive.
Cumulative counts of control power ON :	Show the cumulative counts of control power ON of servo drive.

7.4 Alarm List

Alarm List

NO.	Alarm message	Cause	Check	What to do
0	System alarm	Control circuit error		Restart the control power supply
1	EEP data error	Parameter writing error	Rewrite the parameters after confirming the cables.	RESET signal
2	Model code error	Model code cannot be read	Confirm the combination of motor and drive; Confirm encoder cables.	Restart the control power supply
3	Reserved			
4	Overspeed error	Position control, speed control error	Adjust parameters	RESET signal
5	Speed deviation error	Position control, speed control error	Adjust parameters	RESET signal
6	Position deviation error	Position control, speed control error	Adjust parameters	RESET signal
7	Overload error	Position control, speed control error	Adjust parameters	RESET signal
8	Command overspeed error	Position control, speed control error	Adjust parameters	RESET signal
9	Encoder pulse output frequency error	Encoder pulse output frequency exceeds 4Mpps	Confirm command division and multiplication values; confirm command pulse.	RESET signal
10	Position command overflow/ home position return failure	Internal position command overflow; home position return failure	Confirm whether to use internal position command overflow detection value (No.643.0) Confirm the travel distance setting of position, inching, test run operation in point table Confirm parameter setting of home position return	RESET signal
11	Reserved			
12	Over-temperature error	Over-temperature of control circuit	Lower the ambient temperature; Follow the installation instructions in the [Installation direction and space] to set the drives.	RESET signal
13	Low-voltage error(Reserved)			
14	Over-voltage error	Over-voltage of control circuit	Confirm the regenerative resistor warning on the setting panel and install the regenerative resistor if necessary.	RESET signal
15	Power supply error	Main circuit voltage is too high or too low. 200VAC error, errors happen intermittently after regenerative resistor ON.	Confirm the wiring of 220VAC cable and main circuit power distribution cable; Adjust 220VAC according to Timing chart; Input servo ON time; Confirm the regenerative resistor warning on the setting panel and install the regenerative resistor if necessary.	RESET signal

16	Encoder communication error 1 (Communication data error)	Encoder changes sharply	Confirm whether the encoder cable terminal contact is poor; Take measures to perform the grounding and separate the motor power cable and encoder cable.	Restart the control power supply
17	Encoder communication error 2 (no response)	Encoder communication cut-off error	Confirm whether the encoder cable terminal contact is poor; Take measures to perform the grounding and separate the motor power cable and encoder cable; Shorten the encoder cable if it is too long.	Restart the control power supply
18	Encoder error	Encoder error		Restart the control power supply
19	Encoder communication error 3 (two-way communication error)	Cannot communicate with encoder	Confirm the wiring of encoder cable; Shorten the encoder cable if it is too long.	Restart the control power supply
20	Multi-rotation data error	Multi-rotation data changes sharply	Confirm whether the encoder cable terminal contact is poor; Take measures to perform the grounding and separate the motor power cable and encoder cable.	Restart the control power supply
21	Encoder error under low-voltage	Multi-rotation data changes sharply	Confirm if the battery voltage is too low or battery connection is off when absolute encoder used	After clearing the encoder, restart the control power supply
22	Control power supply low-voltage error	Control power supply voltage (24VDC) is too low		RESET signal
23	Base circuit isolation	No power supply to base circuit		RESET signal
24	Over-current error	Control circuit error	Confirm the UVW connection of motor power cable; Confirm the wiring of main circuit distribution cable; If sharp CCW/CW reverse operation happens, extend the acceleration/deceleration time or use smoothing command.	RESET signal
25	Inverter error 1	Control circuit error	Confirm the UVW connection of motor power cable; Confirm the wiring of main circuit distribution cable.	RESET signal
26	Inverter error 2 (Servo ON timeout)	Control circuit error	Confirm the UVW connection of motor power cable; Confirm the wiring of main circuit distribution cable.	RESET signal
27	Current sensor error	Current sensor error		RESET signal
28	Current deviation error			
29	Reserved			
30	Reserved			
31	Reserved			

Chapter 8

Auto Tuning

This chapter mainly gives the description of auto tuning.

8.1 Simple Tuning

8.2 Description of Simple Tuning Screen

8.3 Fine Tuning

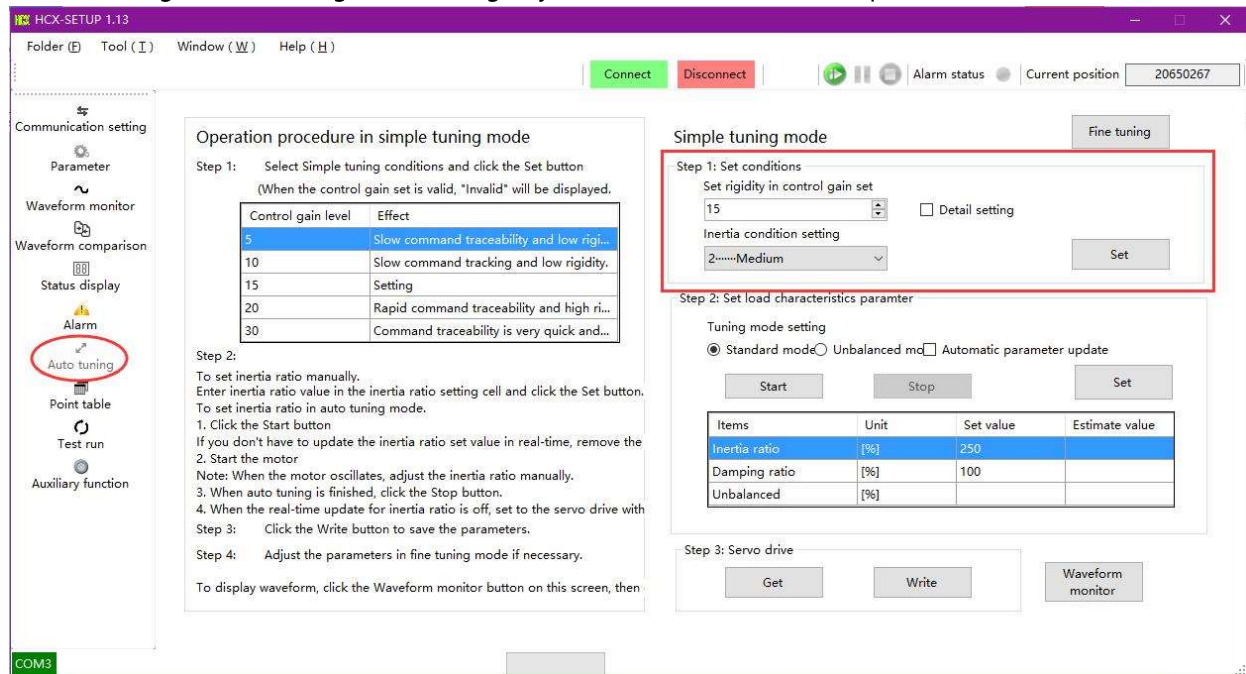
8.4 Description of Fine Tuning Screen

8.1 Simple Tuning

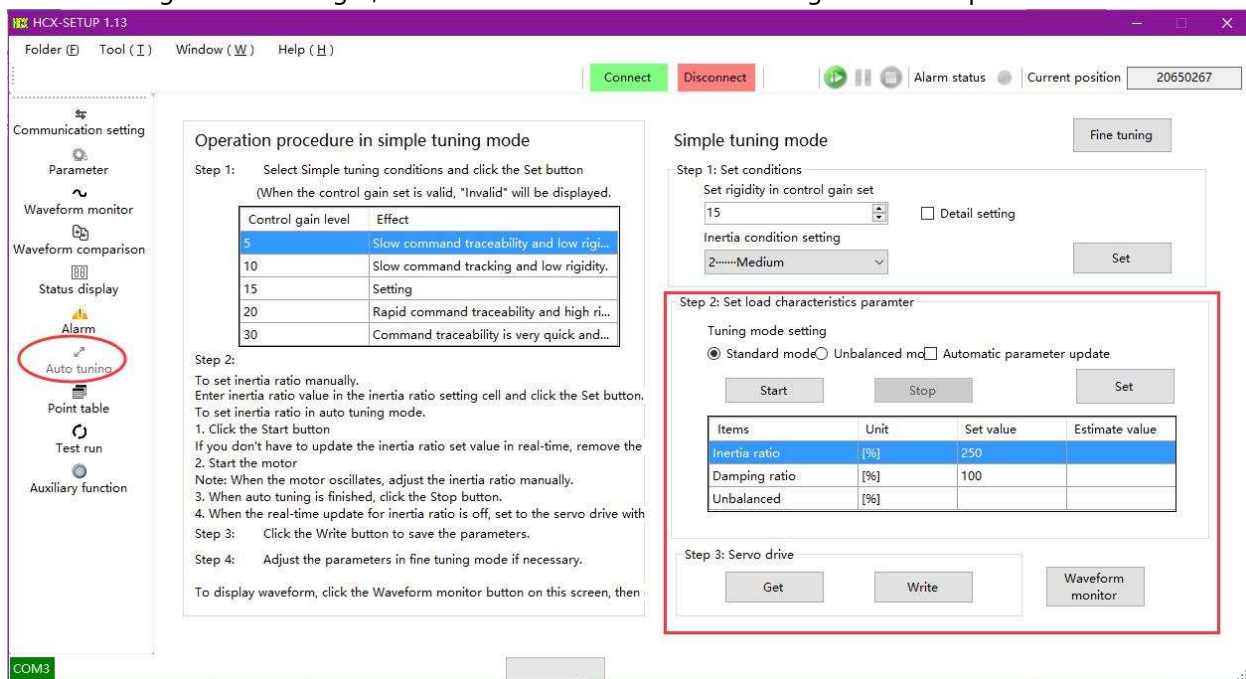
Procedures for simple tuning

Operation procedures

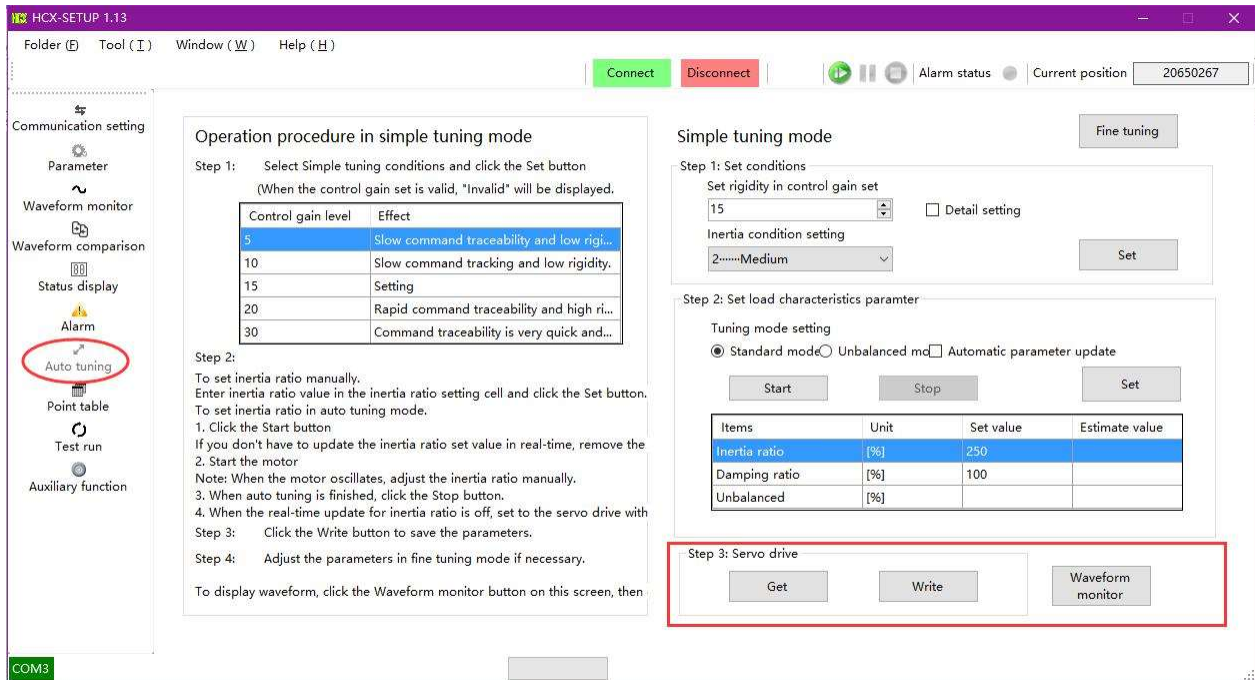
1. After selecting "Auto tuning", set the rigidity and inertia condition in Step 1 and click "Set" button.



