



DC Brushless Driver SHSD24-01A

< Software part >

Instruction Manual

Ver. 1.0



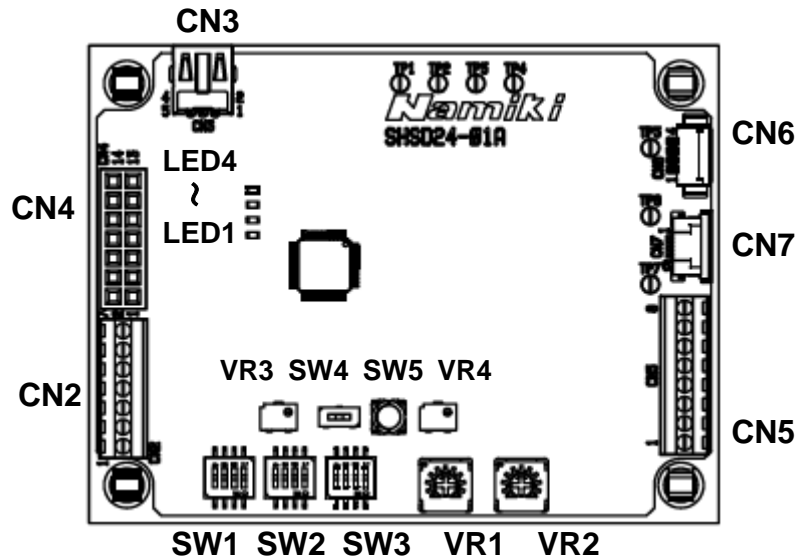
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1.How to set up SHSD24-01A

When you use RS232C communication, set up SHSD24-01A as below.

* Refer to Instruction manual <Hardware part> for more details.



Before running communication software, make sure to set up the following;

- Prepare the power supply
- Connect to the motor
- Set up on VR1 (Adjust PWM duty ratio of output waveform when motor start driving.)
- Set up on each SW (Select model, select control method, setting PI gain Value)

When controlling in PC mode
(Setting of SW2)



* For the details of setting SW and VR for SHSD24-01A, refer to Instruction manual <Hardware part>.

Note) Do not switch SW1 and SW2, turn on/off for the power, and press on SW5 (reset SW) while communication software is running.

2.Preparation for driving the motor in PC mode

Please prepare as below before driving the motor in PC mode.

2.1 Prepare USB cable

Before connecting SHSD24-01A and computer, make sure to have a USB cable (TypeA-MiniB).

2.2 Install Virtual COM Port Drivers

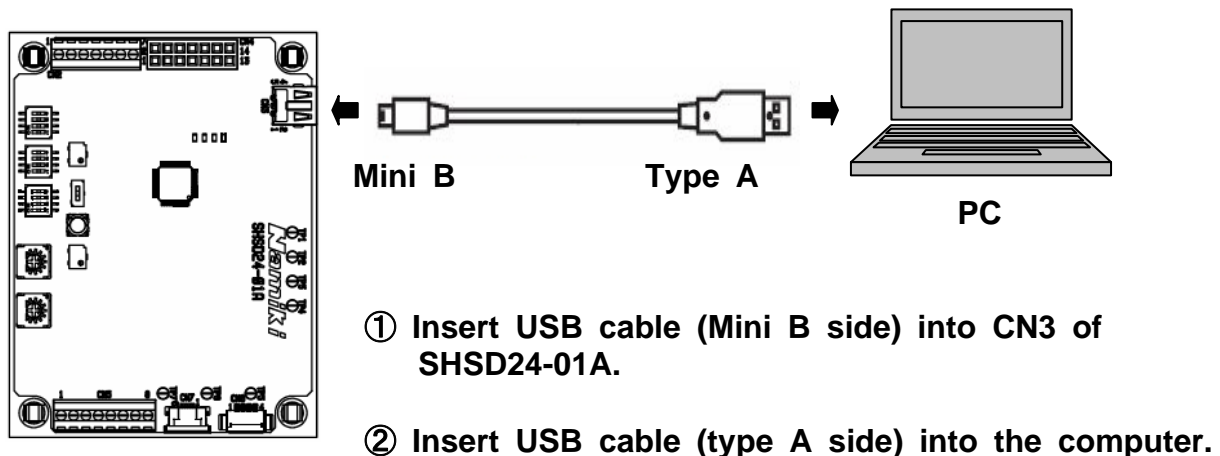
When driving the motor in PC mode, you need to install Virtual COM Port Drivers which is provided by FTDI. Install the driver from the following URL.

Available from the following URL, as of December 2012.

<http://www.ftdichip.com/Drivers/VCP.htm>

2.3 Connect SHSD24-01A to computer

2.3.1 How to connect SHSD24-01A to computer



Note) Do not insert and remove USB cable during powering on SHSD24-01A and running communication software.

