ICS3.5 Serial Manager V 1.1.2

Software manual 2,013.07

Introduction

This time you have you use the ICS3.5 Serial Manager Ver.1.0.0.3, Thank you very much. This software is intended for configuration changes of the servo motor of ICS3.5 standard. Please read the following contents before use.

Disclaimer

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- The Software disassemble, decompile, do not perform reverse engineering.
- Icons that are used in this software the Webdesigner Depot Primo Icon Set (http://www.webdesignerdepot.com)using.

Operating environment

- .NET Framework2.0
- WindowsXP SP2 (32bit), WindowsVista (32bit), have been tested and approved for use in Windows7 (32bit).

how to use

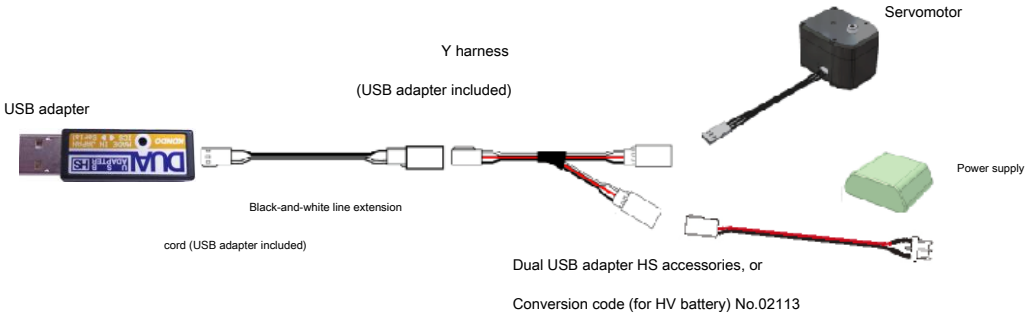
Installation uninstall

After making the decompression of files, please make sure that you have the following files in the folder.

- ICS3.5Manager.exe (executable file)
- IcsBaseClass.dll (library file)
- ICS3.5 when the manager software manual .pdf (now you read the file) uninstalled, the files that can unzip, please delete a folder-by-folder basis.

Connection of equipment

Dual USB Adapter HS (No.02116), ICS-USB adapter HS (Nanba02043) or, ICS-USB adapter (Nanba01106) to the servo realtime operation by connecting the servo to another power source (the operation check) various settings can be done.



※ Connect to the Y harness by a servo motor supplied connecting cable. Please connect only one basically.

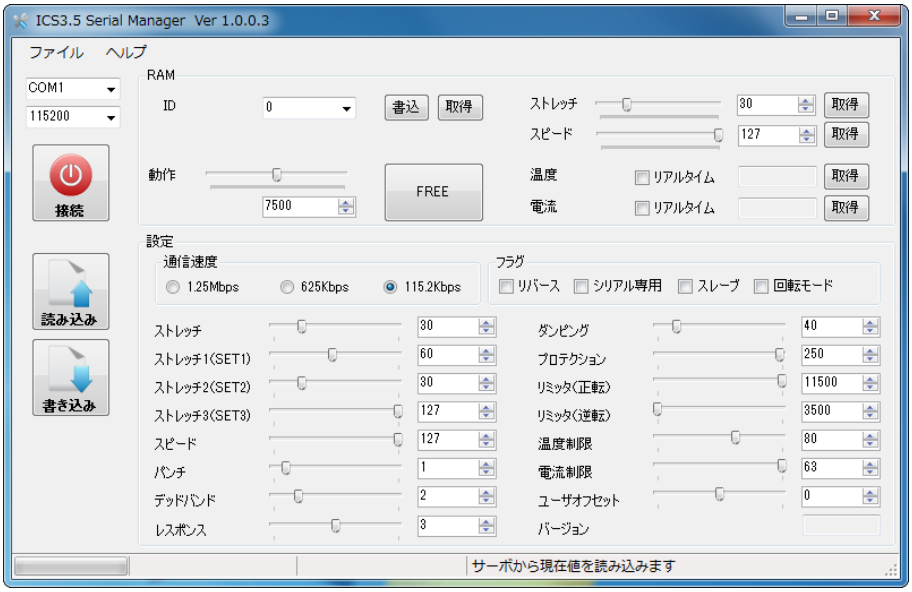
※ Power Please prepare a DC9V ~ 12V. Operating outside of this range, there is a possibility that the servo internal component damage You.