2. After selecting "Auto tuning", set the load characteristics and tuning mode in Step 2 and click "Set" button.

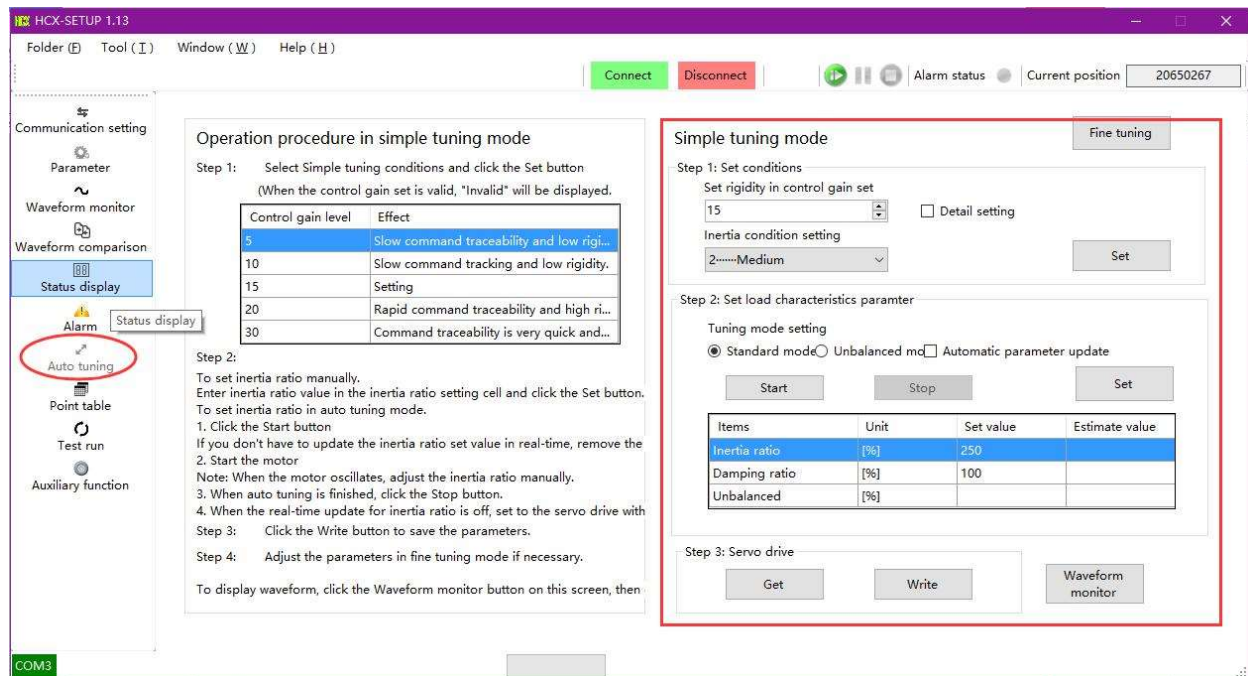


3 . After selecting "Auto tuning" , write the setting parameters into the servo drive in Step 3 and click "Write" button.



8.2 Description of Simple Tuning Screen

Description of Simple Tuning Screen



【Description】

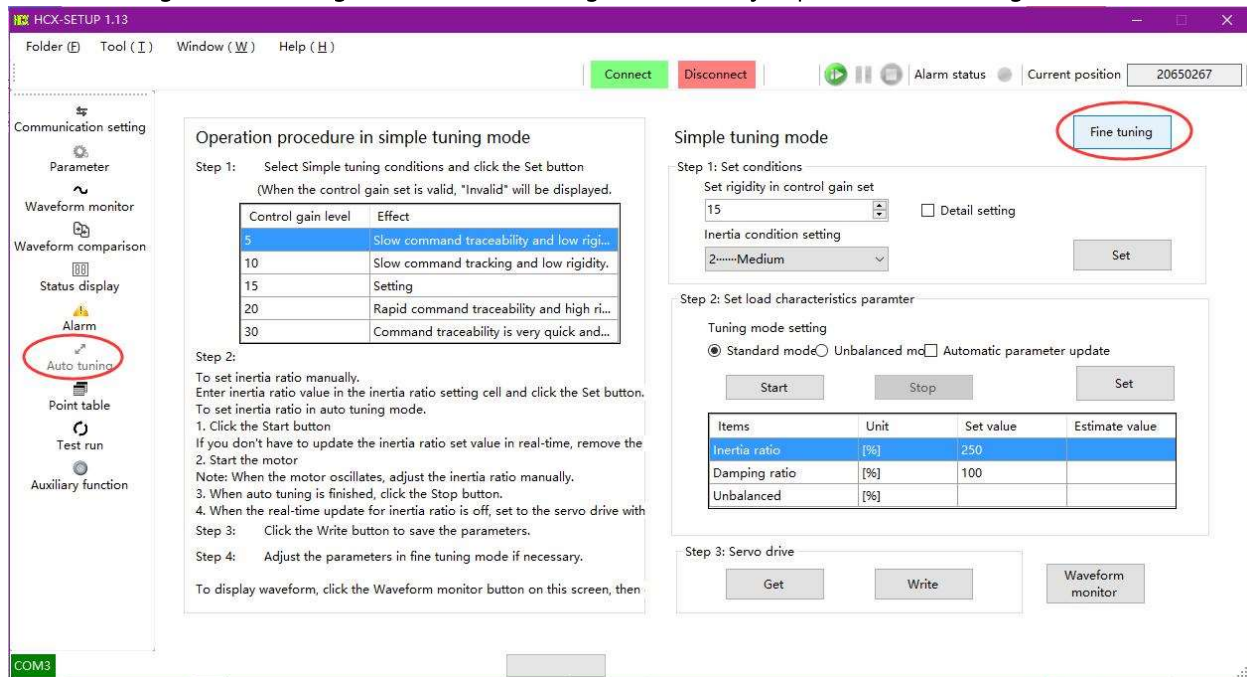
- Rigidity setting : Set the control gain level.
- Inertia condition setting : Set the inertia ratio by manual.
- Tuning mode setting : Select load mode.
- Automatic update : Whether to update the parameters automatically.
- Start : Show the inertia ratio, damping ratio, load, set value and estimate value.
- Stop : Stopping reading the inertia ratio, damping ratio, load, set value and estimate value.
- Get : Get the inertia ratio and damping ratio value.
- Write : Write the parameters set in Step 1 and Step 2 to the servo drive.
- Waveform monitor : Jump to waveform monitoring screen.
- Fine tuning : Jump to the Fine tuning screen.

8.3 Fine Tuning

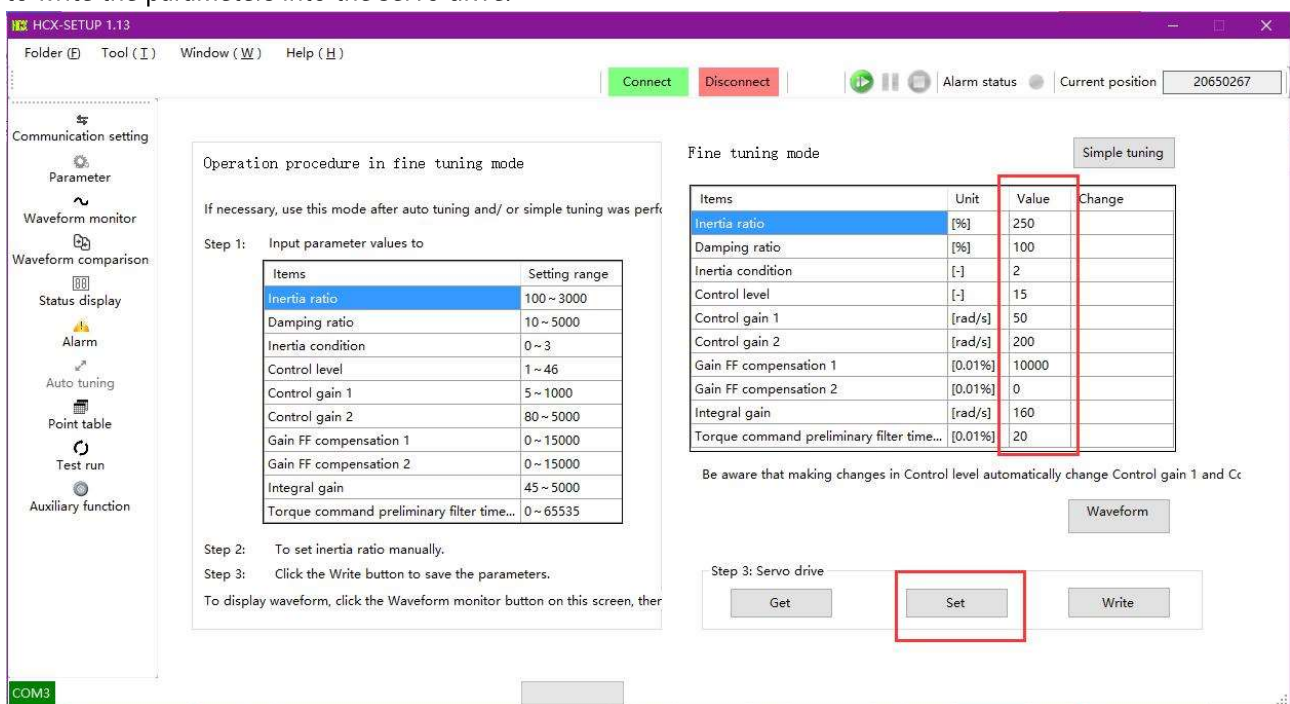
Step of fine tuning

Operation procedures

1. After selecting "Auto tuning", click "Fine tuning" button to jump to the Fine tuning screen.

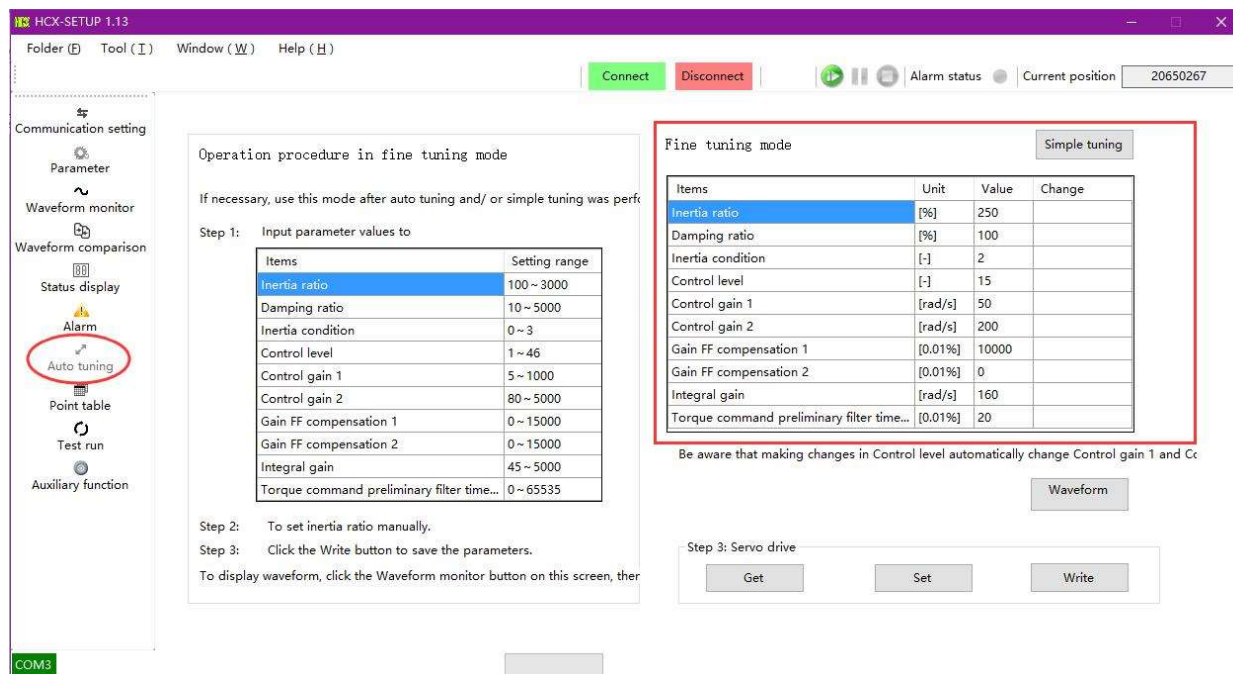


2. After setting the corresponding parameters in the fine tuning screen, click "Set" button and "Write" button to write the parameters into the servo drive.



8.4 Description of Fine Tuning Screen

Description of Fine Tuning Screen



【Description】

- Item : Parameter name in the fine tuning mode.
- Unit : The unit for specified parameters in fine tuning mode.
- Value : Specified parameter value.
- Change setting : Make a mark if the parameter is modified.
- Simple tuning : Jump to the Simple tuning mode.
- Waveform monitoring : Jump to the Waveform monitoring screen.
- Get : Get the parameter data in the Fine tuning list, such as inertia ratio, damping ratio.
- Set : Set the parameter to be modified.
- Write : Write the modified parameters into the servo drive.