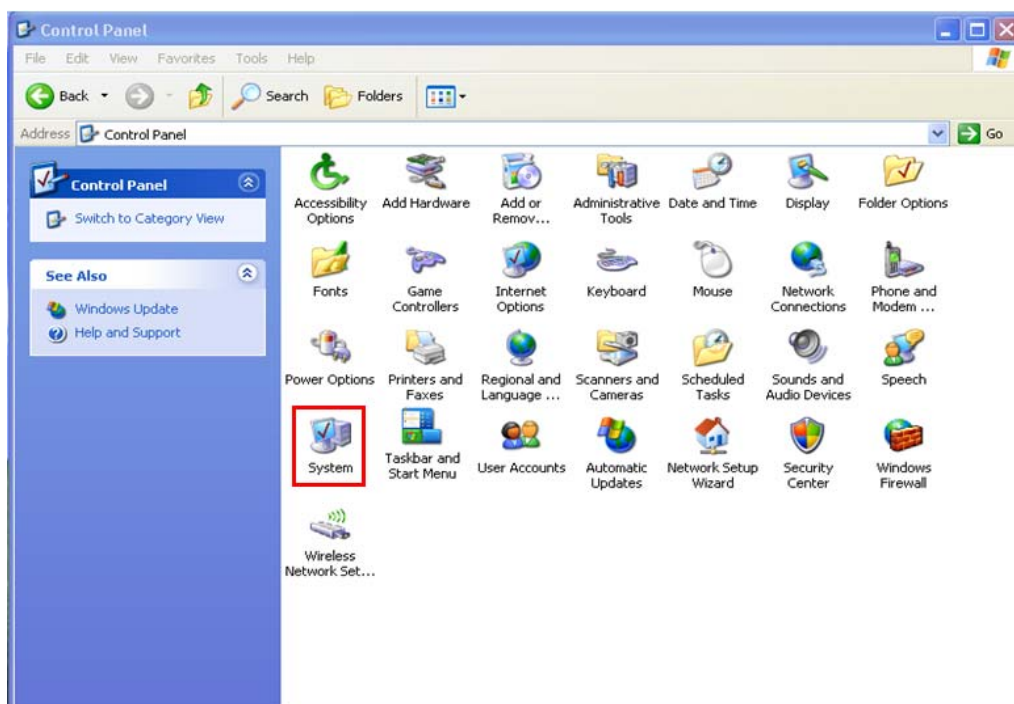
2.3.2 Check connection port (Windows XP)

[Procedure]

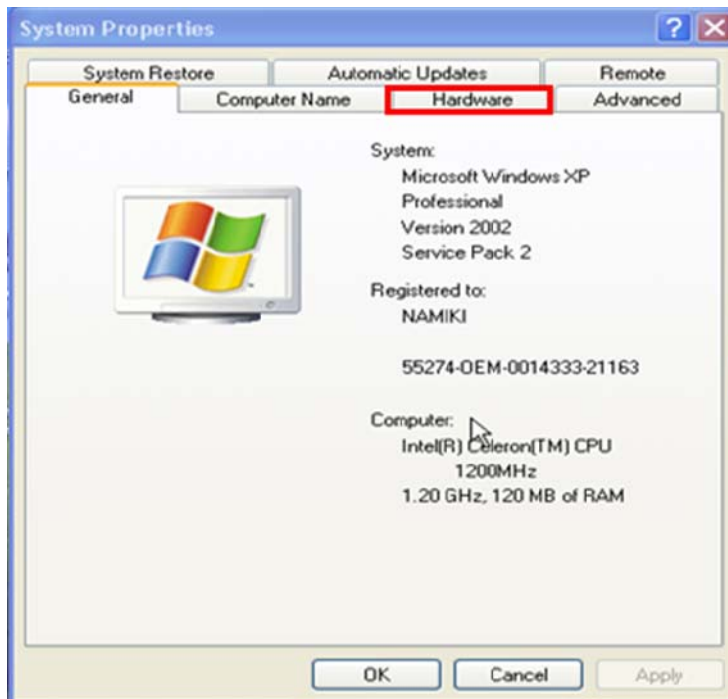
- ① Left click on “start” button.
- ② Left click on “control panel”



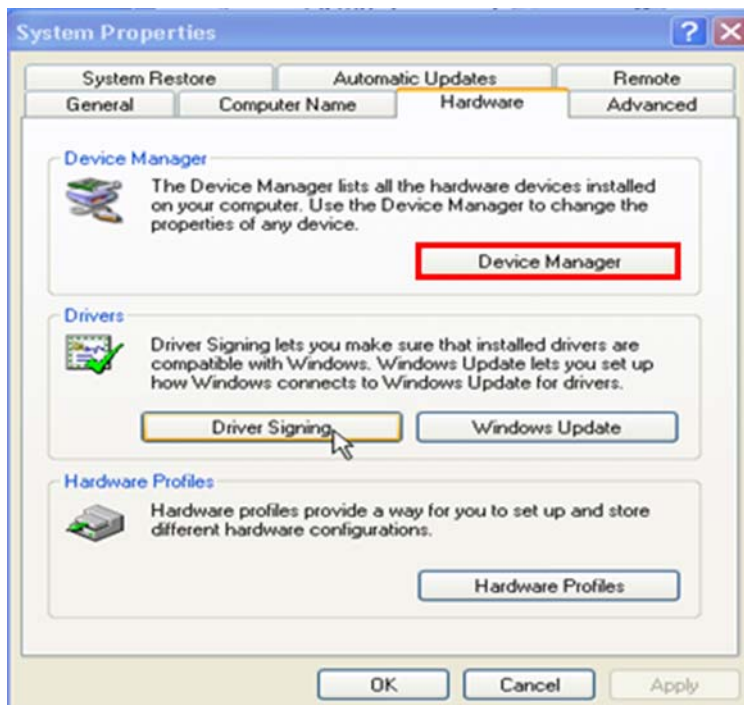
- ③ On the “control panel”, left click on “performance and maintenance”.
- ④ In the “performance and maintenance”, left click on “system”.



⑤ In the “system properties”, left click on “hardware” tab.

