Optics Focus Instruments Co., Ltd.

Software User Manual

For integrated stepper motor

1. Software Installation

Double click 7SS_setup.exe to install the software.

2. Driver Installation

Open the installation directory after the software is installed, double click CDM v2.08.30 WHQL Certified.exe in 'Driver' directory to install the driver.

3. Parameters

Software name: 7SS motion control software

Version: v2.5.10

OS: Windows XP, Windows 7, Windows 8, Windows 10.

Hardware required: USB interface, 128MB RAM, 500M CPU

4. Usage

When you use windows 7, windows 8 or windows 10, please right click the installation file/software and run it as administrator.

Please install this software to your computer according to the installation wizard.

(1) Open the motion control software, the interface is as follow:

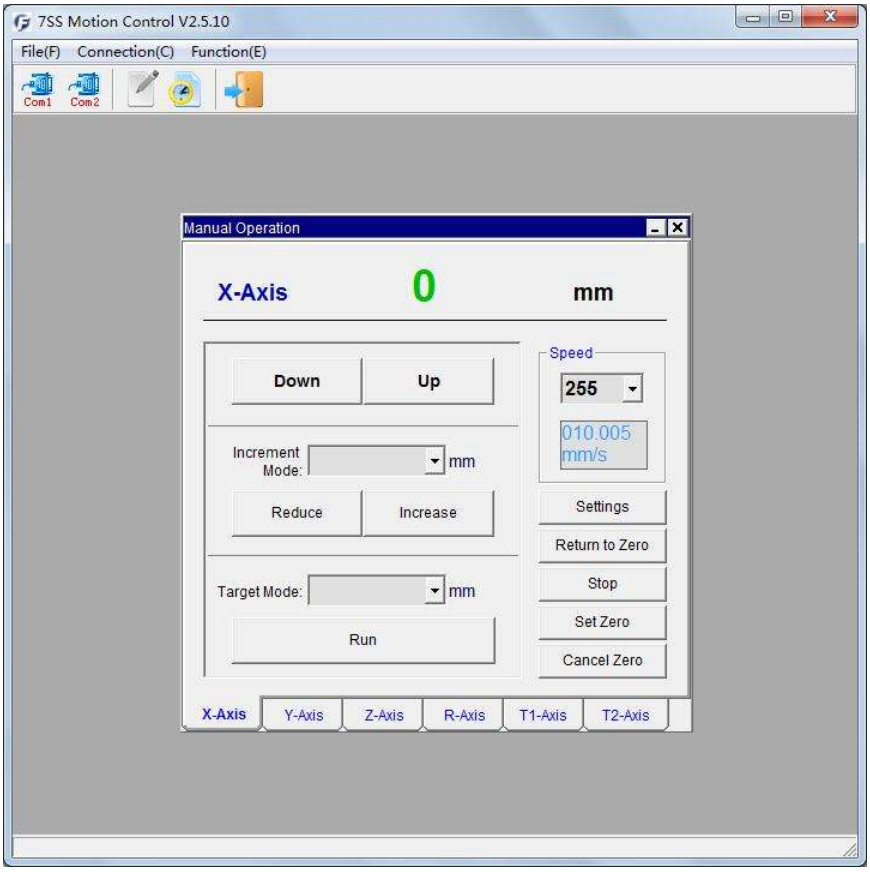

Figure 1

The main menu includes 'File', 'Connection', and 'Function', and the toolbar contains the corresponding shortcut buttons. You can select 'Exit' in 'File' menu or click the last shortcut button to exit.

(2) Select correct serial port in 'Connection' menu or click corresponding shortcut button.