Chapter 9

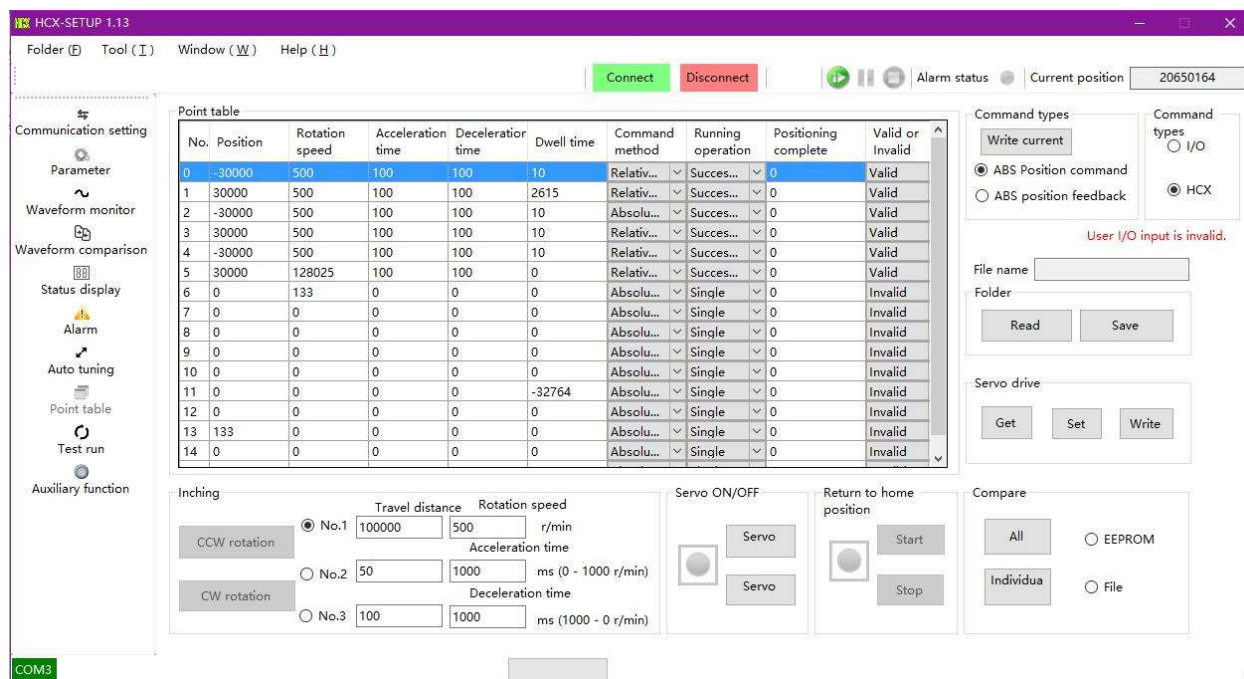
Point Table

This chapter mainly describes the Point table.

- | | |
|-----|--|
| 9.1 | Description of Point Table Screen |
| 9.2 | Point Table - Inching |
| 9.3 | Point Table – Servo ON/OFF |
| 9.4 | Point Table – Home Position Return |
| 9.5 | Point Table – Point Table Operation |
| 9.6 | Point Table – Suspend/Stop Point Table Operation |
| 9.7 | Point Table – Read Point Table File |
| 9.8 | Point Table – Save Point Table File |

9.1 Description of Point Table Screen

Description of Point Table Screens



【Description】

- No. : Point table number.
- Position : Set the position for point table.
- Rotation speed : Set the Point table speed.
- Acceleration time : Set the acceleration time of Point table.
- Deceleration time : Set the deceleration time of Point table.
- Dwell time : Set the dwell time of Point table.
- Command method : Set the command method of Point table operation.
- Running operation : Set the running operation for Point table, including Single and Continuous.
- Positioning completion : Set Positioning completion value of Point table.
- Valid/invalid : Set the validity for the specified Point table.
- CCW rotation : Execute the CCW rotation in **inching**.
- CW rotation : Execute the CW rotation in **inching**.
- Travel distance : Set the travel distance of servo motor.
- Speed : Set the rotation speed of servo motor.
- Acceleration time : Set the acceleration time of servo motor.
- Deceleration time : Set the deceleration time of servo motor.

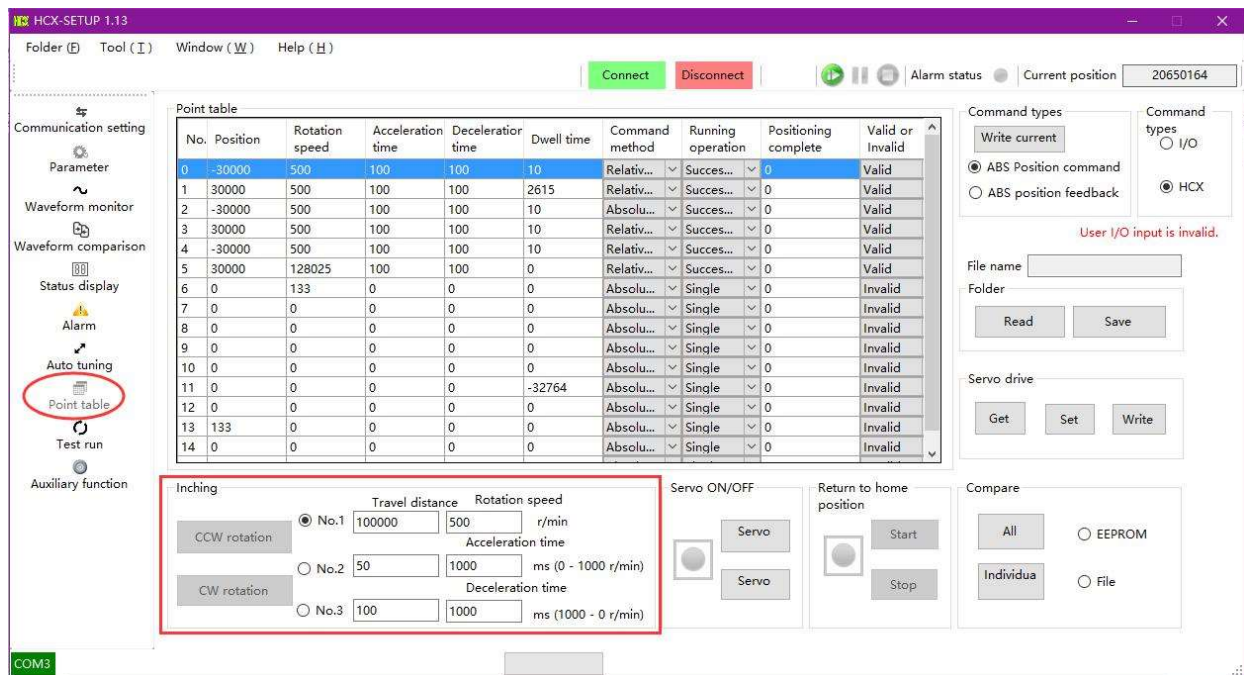
Servo OFF/ON :	Force servo ON/OFF.
Home position return :	Return the Home position.
Compare :	Compare the data from two Point tables. Comparison between the current Point table and the Point table stored in the local computer. Or the comparison between the current Point table and the Point table in the servo drive EEPROM.
Read :	Read the Point table stored in the local computer.
Save :	Store the data of the current Point table in the local file.
Get :	Read the data from the servo drive and update them to the Point table.
Set :	Set the modified Point table into the servo drive RAM. Note: The data in RAM will be lost after restarting the servo drive.
Write :	Write the modified Point table into the servo drive EEPROM. Note: The data in EEPROM will never be lost even though restarting the servo drive.
Write current position :	Assign the current position value in servo drive to the specified Point table No. position in Point table.
Start rotation :	Execute the Point table operation.
Pause rotation :	Pause the Point table operation temporarily.
Stop rotation :	Stop the Point table operation.
Alarm status :	Flicker when alarm occurs in servo drive.

9.2 Point Table - Inching

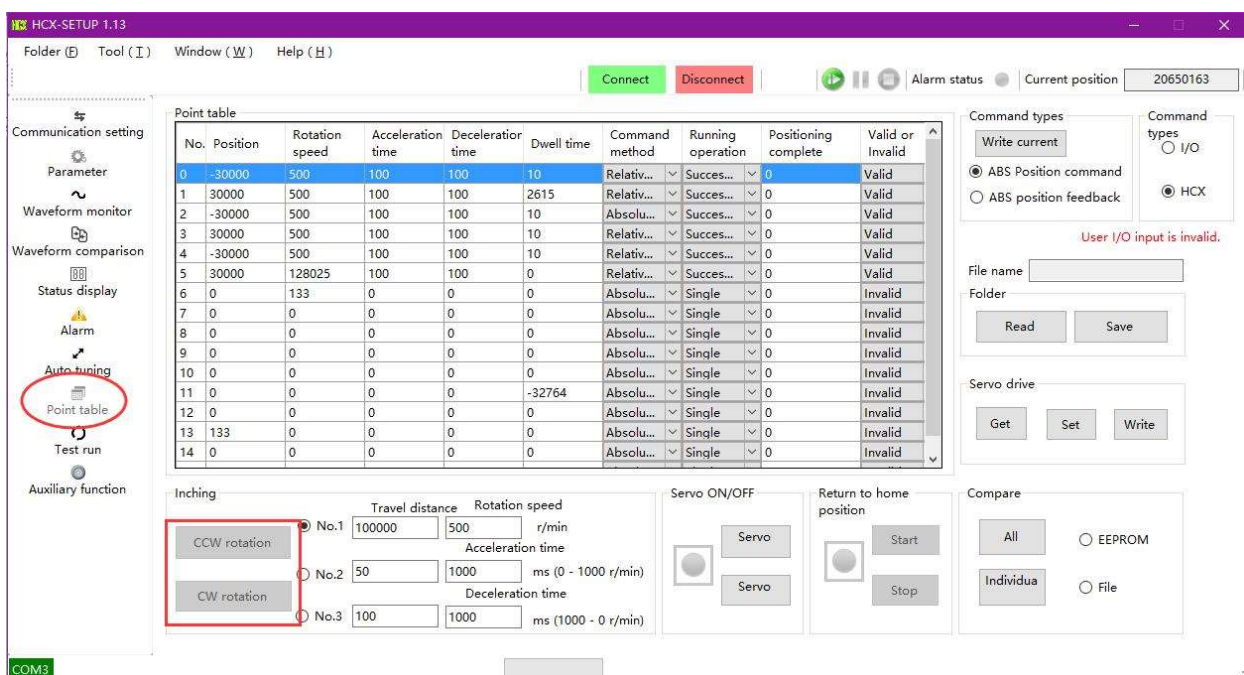
Point Table - Inching

Operation procedures

1. After selecting "Point table", set the Travel distance, Rotation speed, Acceleration time and Deceleration in the Inching area.



2. Execute the CCW rotation and CW rotation after setting the Travel distance, Rotation speed, Acceleration time and Deceleration. (available at servo ON).

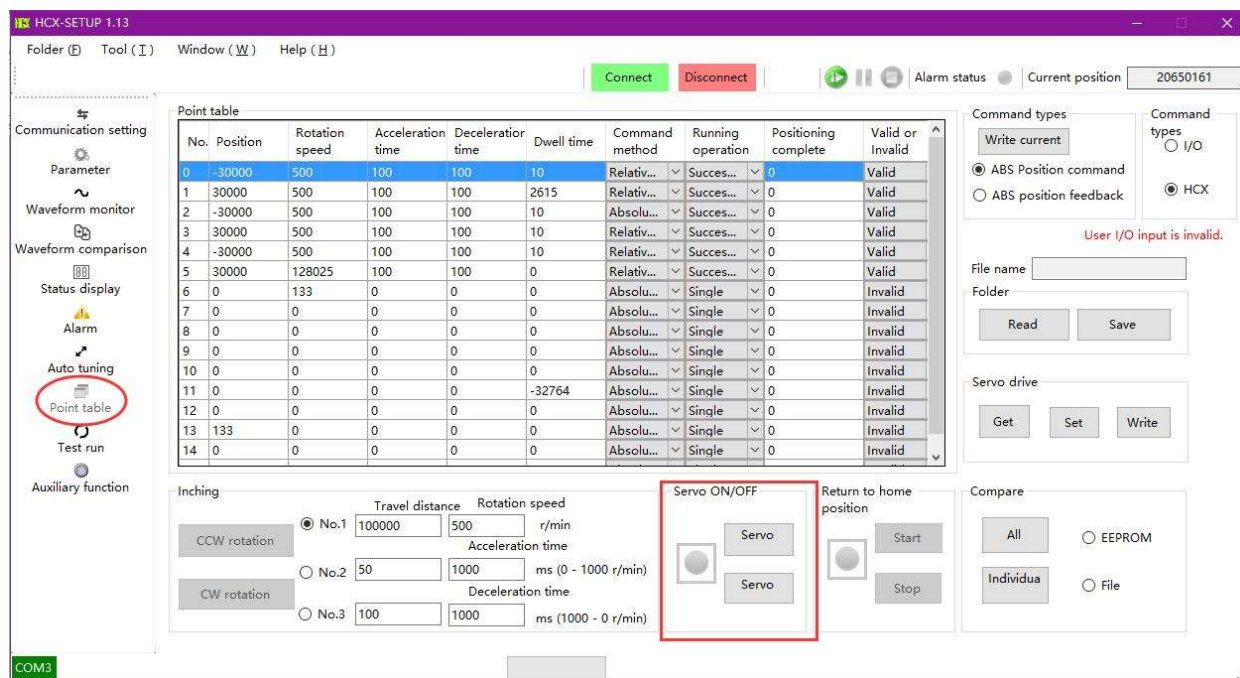


9.3 Point Table – Servo ON/OFF

Point Table – Servo ON/OFF

Operation procedures

1. After selecting "Point table", set the Servo ON or OFF in Servo ON/OFF.



9.4 Point Table – Home Position Return

Point Table – Home Position Return

Operation procedures

1. After selecting "Point table", select Start or Pause in Home position return.

The screenshot displays the HCX-SETUP 1.13 software interface. On the left sidebar, the 'Point table' option is highlighted with a red circle. The main window features a 'Point table' section with a table of 14 rows. The table columns are: No., Position, Rotation speed, Acceleration time, Deceleration time, Dwell time, Command method, Running operation, Positioning complete, and Valid or Invalid. The first five rows (0-4) show valid positioning points. Rows 6-14 show invalid points. Below the table, the 'Inching' section includes settings for travel distance, rotation speed, acceleration time, and deceleration time for CCW and CW rotations. The 'Servo ON/OFF' section has buttons for 'Servo' and 'Return to home position'. The 'Return to home position' section is highlighted with a red box and contains 'Start' and 'Stop' buttons. The 'Compare' section on the right has buttons for 'All', 'Individual', 'EEPROM', and 'File'.