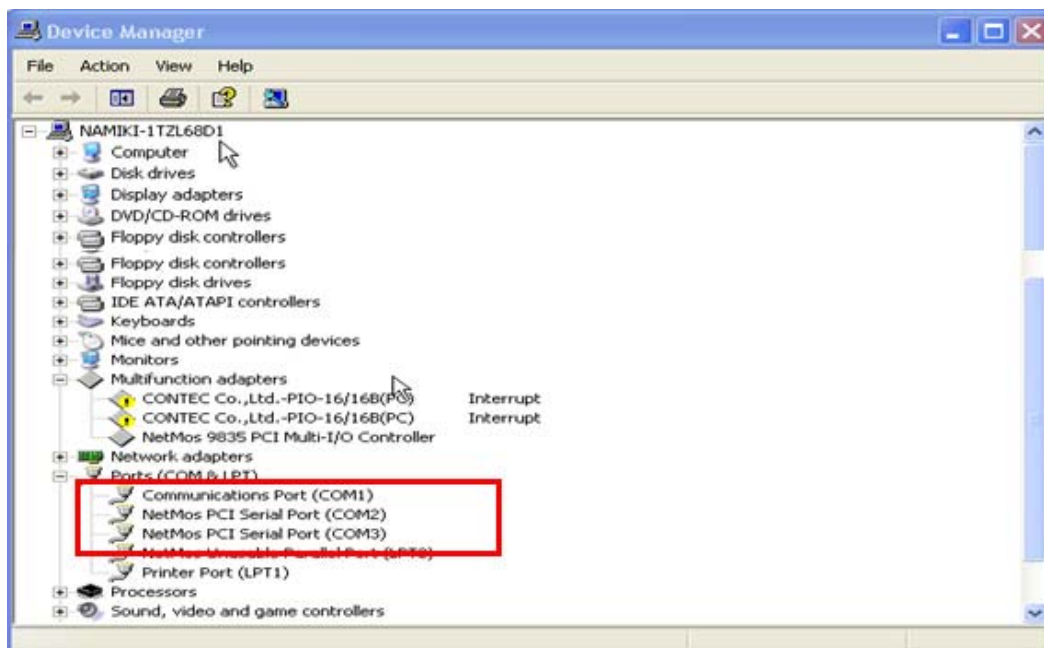


⑥ In the “Hardware”, left click on “device manager”.



⑦ Check on the number of device manager port (COM).

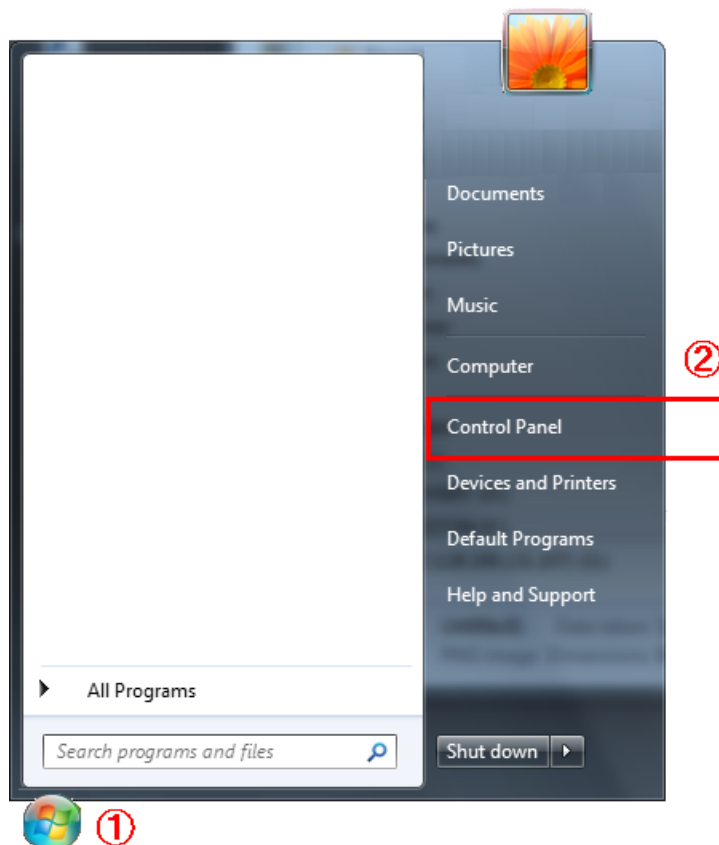
複数ある場合は空きポートとなるので注意



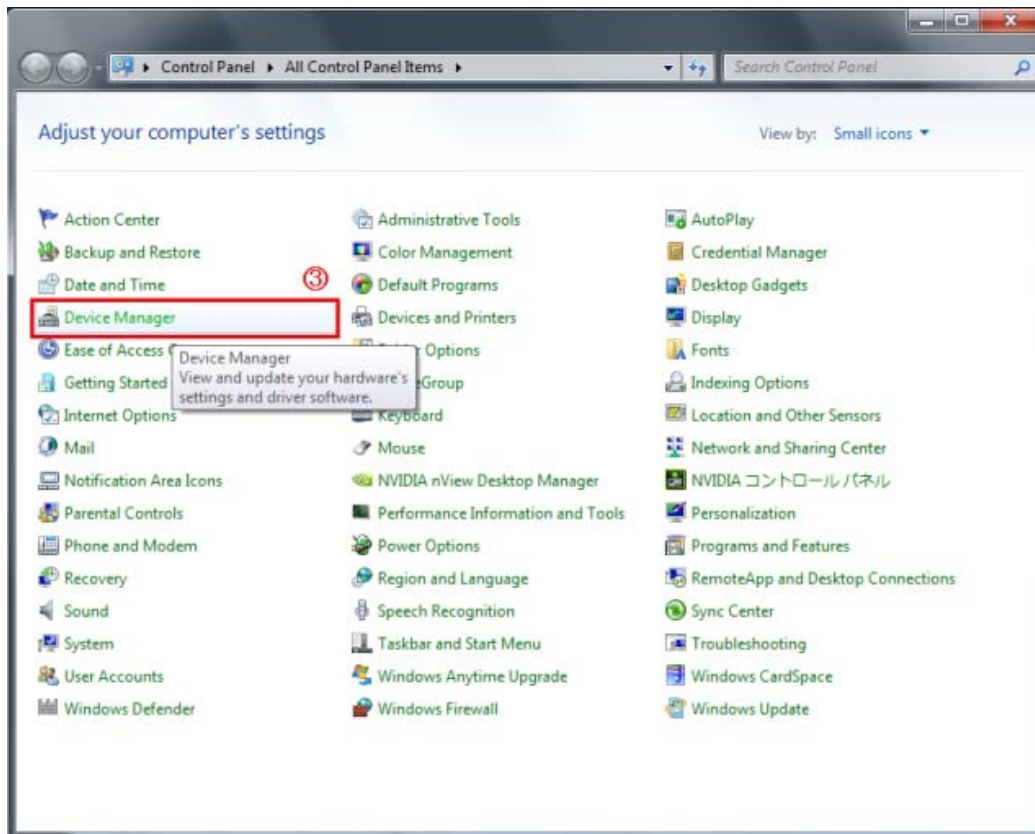
2.3.3 Check connection port (Windows 7 and Windows Vista)