※ If you only configuration changes of the body, you can connect the USB adapter and the servo motor direct (real Thailand Arm action can not be).

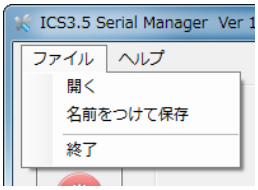
※ If you are using the ICS USB adapter Do not set to fast communication speed than 115kbps. Other than the communication speed Basically, Dual USB adapter, does not change how to use the ICS USB adapter HS.

Execution of software

When you run the ICS3.5Manager.exe, it appears the screen below.

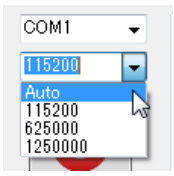


File Help



Save the file ... the current settings, read the saved data, perform the termination of this software to display the version information of help ... this software.

COM Setup



Setting the COM port, you make the connection. Select the COM number and Baudrate allocated to USB adapter (communication speed), and open the port in the connection button. ※ COM number can be found in the Windows Device Manager. Please refer to each USB adapter included in the manual for details. Baudrate is also not a problem to change while connected to the port.

The item of Baudrate There is a Auto in addition to the communication speed. This is a feature that automatically match the baud rate and ID of the connected servo. When you select this item from the cutting state and the connection state, it will automatically reconnect.

- Reading and writing

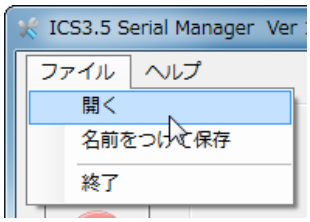
It reads the configuration of the servo of EEPROM that is connected, writes.

- Initialization of the servo

Set the servo motor to the factory parameters.

1. Start ICS3.5 Manager, click the File menu

2. It will open a dialog and press the "Open", to specify the folder of the initial value data downloaded.



3. From the initial setting data folder initial configuration file located in the (extension sdt), specify a file with the same name as the servo motor you are using, press the "Open" button, and then double-click the file.

Four. If you work up to this point has been completed, the servo of the initial setting data specified on the ICS3.5 manager will be expanded. The settings and the communication speed setting of the COM port according to the instruction manual of ICS3.5 manager, press the Connect button.

Five. Set the servo of ID, and you press the "write" button set to the servo data is written.

6. Is the completion of writing the dialog that is displayed in the "writing success".

※ ICS3.5 "reset" button until the manager R.1.0.0.2 will be the default value of KRS-4034/4033/4032.
If you use the KRS-4031,2542,2552RHV, please read the initial settings by following these steps.

- Status Display

Button Description or displays the current status.

- RAM

Change the contents of the servo of RAM.

- **ID** ··· ID writing, and can be used to perform the acquisition. (Initial value: 0)
- **Behavior** ... Move the the connected servo. When you press the FREE button is populated with the current angle of the servo.
- **stretch** ... set the current value of the stretch, to get.
- **speed** ... set the current value of the speed, to get.
- **temperature** ... Gets the current temperature. Put a real-time check, and press the acquisition button, to get the data in a row.
- **Electric current** ... Gets the current of current. Put a real-time check, and press the acquisition button, to get the data in a row.

[Operation] servo of the real-time behavior

The servo motor will be operated in real-time operations from the manager.

Range of parameters	Step
(Reversal) from 3,500 to 11,500 (forward)	Ten

	parameter	Servo operation angle
Parameter and the servo operation angle of the relationship	3500	- 135 degrees (reverse)
	7500	0 degrees (neutral)
	11500	+135 degrees
	Step (10) per	About 0.34 degrees

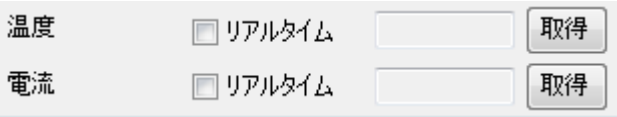
[Stretch] [speed] real-time configuration changes of the servo

The setting of the servo motor to change in real-time operations from the manager. ※ This function is for verifying operation. Parameters set here are not written to the servo.