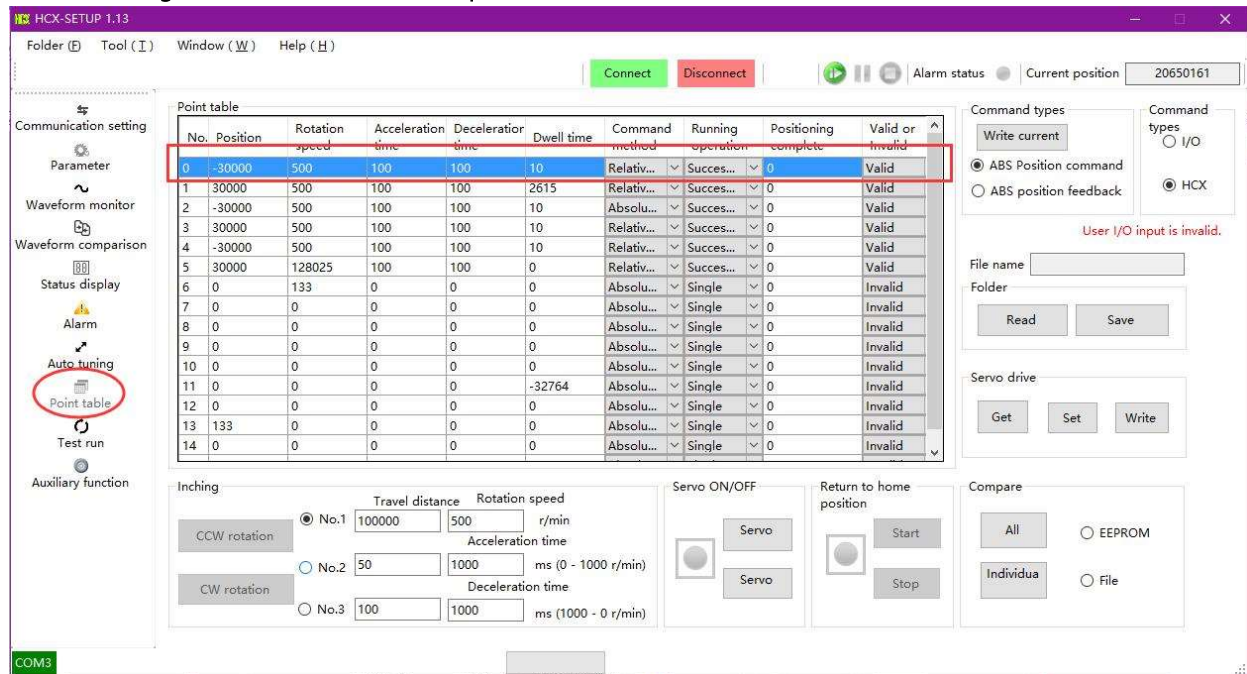
No.	Position	Rotation speed	Acceleration time	Deceleration time	Dwell time	Command method	Running operation	Positioning complete	Valid or Invalid
0	-30000	500	100	100	10	Relativ...	Succes...	0	Valid
1	30000	500	100	100	2615	Relativ...	Succes...	0	Valid
2	-30000	500	100	100	10	Absolu...	Succes...	0	Valid
3	30000	500	100	100	10	Relativ...	Succes...	0	Valid
4	-30000	500	100	100	10	Relativ...	Succes...	0	Valid
5	30000	128025	100	100	0	Relativ...	Succes...	0	Valid
6	0	133	0	0	0	Absolu...	Single	0	Invalid
7	0	0	0	0	0	Absolu...	Single	0	Invalid
8	0	0	0	0	0	Absolu...	Single	0	Invalid
9	0	0	0	0	0	Absolu...	Single	0	Invalid
10	0	0	0	0	0	Absolu...	Single	0	Invalid
11	0	0	0	0	-32764	Absolu...	Single	0	Invalid
12	0	0	0	0	0	Absolu...	Single	0	Invalid
13	133	0	0	0	0	Absolu...	Single	0	Invalid
14	0	0	0	0	0	Absolu...	Single	0	Invalid

9.5 Point Table – Point Table Operation

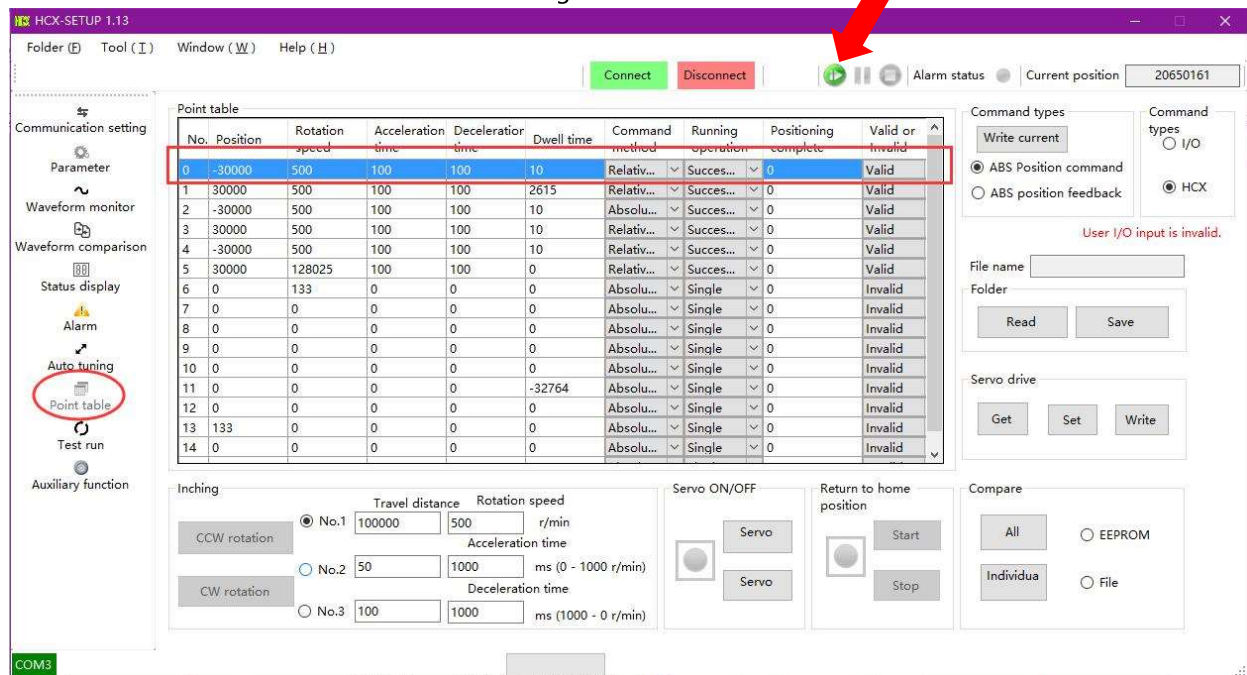
Point Table –Point Table Operation

Operation procedures

1. After selecting “Point table” , set the specified Point table value in the Point table list.



2. Select the “Start rotation” button after setting the Point table value.

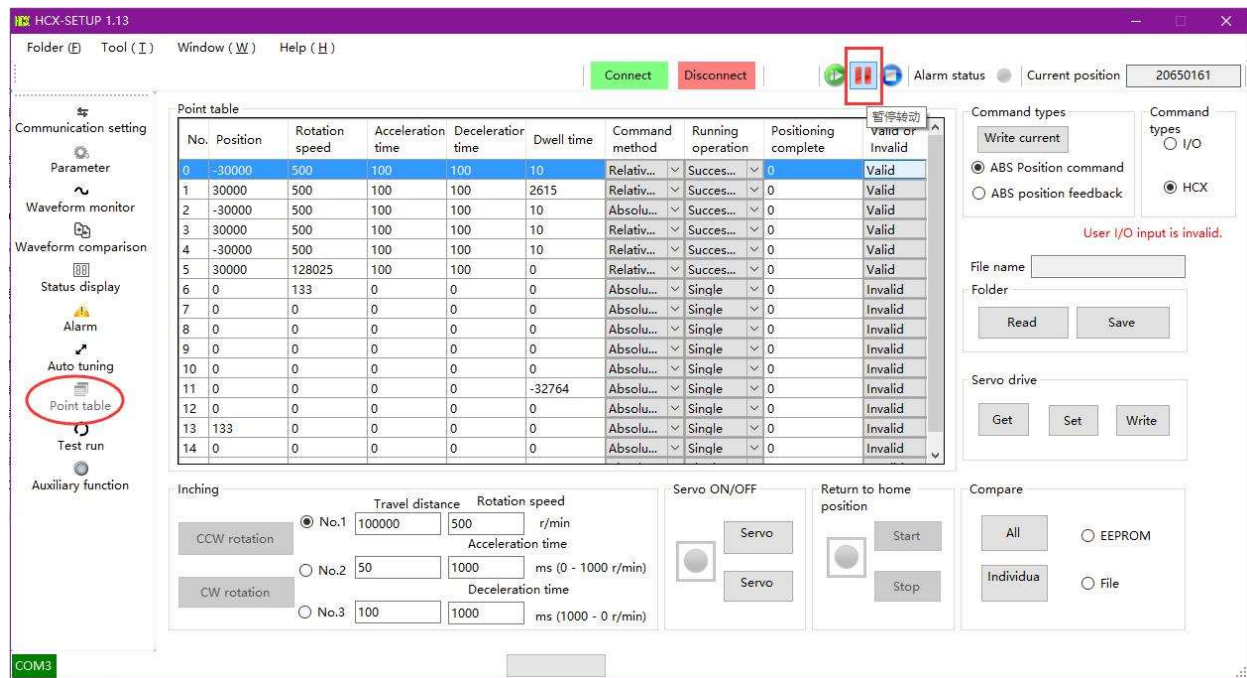


9.6 Point Table –Suspend/Stop Point Table Operation

Point Table – Suspend the Point table operation

Operation procedures

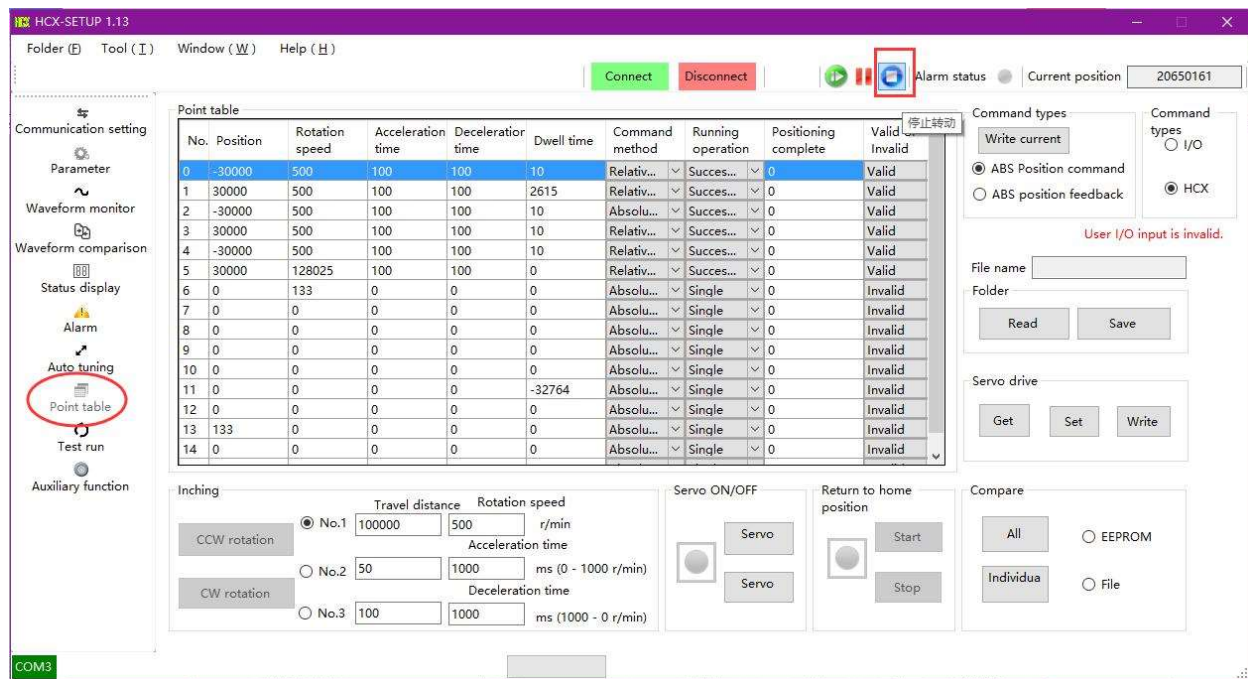
1. After selecting "Point table" , click "Pause rotation" button.