[Procedure]

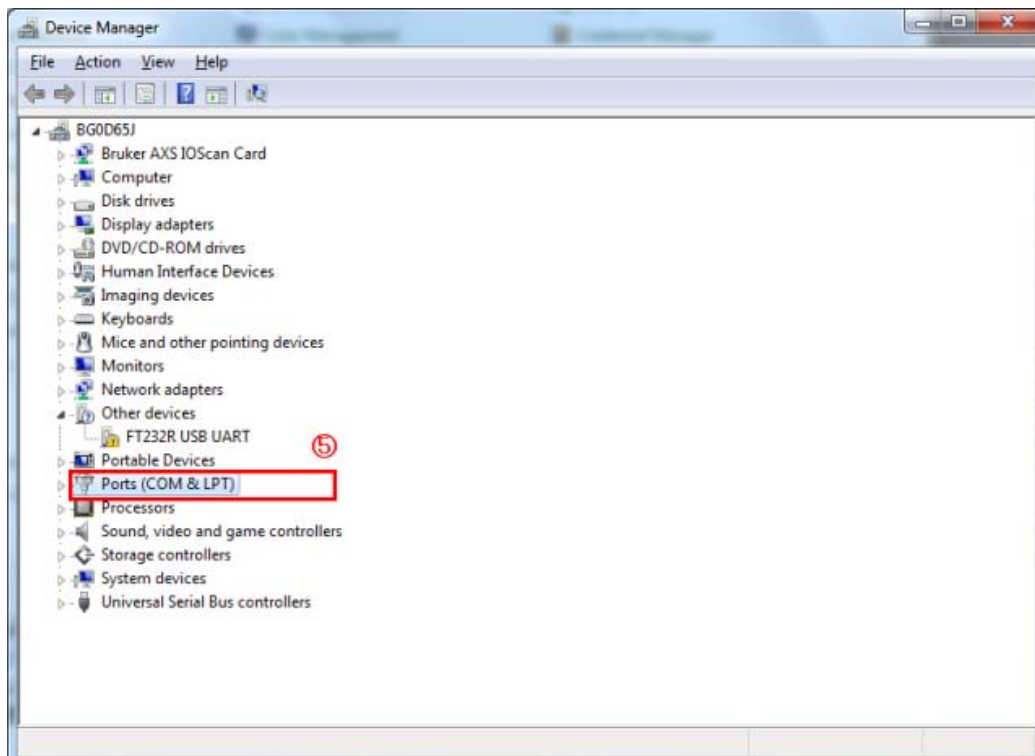
- ① Left click on “start” button.
- ② Left click on “control panel”.



- ③ On the “control panel”, left click on “hardware and sound”.
- ④ In the “hardware and sound”, left click on “device manager”.

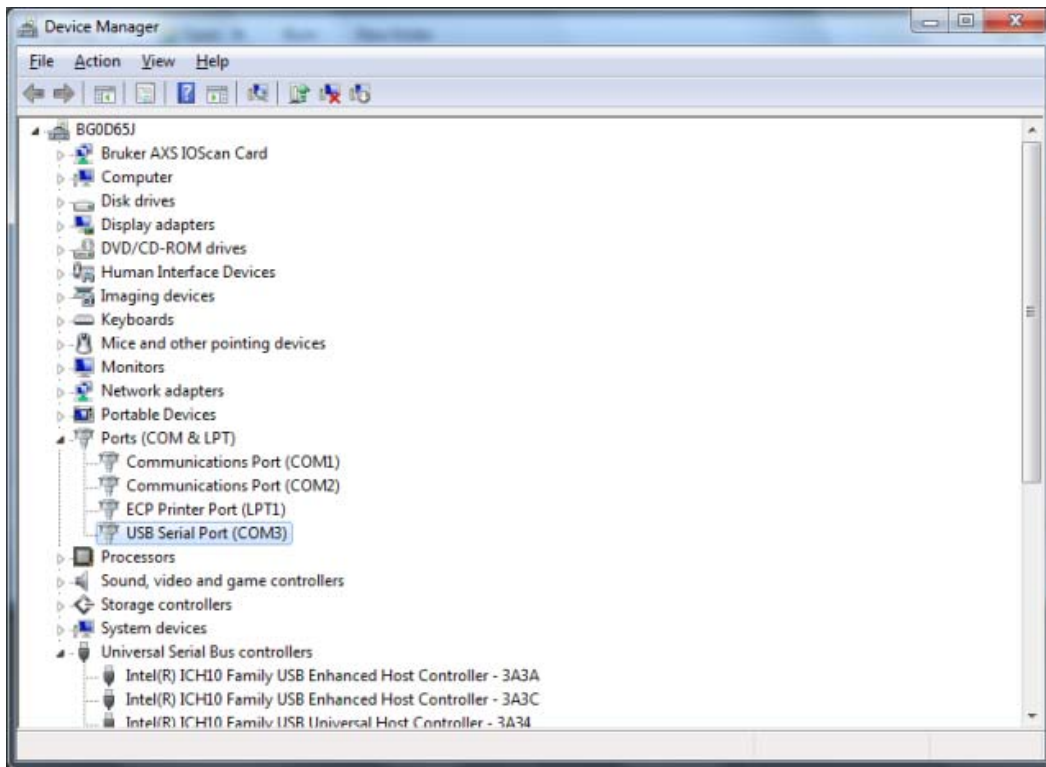


- ⑤ Check on number of device manager port (COM).