Range of parameters (stretch)
(Soft) 1 ~ 127 (Hard)

Range of parameters (speed)
(Slow) 1 ~ 127 (Fast)

[Temperature] [current]



Temperature of the servo motor in the operation from the manager, to get the current value in real time. Check the "real-time", and press the acquisition button, to get the data in a row.

Range of parameters (temperature)
(High) 1 ~ 127 (Low)

value	temperature
30	100 ℃
47	90 ℃
60	80 ℃
75	70 ℃
87	60 ℃
95	50 ℃
116	25 ℃

Range of parameters (current value)
Forward: (Low) 64 ~ 127 (High) reverse: (Low) 0 ~ 63 (High)

Forward rotation		During the reverse rotation	
value	Current value	value	Current value
64	0A	0	0A
64	0.1A	1	0.1A
69	0.5A	Five	0.5A
74	1.0A	Ten	1.0A
79	1.5A	15	1.5A
84	2.0A	20	2.0A

- Configuration

Change the servo internal setting (EEPROM).

- **communication speed** ... Set the communication speed between the servo motor and the board. (Initial value: 115.2kbps) ※ When using the USB adapter, please do not change from 115.2kbps.
- **flag** ... Reverse, serial-only, slave, and then select the use of the rotation mode.
- **stretch** ... Change the retention characteristics of the servo motor.
- **speed** ... Set the maximum rotational speed of the servo motor.
- **punch** ... Set the torque offset of the servo motor operation.
- **Dead band** ... and the setting of the servo motor neutral zone (dead zone).
- **response** ... servo motor sets the rising characteristics when operating.
- **Damping** ... to set the stop characteristic of the servo motor.
- **protection** ... when the output shaft is locked, and set the protection start time.
- **limiter** ... Specifies the maximum operating angle of the servo motor.
- **Temperature limit** ... Set the operating point of the protection function due to the temperature rise.
- **Current limit** ... Set the operating point of the protection function by the current excessive.
- **User offset** ... Set any position offset of the user.
- **version** ... version of firmware will be displayed.

【stretch】

Change the retention characteristics of the servo motor.

Range of parameters (stretch)	initial value			
	stretch	SET1	SET2	SET3
(Soft) 1 ~ 127 (Hard)	60	60	30	90

Stretch (SET1) (SET2) (SET3) is the value to be used in the character re-stick change of HeartToHeart3. This parameter range is the same as above.

【speed】

It sets the maximum rotational speed of the servo motor.

Range of parameters (speed)	initial value
(Slow) 1 ~ 127 (Fast)	127

【punch】

Set the torque offset of the servo motor operation.

Range of parameters (punch)	initial value
(Low) 0 ~ 10 (High)	0

[Dead band]

Set the servo of the neutral zone (dead zone).

Range of parameters (dead band)	initial value
(Min) 0 ~ 10 (Max)	Four

【response】

Set the rising characteristics of the start of the operation of the output shaft.

Numerical initial will smooth the smaller.

Range of parameters (response)	initial value
(Slow) 1 ~ 5 (Fast)	3

[Dumping]

Set the brake characteristics at the time of the stop of the operation of the output shaft. The

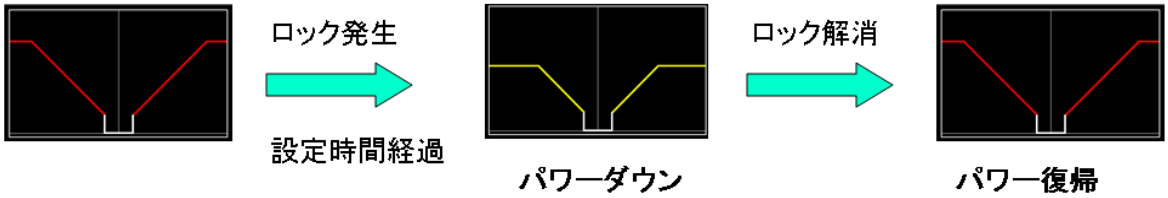
lower the number, movement to the stop will be smooth.