(3) Click the third shortcut button, the interface is as follow:

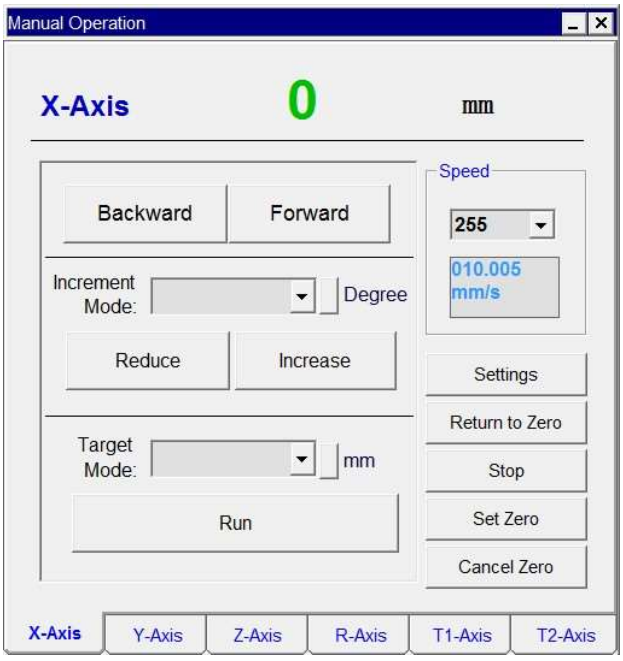

Figure 2

◆ Settings: Click the Settings button to set the parameters. **Please set the parameters for the positioning stage before you start to use it.** Please read the next section to get more details.

◆ Select axis by clicking the tab at the bottom.

◆ Free mode: When you press the Forward or Backward button, the translation stage will move toward corresponding direction, and when you stop pressing the button, the translation stage will stop.

◆ Increment mode: After inputting or selecting a value, you can click Increase or Reduce button, then the translation stage will move backward or forward.

◆ Target mode: After inputting or selecting a value, you can click Run button, then the translation stage will move correspondingly.

◆ Speed Selection: 0-255. The speed under the drop-down menu is the current actual speed value.

◆ Return to Zero: Click the Return to Zero button to move the stage back to mechanical zero position or nominal zero position.

Note:

Some of the rotation stages don't have the mechanical zero. So for the rotation stages without mechanical zero, return to zero operation is just to clear the step value in the controller. If you make the return to zero operation for the rotation stages without mechanical zero, the rotation stages will need a long time to stop.

When click the Return to Zero button for goniometer stage and then click 'N', the goniometer stage will move to the mechanical zero position firstly, and then will move to the zero position you set.

◆ Stop: Click Stop button to forcibly terminate motion.

◆ Set Zero: Click Set Zero button to set the current position as zero position. **It's only available for goniometer stage.** After setting zero position for goniometer stage, you need to reset the positive travel range and negative travel range of goniometer stage on the popup window.

◆ Cancel Zero: Click Cancel Zero button to cancel the zero position. **It's only available for goniometer stage.** After canceling zero position for goniometer stage, it needs to reset the positive travel range and negative travel range of goniometer stage.

(4) Parameters settings:

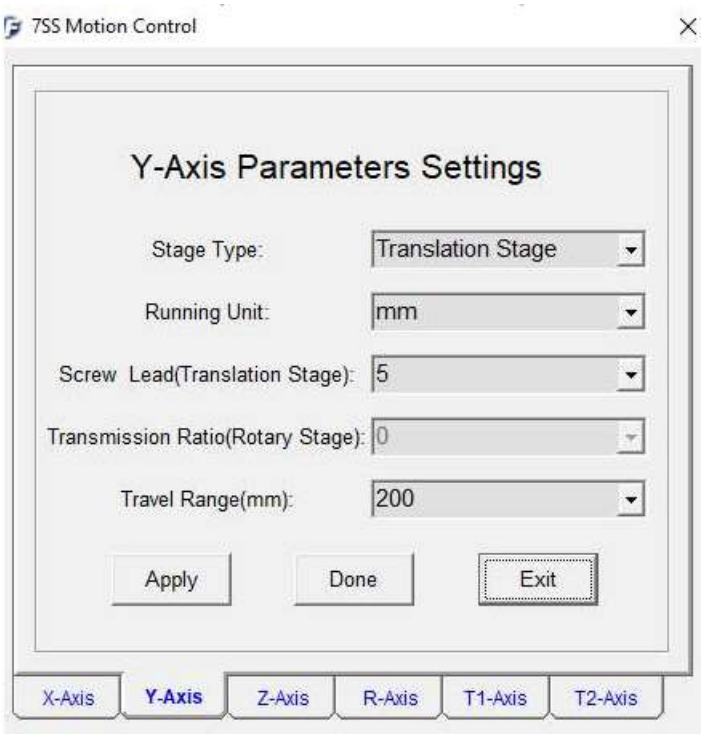

Figure 3

- **Stage Type**: Select the stage type according to the actual situation. There are four types: No connection, Translation Stage, Rotary Stage, Lab Jack and Goniometer Stage.
- **Running Unit**: mm(for translation stage and lab jack (except for MOZ-80-50)), degree(for rotary stage and goniometer stage) or step(for both of them)

  Note:

  For Lab Jack MOZ-80-50-E, the running unit must choose 'Step', because there's no linear relationship between pulse and height(mm). Please set all parameters for Lab Jack MOZ-80-50-E according to the above picture.
- **Screw Lead**: (for linear stage) Please refer to "screw pitch" in the specifications table of corresponding translation stage. Please get the specifications table from our website. **This field can be input value directly.**
- **Transmission Ratio**: (for rotary stage and goniometer stage) Please refer to "transmission ratio" in the specifications table of corresponding rotation stage or goniometer stage. Please get the specifications table from our website. **This field can be input value directly.**

- **Travel Range**: Please select the travel range of translation stage, rotation stage or goniometer stage. Please refer to “travel range” in the specifications table of corresponding stage. Please get the specifications table from our website. **This field can be input value directly.**

Note:

When you set the zero position for goniometer stage, you have to reset the positive travel range and negative travel range of goniometer stage according to the zero position. The side of near motor is positive, the other side is negative. The interface will be as follows:

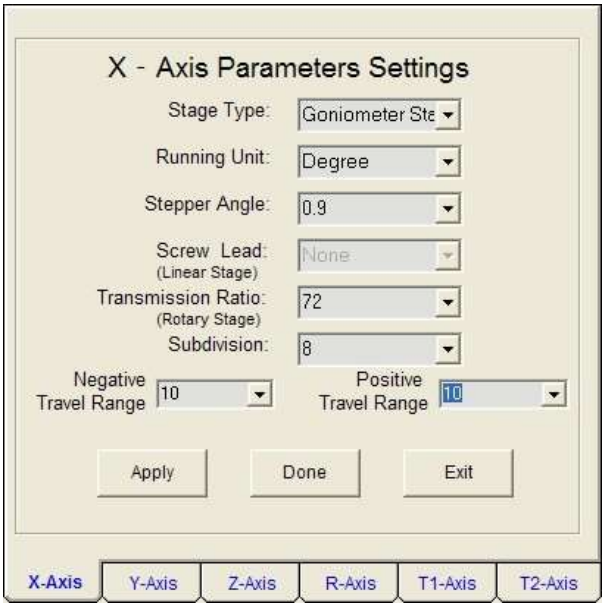

Figure 4

Note:

When you connected the controller with PC at the first time, the interface of parameters setting will open automatically for you to set the parameters for all axes. The axes which you don’t set the parameters for are disabled.

(5) Auto run program

Select ‘Auto Run’ in ‘Function’ menu, the interface is as follow:

You can easily make a new program or edit an existing program to control the complex movement of stages.