Point Table – Stop the Point table operation

Operation procedures

1. Click "Stop rotation" button after selecting "Point table".

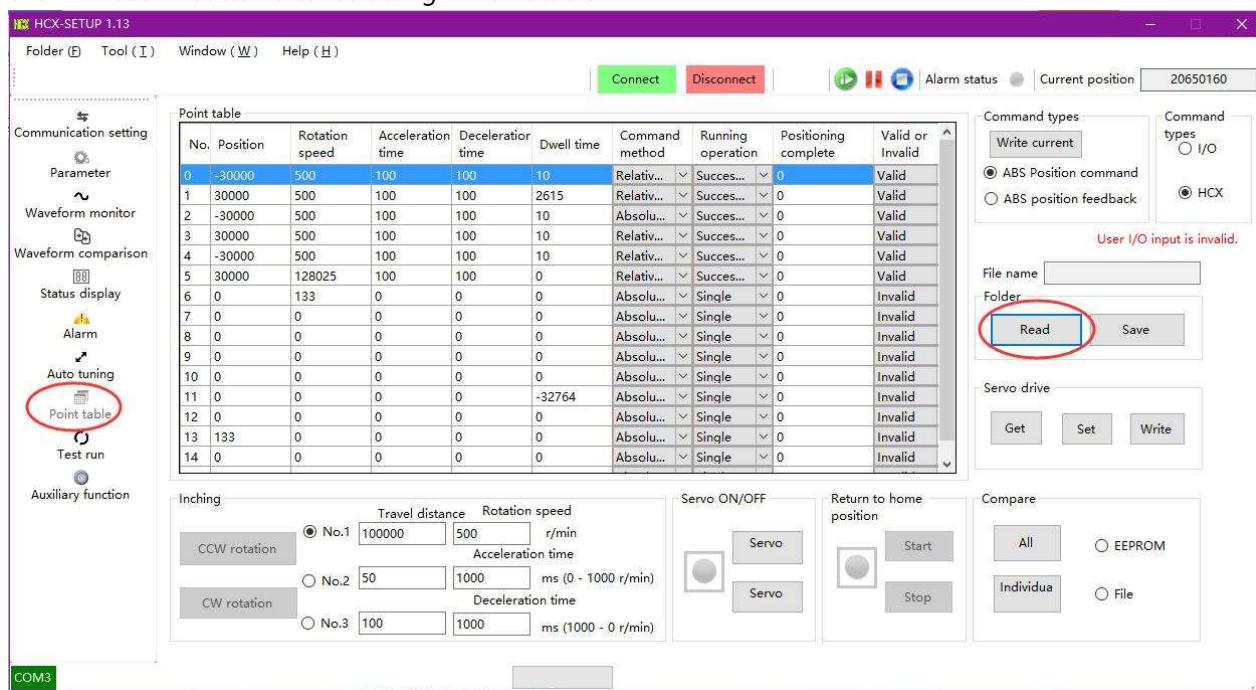


9.7 Point Table – Read Point Table File

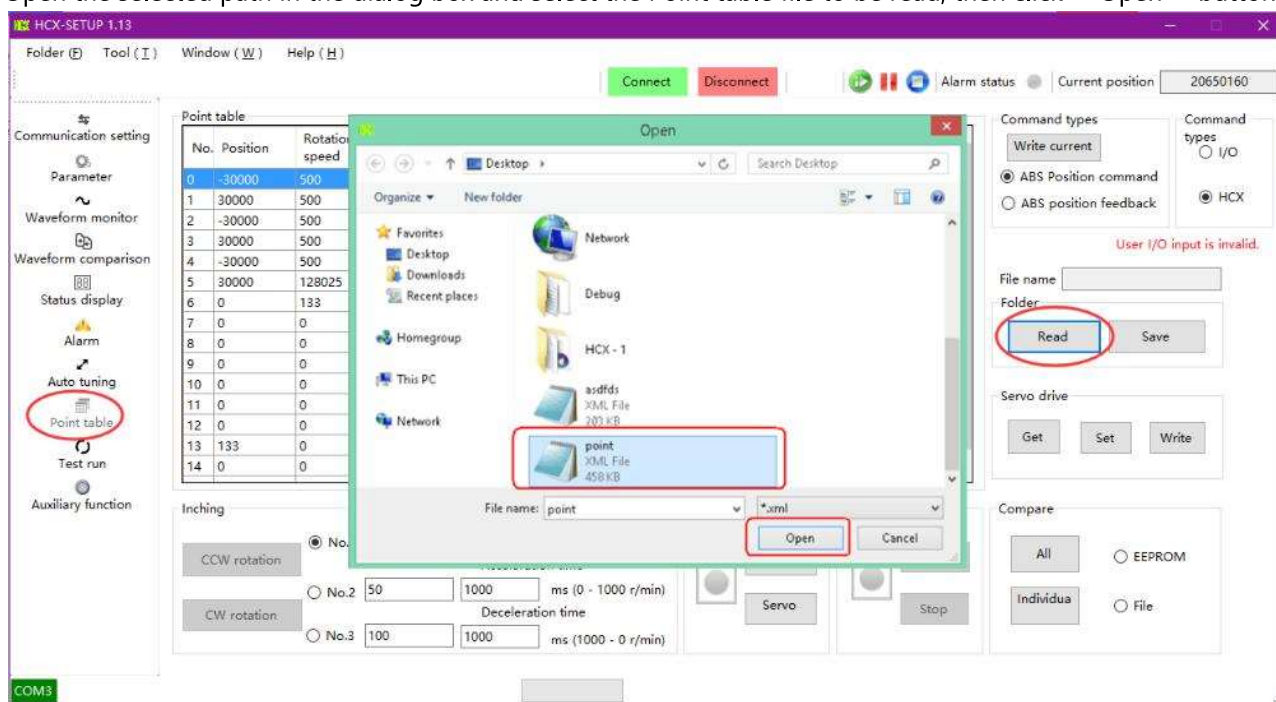
Point Table – Read Point Table File

Operation procedures

1. Click “Read” button after selecting “Point table” .



2. Open the selected path in the dialog box and select the Point table file to be read, then click “Open” button.

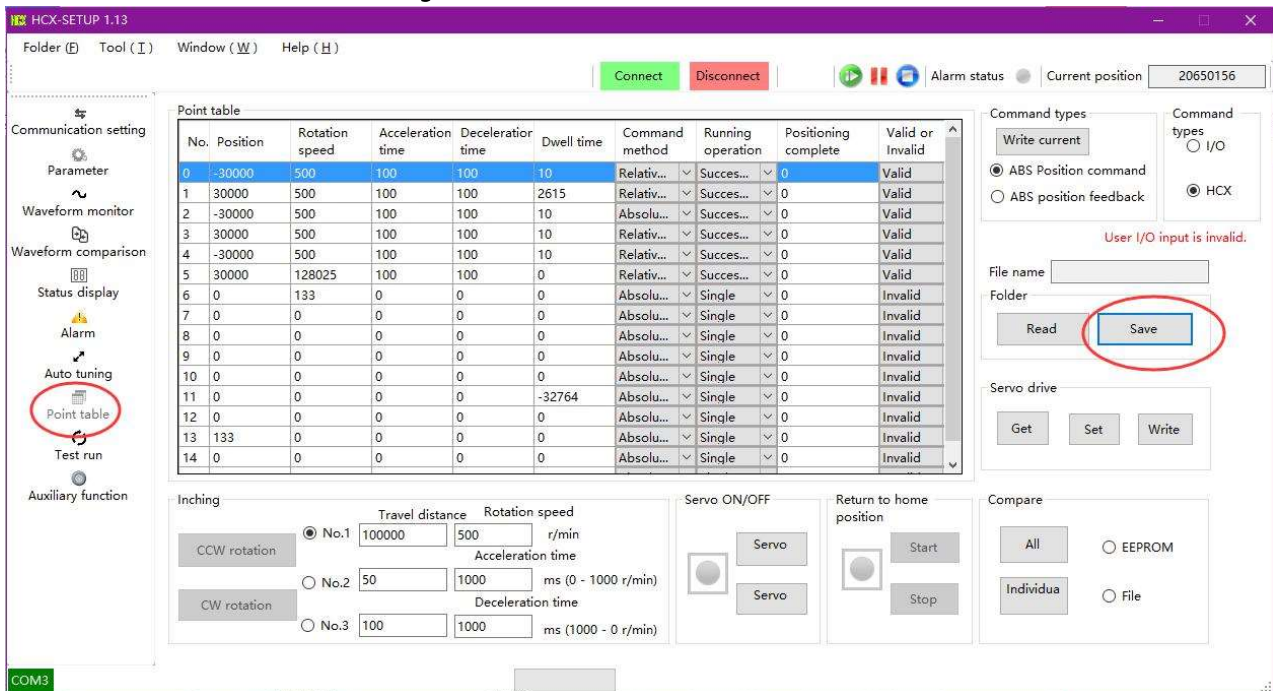


9.8 Point Table – Save Point Table File

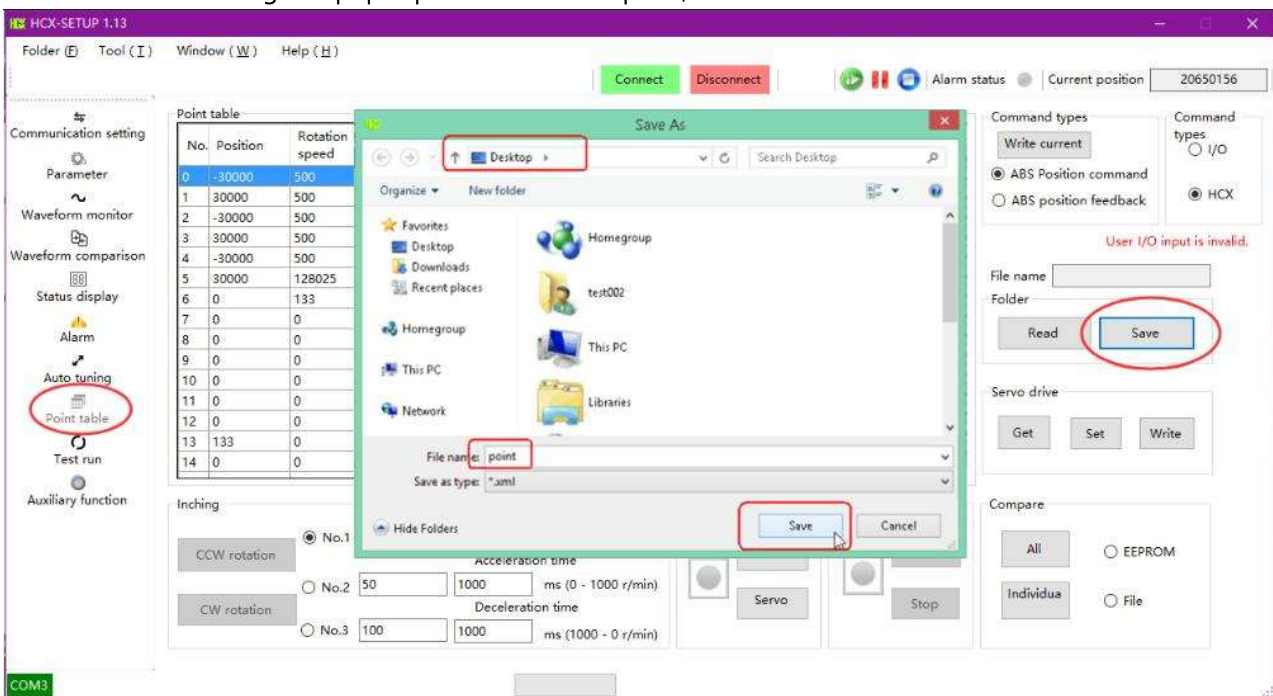
Point Table – Save Point Table File

Operation procedures

1. Click "Save" button after selecting the "Point table".



2. The "Save as" dialog box pops up. Select the Save path, enter the file name and click "Save" button.



Chapter 10

Test Run

This chapter mainly gives the description of Test run.