Range of parameters (damping)	initial value
(Slow) 1 ~ 255 (Fast)	40

【protection】

Set the time until the protection operation start.

Protection function is the protection function in the case where the lock. After the start-up will not automatically be 50% down the servo power. Return is done automatically when you eliminate such lock. It should be noted that the protection is effective only function when it is set to parameters of the servo speed is 127.



Range of parameters (offset)	Parameter 1 per time	initial value
(Short) 10 ~ 255 (Long)	About 0.056 seconds	20

【limiter】

It sets the maximum operating range of the servo.

	Range of parameters (limiter)	initial value
Limiter (forward)	(Min) 8000 ~ 11500 (Max)	11500 (Max)
Limiter (reverse)	(Min) 3500 ~ 7500 (Max)	3500 (Min)

[Temperature limit]

Set the threshold value of the temperature.

Sensors mounted on the servo substrate, if higher than temperature set is output, the servo becomes weakness state. And then return it exceeds the threshold.

Range of parameters (temperature)	initial value
(High) 1 ~ 127 (Low)	75 (70 ℃)

temperature	The set value
100 ℃	30
90 ℃	47
80 ℃	60
70 ℃	75
60 ℃	87

[Current Limit]

Set the threshold value of the current.

Sensors mounted on the servo substrate, when detecting a higher current than the set value, be or become servo to weakness state. And then return it falls below the threshold.

Range of parameters (current)	initial value
(Low) 0 ~ 63 (High)	40 (4.0A)

Current value	The set value
0A	0
0.1A	1
0.5A	Five
1.0A	Ten
1.5A	15
2.0A	20

[User offset]

The initial position of the output shaft user can arbitrarily set.

Range of parameters (user offset)	initial value
(Reverse) -127 to 127 (forward)	0

【flag】

- reverse

It reverses the direction of rotation of the servo for the signal. (Initial value: OFF)

- Serial-only

When the check will be serial control, it will be to remove the PWM control (initial value: ON)

- Slave

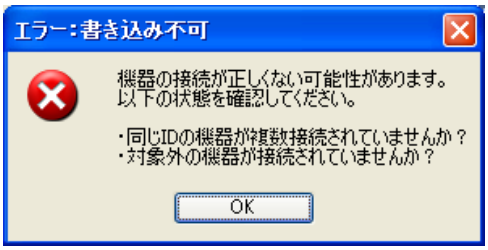
The servo will be set so as not to return a reply to the board. This setting, when you use the double servo of the joint to the robot with the same ID, to prevent the interference of communication. (Initial value: OFF)

- Rotation mode

Set to rotate the servo axis as the wheels. (Initial value: OFF)

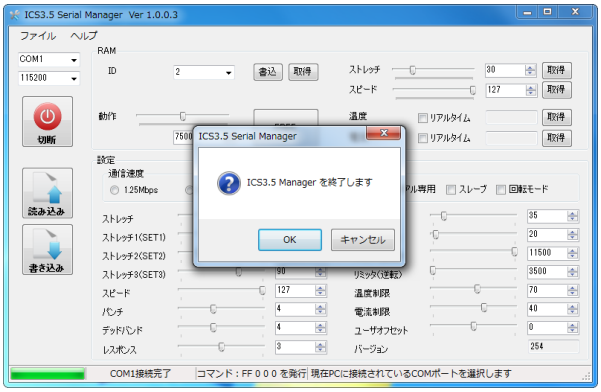
- **About prohibited operation**

If the following message is displayed, or a plurality of devices are not connected, or please check whether the corresponding outside of the device is not installed.



- End of software

When you select a file> Exit will be displayed below the message. OK to the end, if you want to cancel, please press the Cancel.



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