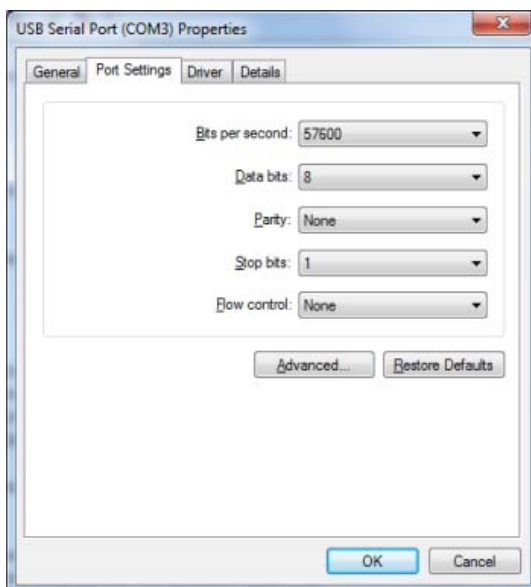


2.3.4 Setting of connection port

Double-click on the port which you have just checked in 2.3.2 or 2.3.3.



Property of port which you will use will be displayed. So left click on “port setting” tab and chose each section as below and then click “OK” button.



Port setting

Bit/Second (B)	57600
Data bit(D)	8
Parity(P)	None
Stop bit(S)	1
Flow control(F)	None

3. Communication software

3.1 How to use communication software

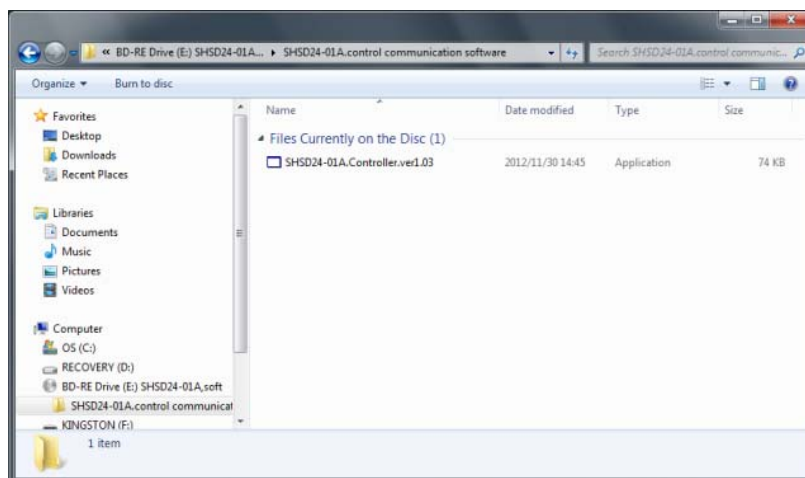
3.1.1 Before start up software

Make sure to have finished setting SW of SHSD24-01A and power on SHSD24-01A. Besides, check the connection port and make sure to have finished setting the port.

* Do not switch SW1 and SW2, and do not press reset SW during software running.

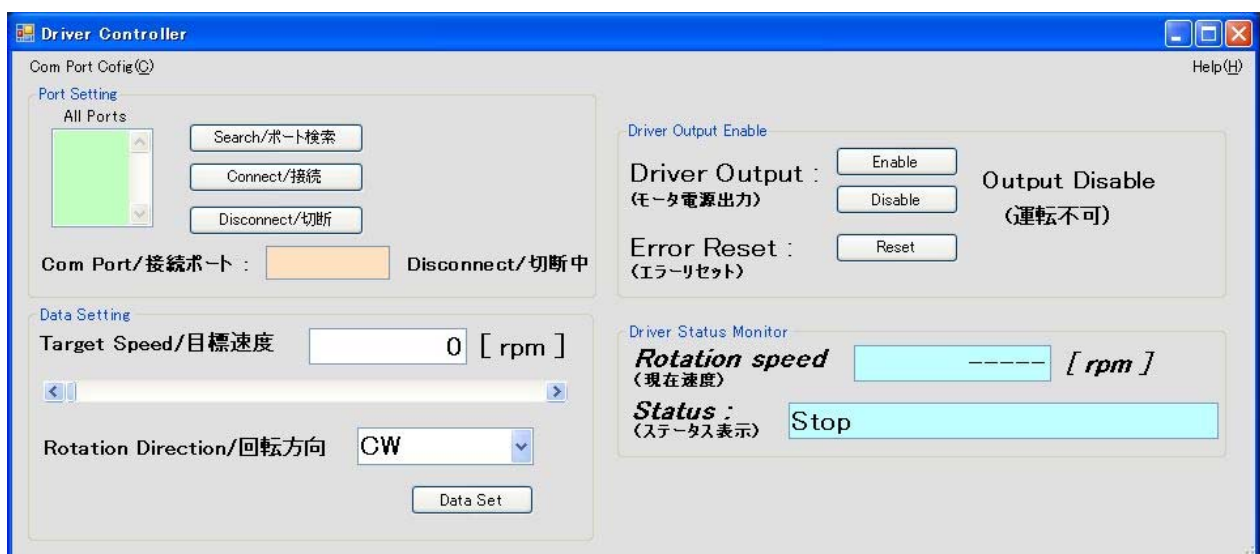
3.1.2 Prepare communication software

The software is stored in the CD which is attached to SHSD24-01A. In the folder, there is a file called "SHSD24-01A.Controller.ver1.xx". Double click it and it will start up.