10.1	Description of Test Run Screen
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10.2	Test Run- Inching
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10.3	Test Run- Servo ON/OFF
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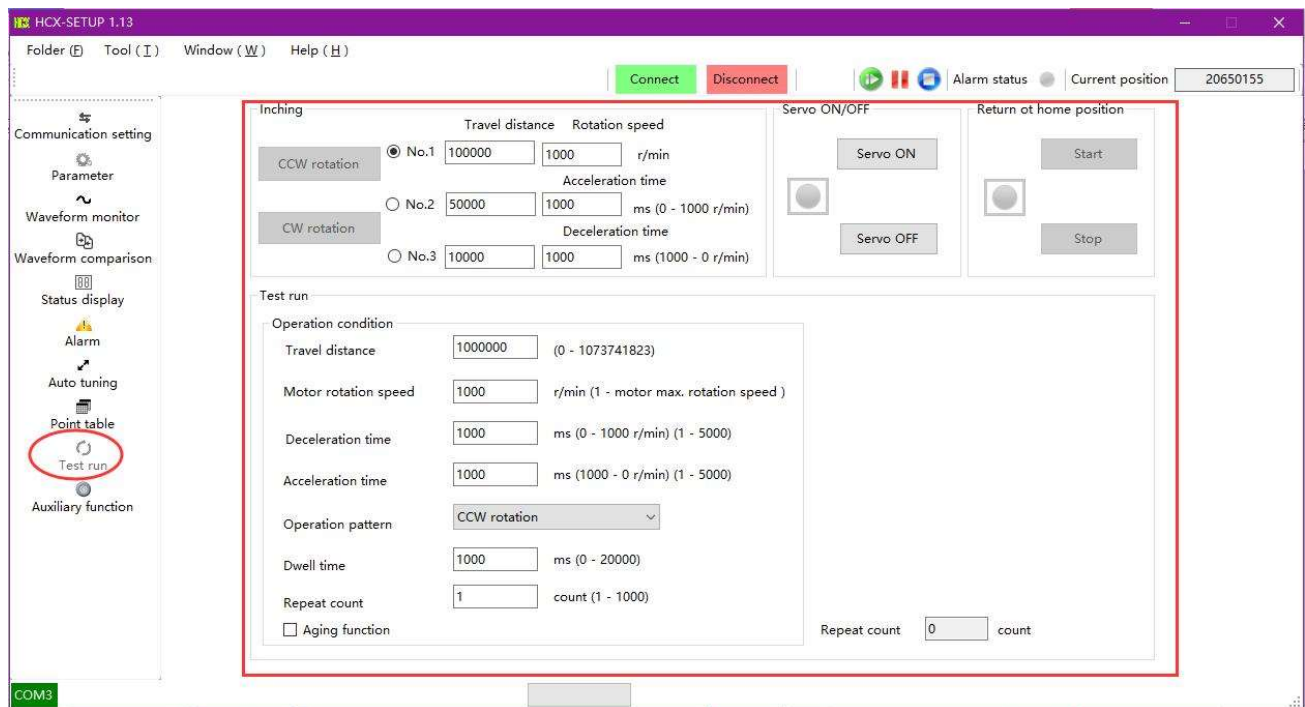
10.4	Test Run- Home Position Return
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10.5	Test Run- Test Run Operation
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10.6	Test Run- Suspend/ Stop Test Run Operation
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10.1 Description of Test Run Screen

Description of Test Run Screen



【Description】

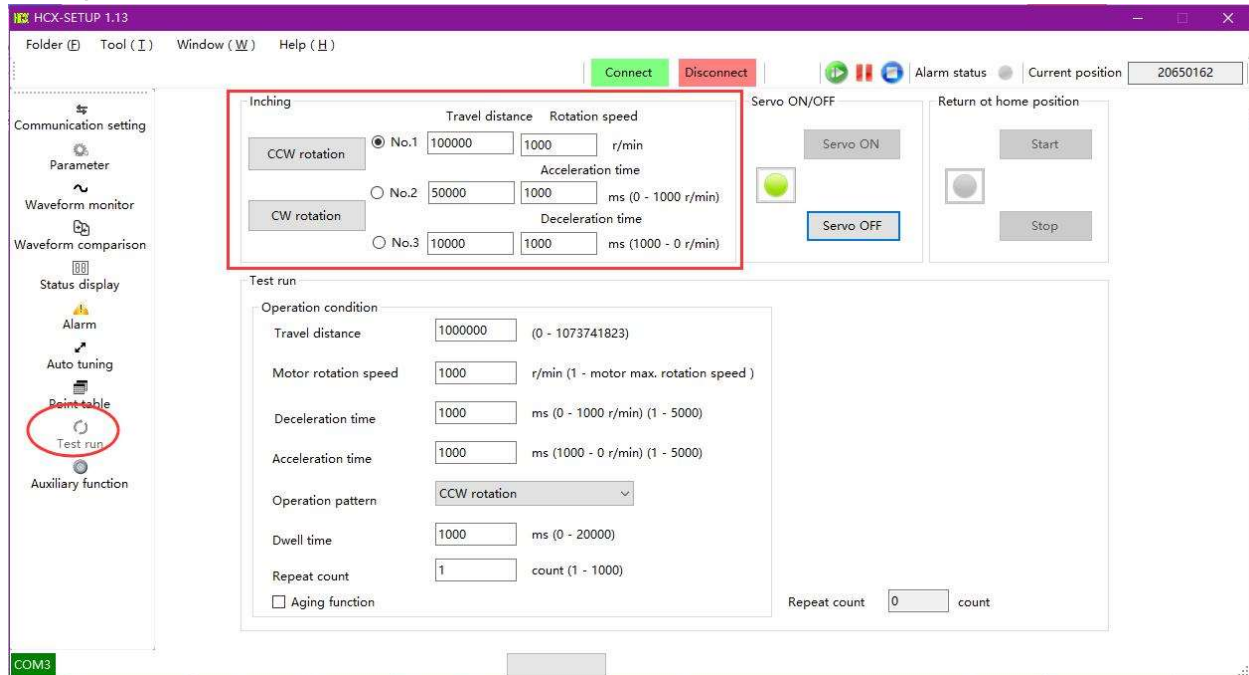
Inching CCW rotation :	Execute the Inching CCW rotation operation.
Inching CW rotation :	Execute the Inching CW rotation operation.
Inching Travel distance :	Set the travel distance in Inching for the servo motor.
Inching Rotation speed :	Set the rotation speed in Inching for the servo motor.
Inching Acceleration time :	Set the acceleration time in Inching for the servo motor.
Inching Deceleration time :	Set the deceleration time in Inching for the servo motor.
Test run Travel distance :	Set the travel distance in Test run for the servo motor.
Test run Rotation speed :	Set the rotation speed in Test run for the servo motor.
Test run Acceleration time :	Set the acceleration time in Test run for the servo motor.
Test run Deceleration time :	Set the deceleration time in Test run for the servo motor.
Test run Operation pattern :	Set the Operation modes in Test run for the servo motor.
Test run Dwell time :	Set the Dwell time in Test run for the servo motor.
Test run Repeat counts :	Set the repeat counts in Test run for the servo motor.
Aging function :	Set the servo motor to test run continuously or not.
Servo OFF/ON :	Force servo ON/OFF.
Home position return :	Execute the Home position return operation.
Start rotation :	Execute the Point table operation.
Pause rotation :	Suspend the Point table operation temporarily.
Stop rotation :	Stop the Point table operation.
Alarm status :	Flicker when alarm occurs in servo drive.

10.2 Test Run- Inching

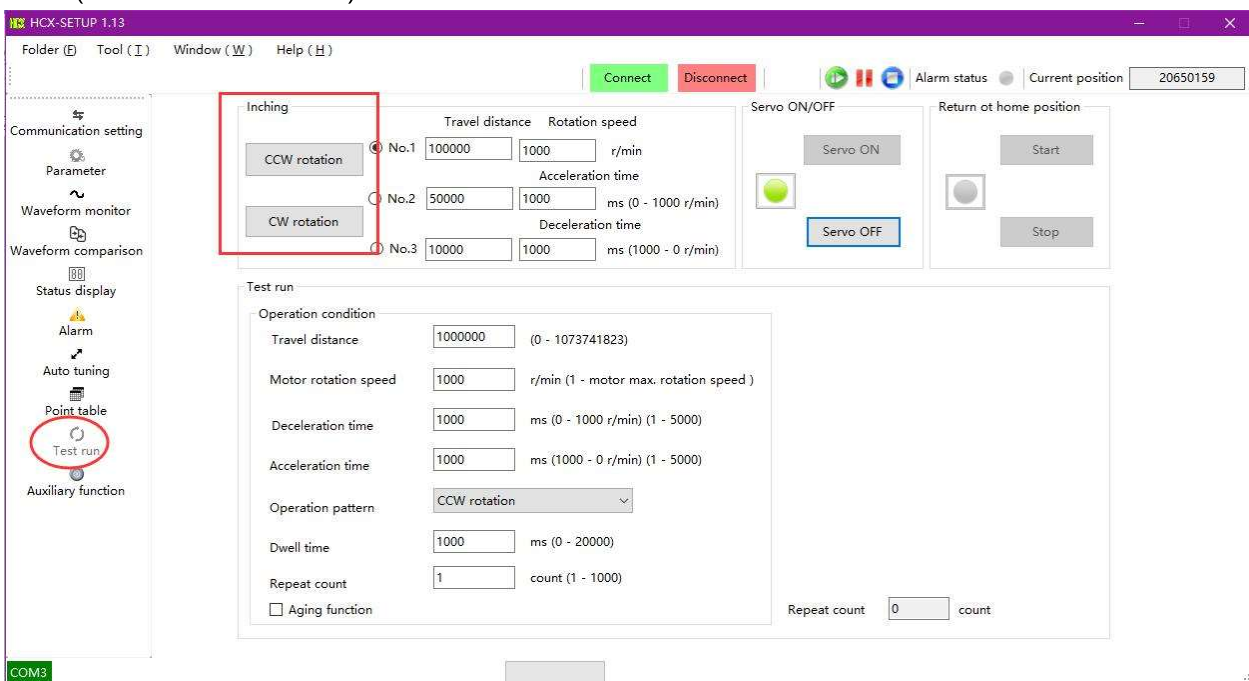
Test Run- Inching

Operation procedures

1. After selecting " Test run" , set the Travel distance, rotation speed, acceleration time, deceleration time in Inching.



2. Execute CCW or CW rotation after setting the travel distance, rotation speed, acceleration time and deceleration time. (Available at servo ON)