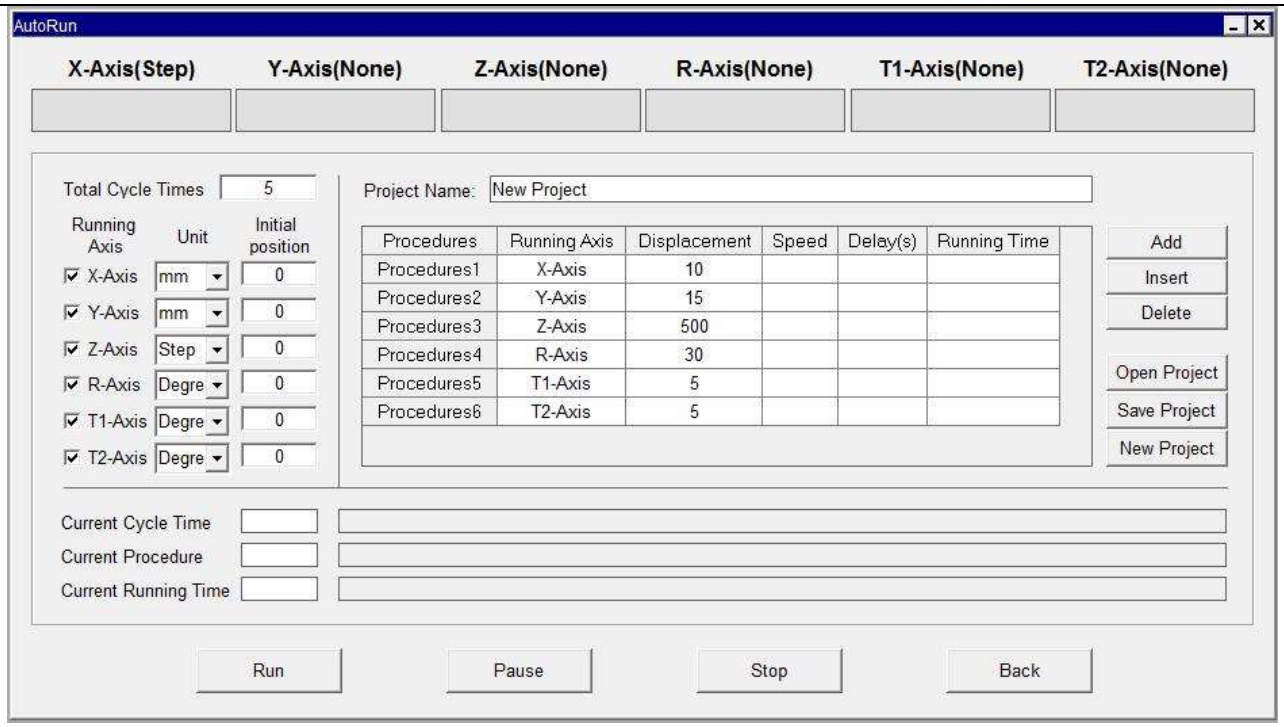

Figure 5

- **Total Cycle Times:** One cycle means all procedures run once. Total Cycle Times mean times of one cycle running.
- **Running Axis:** Select the axis which needs to run. For example, you can select x, y, z axis to perform moving.
- **Unit:** Select the running unit (mm, degree, step) from the drop-down list according to the stage type.
- **Initial Position:** The stage will move to the initial position before running of project.
- **Project Name:** Input the name of new project.
- **Running Axis:** Select the axis which needs to run in the current procedure.
- **Displacement:** Input the displacement of corresponding axis. If you input negative value, the stage will move to negative direction.
- **Speed:** Input the running speed of corresponding axis.
- **Delay:** Input the interval value between current procedure and next procedure. The unit is second.
- **Running Time:** It's the running time of current procedure. After the current procedure finishes the running time, the next procedure will start to run.
- **Add :** Click Add to add a new procedure.
- **Insert :** Click Insert to insert a new procedure before the current procedure.
- **Delete:** Click Delete to delete the current procedure.
- **Open Project:** Open an existing program. It's very useful to avoid much repeated operation. You can also edit the program and save it to a new project.
- **Save Project**: Finished a program, you can save it by click **Save Project**.
- **New Project:** Add a new program.
- **Run:** When you open a program or add a new program, you can click **Run**, the stages will move according to the

procedures in the project.

At the top of the interface, it will display the position of each axis. At the bottom of the interface, there're three progress bars to display the progress of the program.