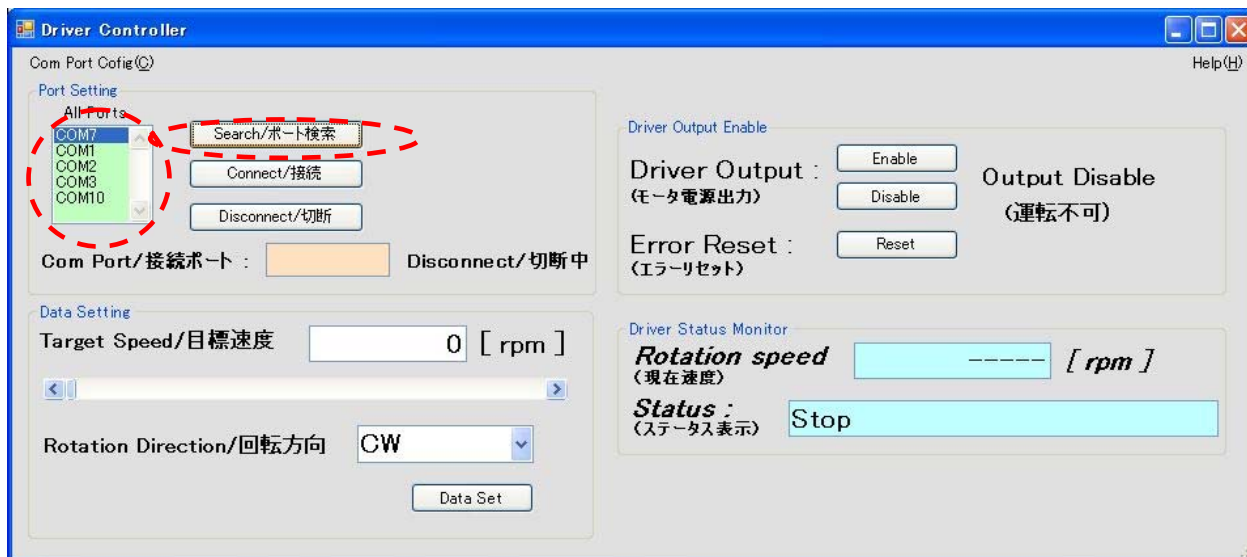
3.1.3 Start up communication software

After the software is started up, following screen will be displayed.



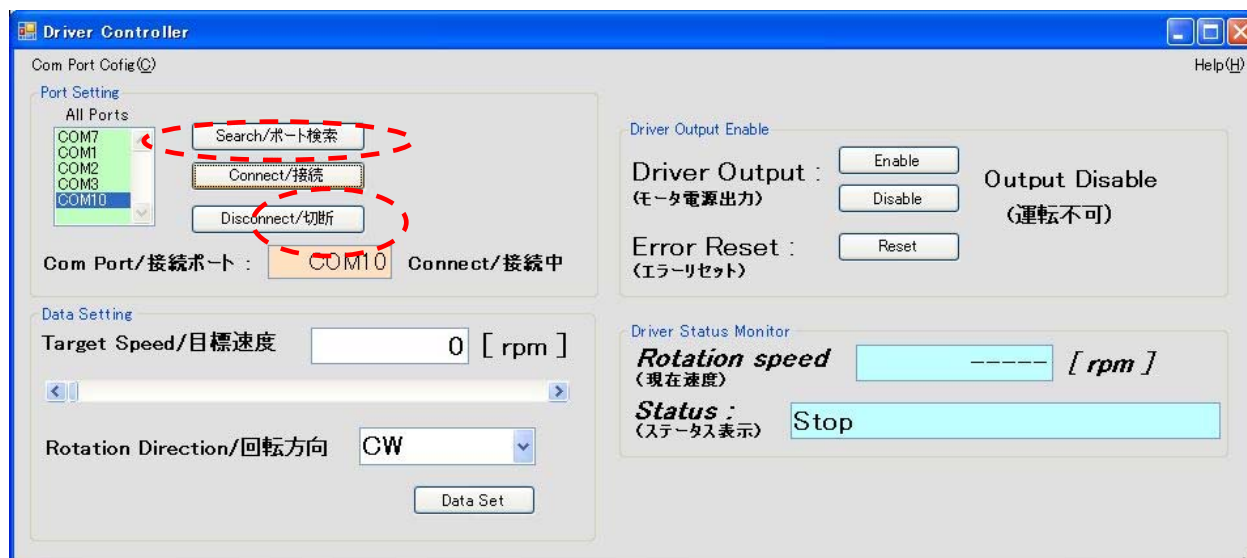
3.1.4 Left click on “Search / Port searching” button.

If you click “Search” button, available ports will be displayed in “All Ports” section. Select the port that you checked in the foregoing 2.3.2 and 2.3.3.