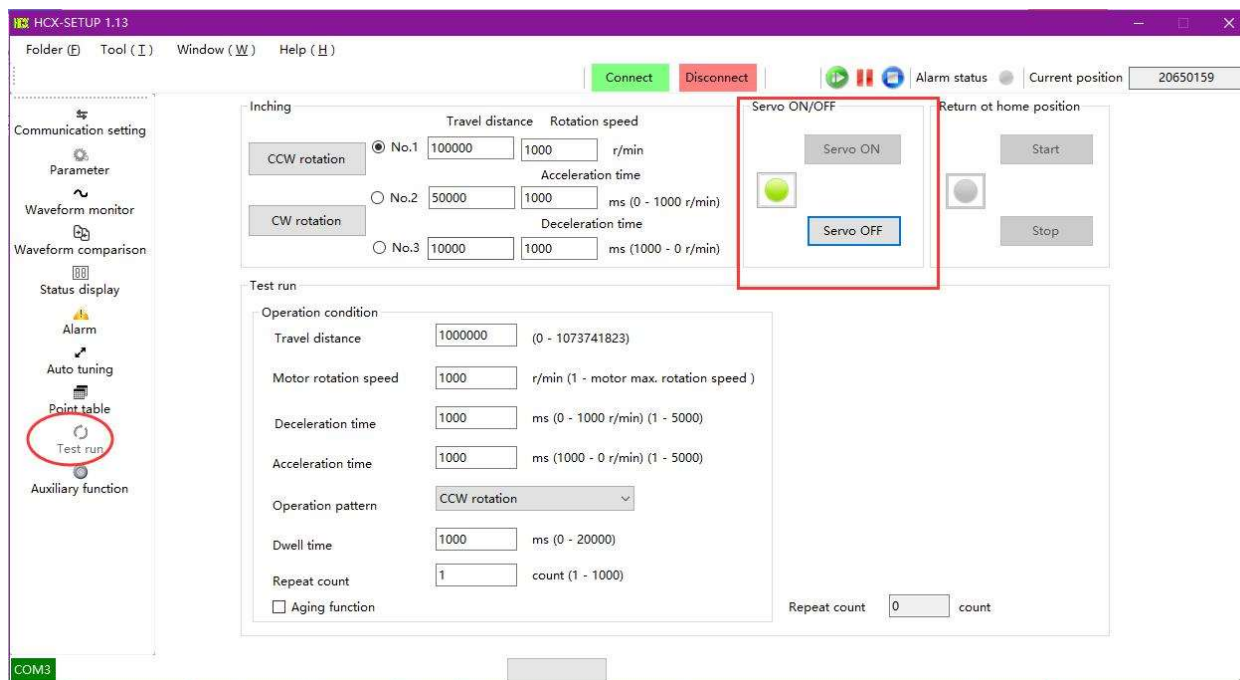


10.3 Test Run- Servo ON/OFF

Test Run- Servo ON/OFF

Operation procedures

1. After selecting "Test run", set the servo ON or OFF in Servo ON/OFF.

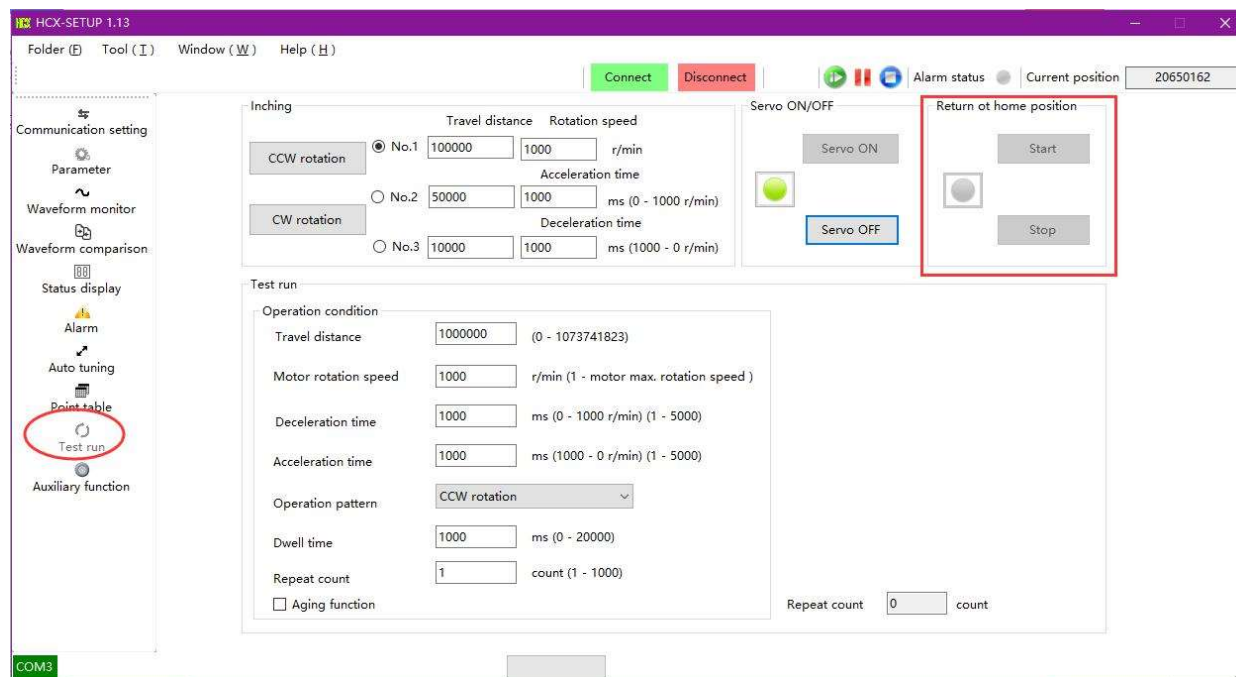


10.4 Test Run- Home Position Return

Test Run- Home Position Return

Operation procedures

1. Click the “Start” or “Stop” button in Home position return after selecting “Test run” .

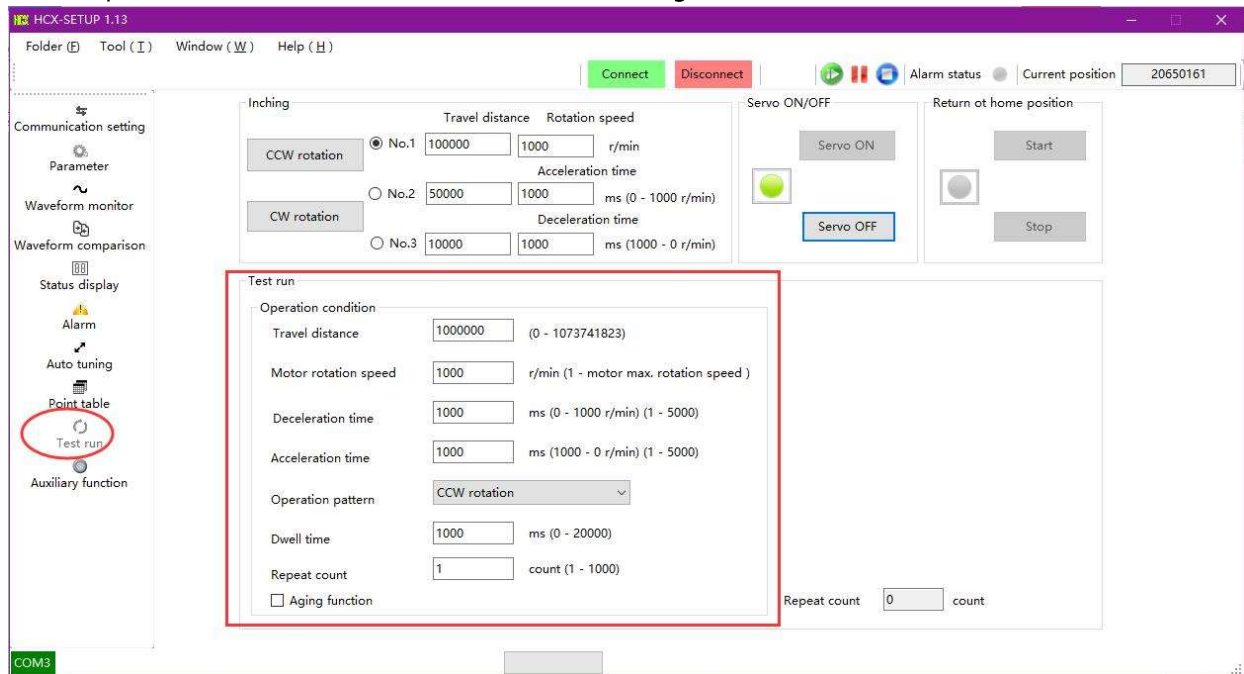


10.5 Test Run- Test Run Operation

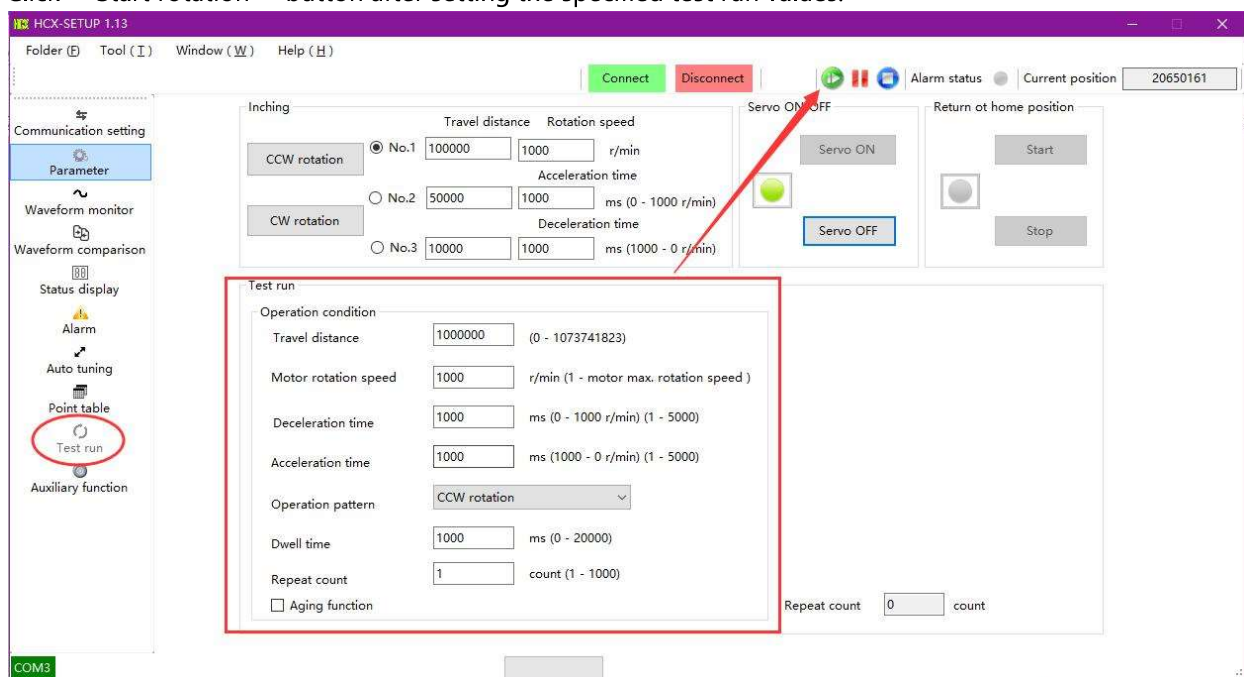
Test Run- Test Run Operation

Operation procedures

1. Set the specified value in the Test run screen after selecting "Test run" .



2. Click "Start rotation" button after setting the specified test run values.

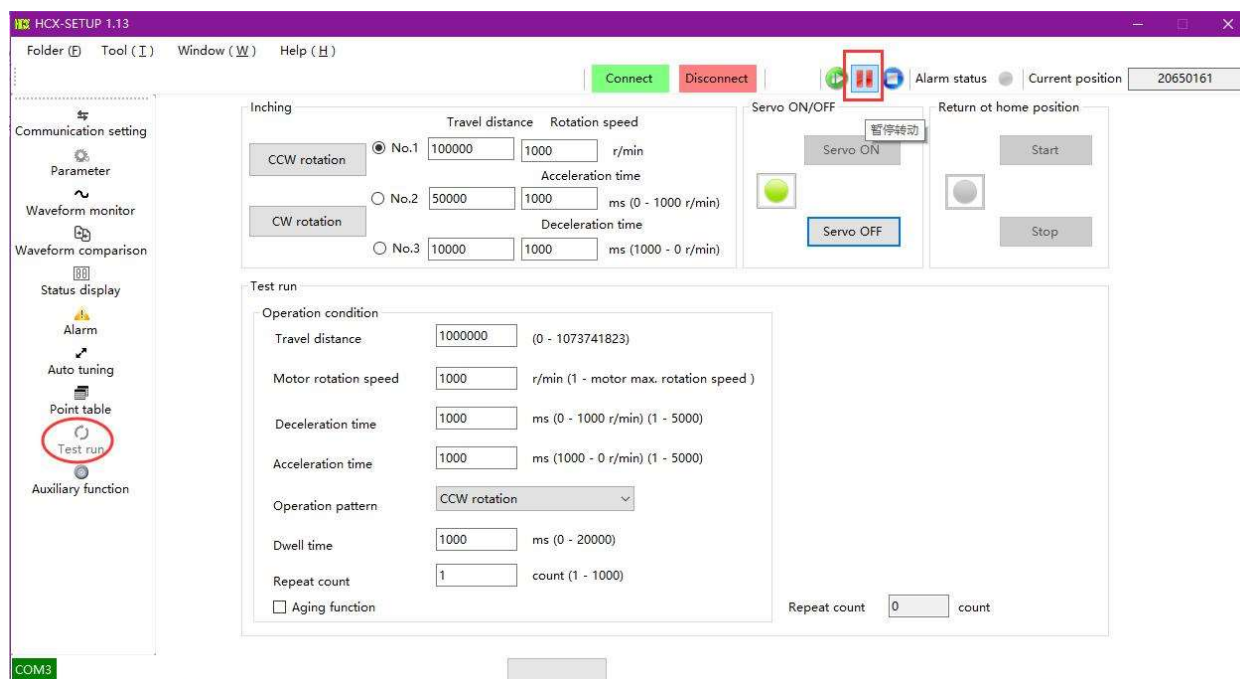


10.6 Test Run-Suspend/ Stop Test Run Operation

Test run-Suspend test run operation

Operation procedures

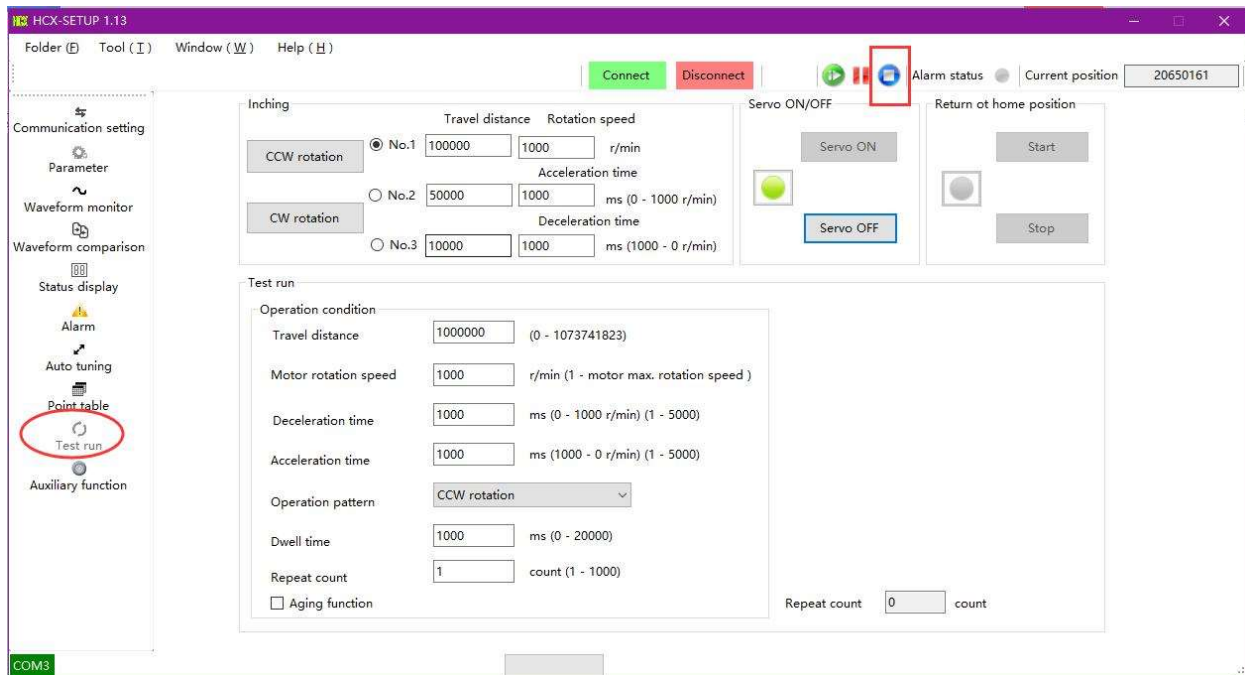
1. Click the "Pause rotation" button after selecting "Test run" .



Test run- Stop the test run operation

Operation procedures

1. Click "Stop rotation" button after selecting "Test run" .



Chapter 11

Auxiliary Function

This chapter mainly gives the description of encoder.

11.1 Description of Encoder Screen

11.2 Getting Encoder Status

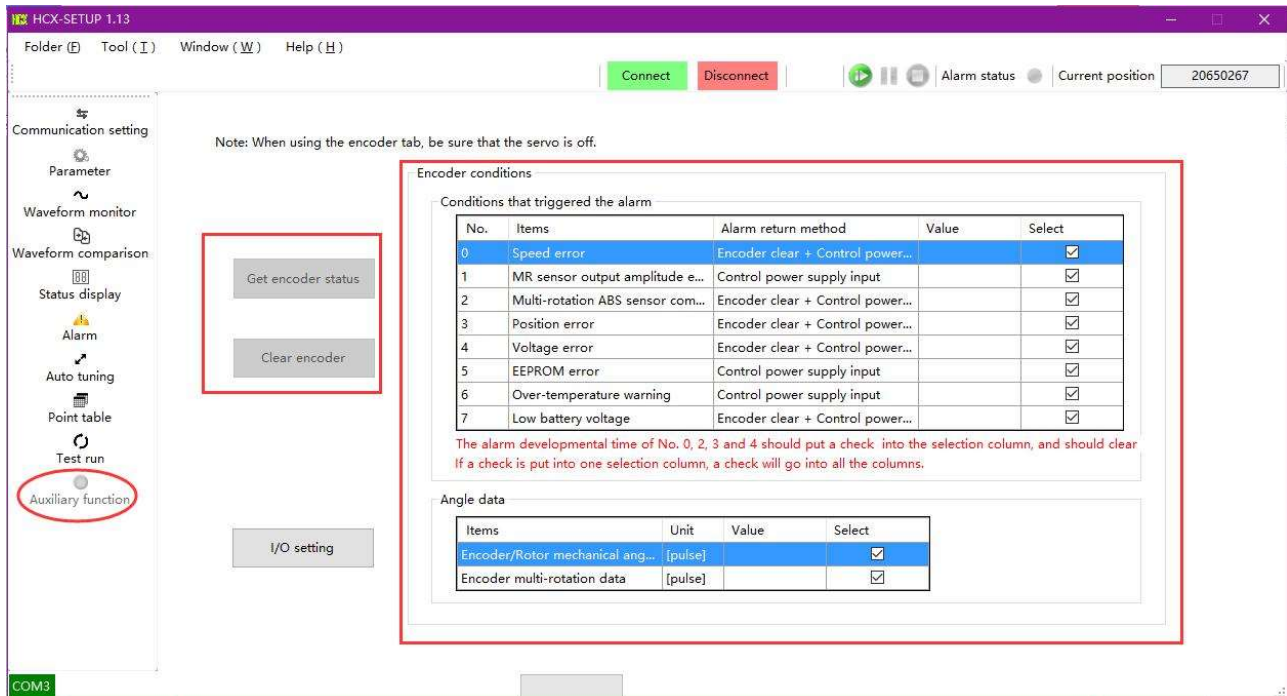
11.3 Clearing Encoder

11.4 Switching to I/O Setting

11.5 Writing I/O Setting

11.1 Description of Encoder Screen

Description of Encoder Screen



【Description】

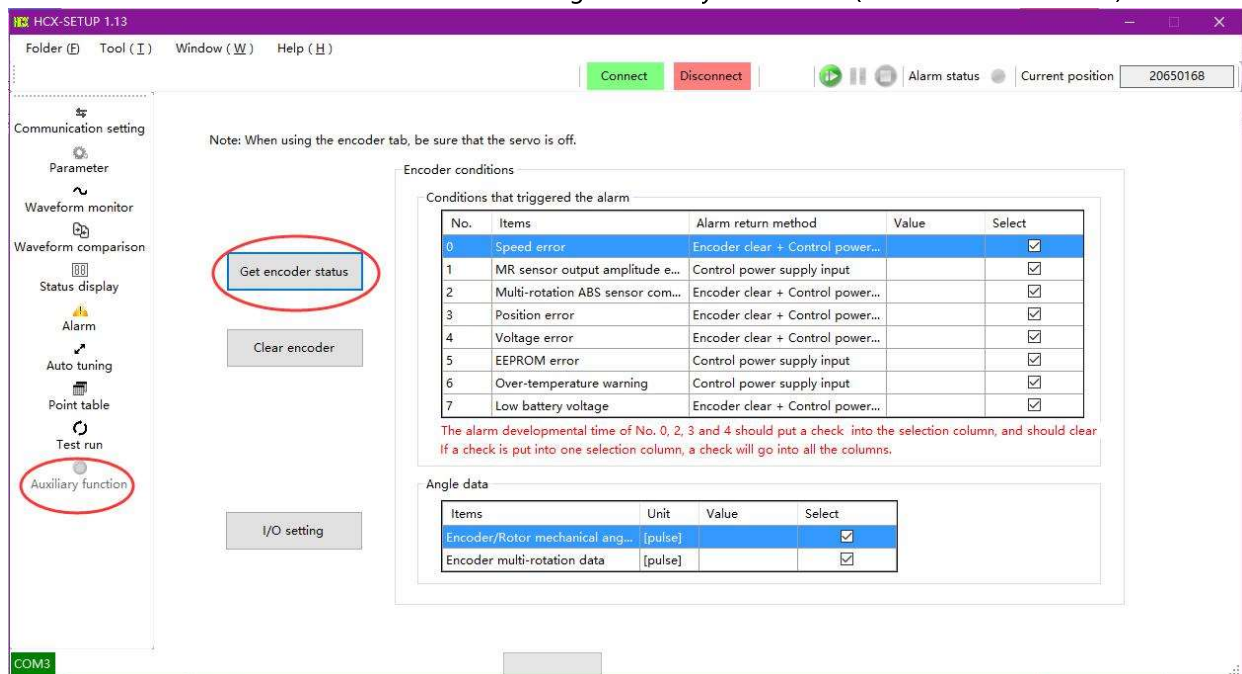
- Get encoder status : Get the encoder status of the servo motor, such as encoder/rotor mechanical angle (1 rotation) and encoder multi-rotation data. (Valid at servo OFF)
- Clear encoder : Clear the encoder status of the servo motor, such as encoder/rotor mechanical angle (1 rotation) and encoder multi-rotation data. (Valid at servo OFF)
- I/O setting : Switch to I/O setting screen.
- Conditions that triggered the alarm : Alarm information of encoder.
- Angle data : Including encoder/rotor mechanical angle (1 rotation) and encoder multi-rotation data.
Get corresponding values in encoder status.

11.2 Getting Encoder Status

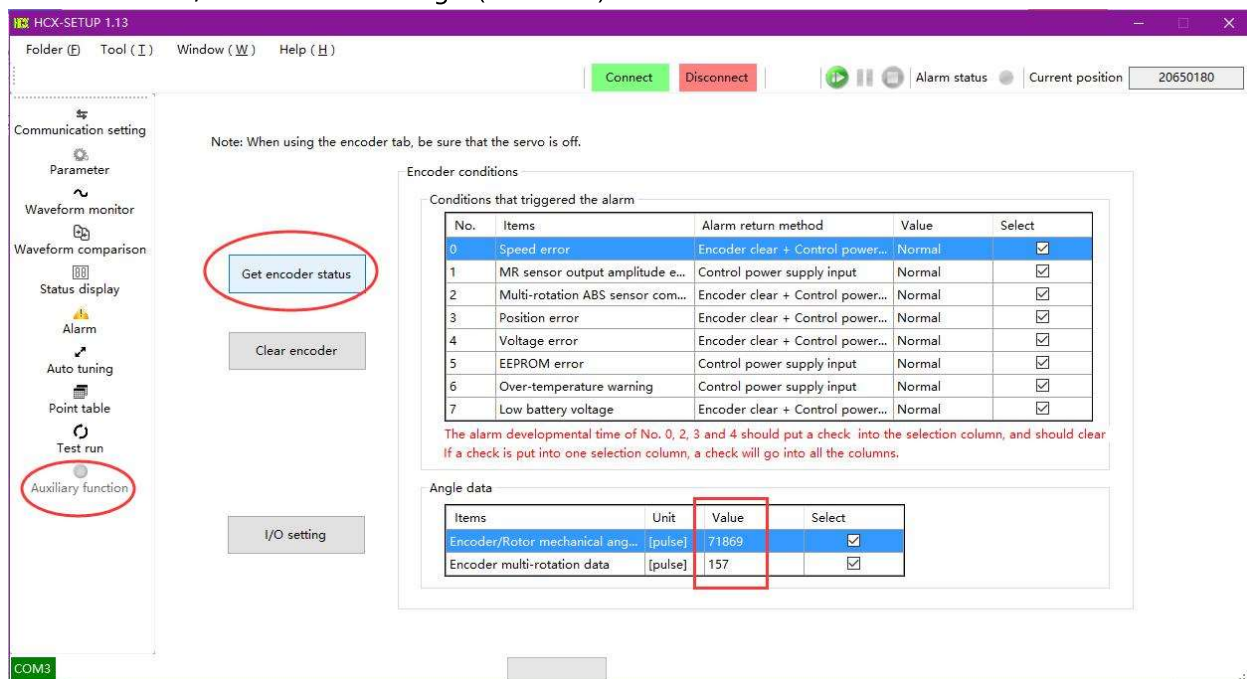
Get the encoder status

Operation procedures

1. Click “Get encoder status” button after selecting “Auxiliary function” . (Available at servo OFF)



2. Get the encoder/rotor mechanical angle (1 rotation) and encoder multi-rotation data.

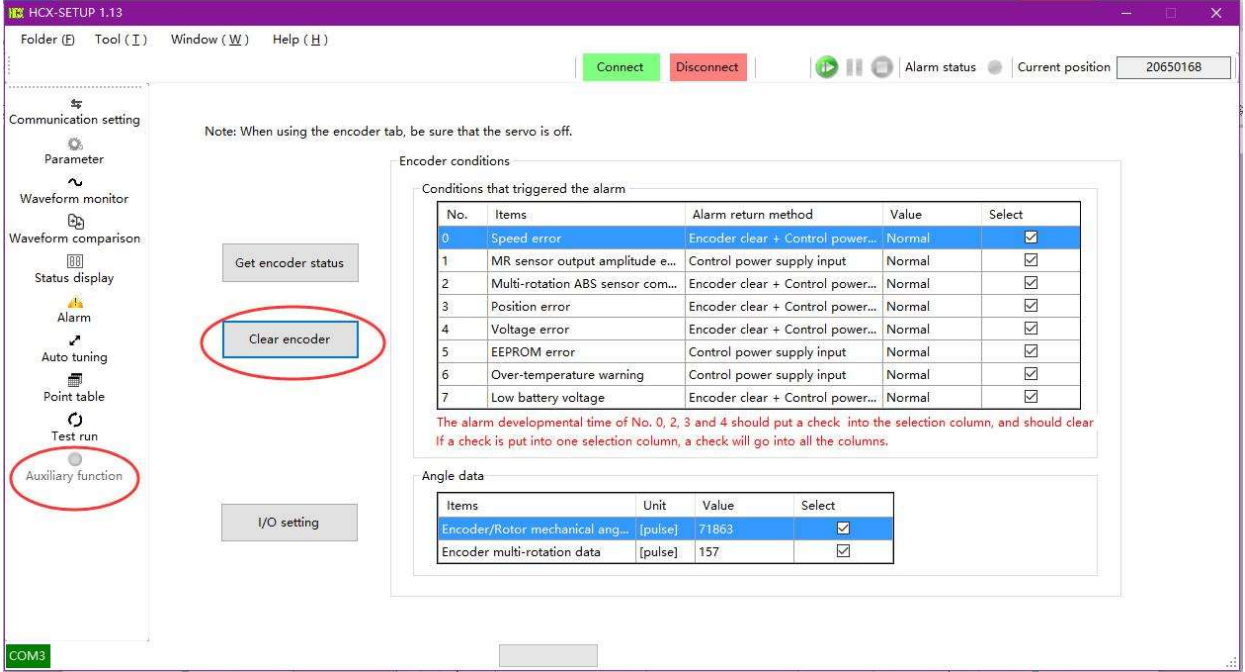


11.3 Clearing Encoder

Clear encoder

Operation procedures

- 1. Click “Clear encoder” button after selecting “Auxiliary function” . (Available at servo OFF)



- 2. The encoder multi-rotation data will be cleared.