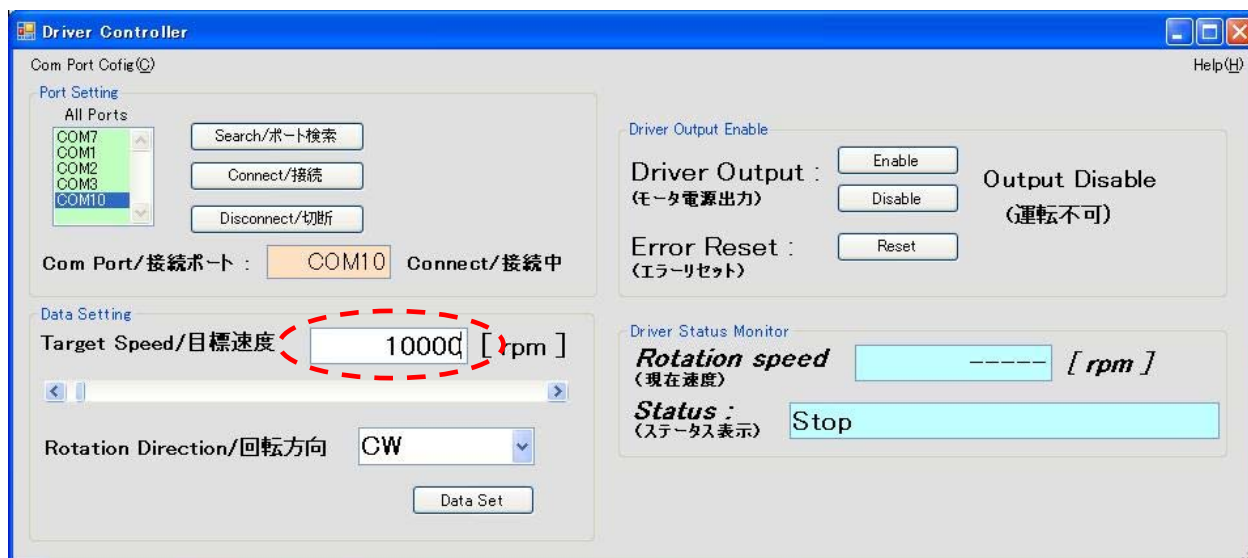
3.1.5 Left click on “Connect” button.

After connection of the port is completed, connected port will be displayed as below.

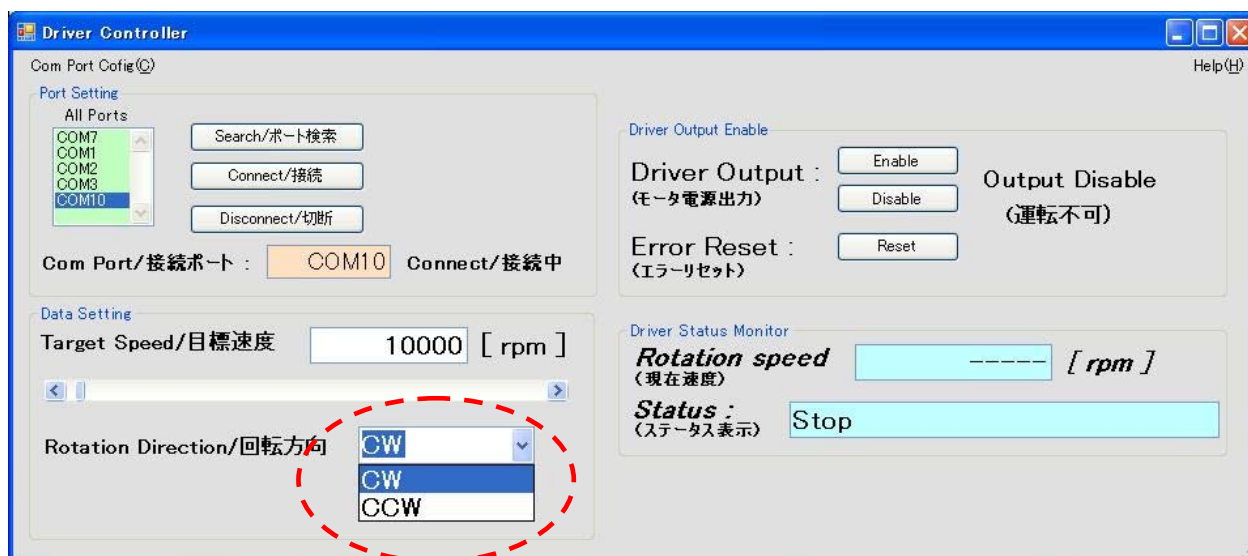


3.1.6 Input target speed in “Target Speed” section.

Set the target speed within the range of minimum through maximum speed of the motor which you will use. For the speed range of the motor, refer to Instruction manual <Hardware part>.



3.1.7 Select rotation direction in “Rotation Direction” section.



3.1.8 Left click on “Data Set” button.

If you left click on the “Data Set” button, the input data which are target speed and rotation direction, which is done in 3.1.6 and 3.1.7, will be set in SHSD24-01A.



3.1.9 Click “Enable” button.

If you click on “Enable” button, motor will start to run.

It is possible to switch to ON / OFF of motor power supply by Enable button / Disable button.

- Motor power input will be ON if you left click on Enable button.
(Motor operable status)
- Motor power input will be OFF if you left click on Disable button.
(Motor not operable status)



3.1.10 Error happens

If you click on “Error Reset” button, it will recover from the error status.

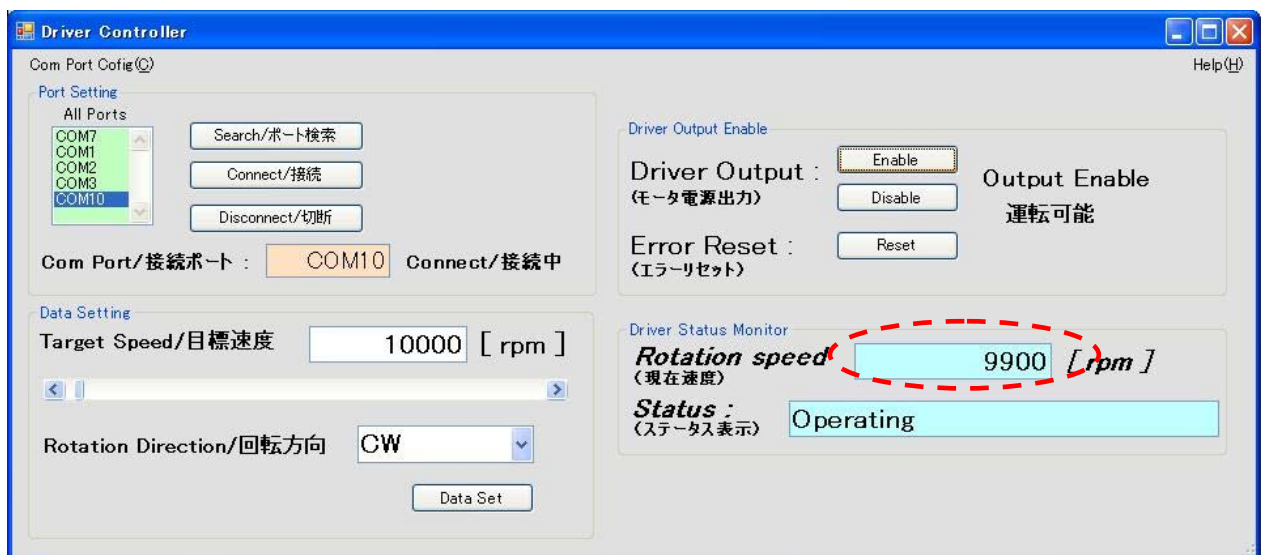
- * If it does not recover from error status even through you click on error button, check SHSD24-01A setting according to the content of “Status” display on the screen.



3.2 Display content of communication software

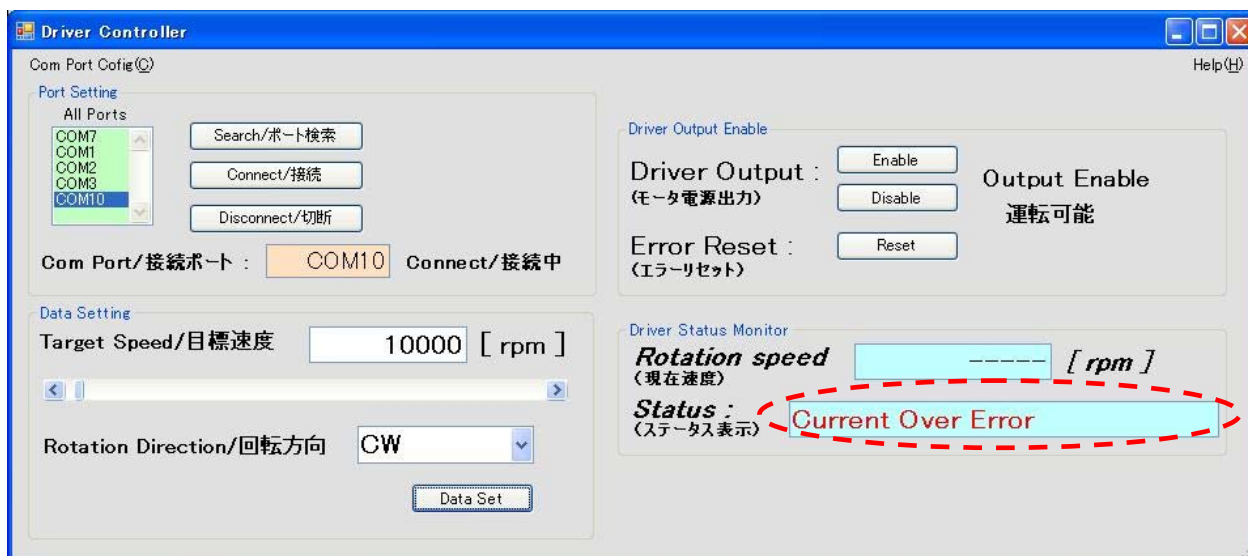
3.2.1 Display of rotation speed of the motor

You can check current rotation speed of the motor at “Rotation speed” section.



3.2.2 Status display of driver

You can check the status of driver at “Status” section.



3.2.3 Status display contents of driver

The content of status display is as follows;

Display	Content
Stop	Motor stops.
Operating	Motor is operating.
Drive Power Out Of Range	Power voltage detection error
Invalid Drive Type	Invalid driving error
Hall Sensor No Connect	Hall sensor is not connected.
Motor Power Out Of Range	Motor power voltage detection error
Emergency Stop	EMG error
Current Over Error	Motor current detection error
Forced Error	Forced commutation error
RS232C Over Run Error	RS232C over run error Check setting of communication port.
RS232C Framing Error	RS232C framing error Check setting of communication port.
RS232C Parity Error	RS232C Parity error Check setting of communication port.

* Refer to Instruction manual <Hardware part> for how to recover from error status.

3.3 Precautions during software running

- 3.3.1 In case of forced shut down the application of communication software during software running during software running, power off SHSD24-01A or press reset SW of SHSD24-01A to stop the motor forcibly, since the motor will not stop by itself.**
- 3.3.2 In case of turning off SHSD24-01A during software running, finish the application of communication software once. After turning the application of software, restart up the communication software.**
- 3.3.3 In case of changing setting of SW1,2 during software running, finish the application of communication software once, press reset SW of SHSD24-01A and restart the communication software.**
- 3.3.4 In case of pressing reset SW of SHSD24-01A during software running, Finish the application of communication software once, press reset SW of SHSD24-01A and restart the communication software.**