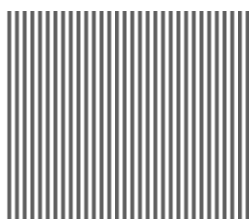


CHINO

USB Engineering Cable

RZ-EC4



INSTRUCTIONS

CHINO

Introduction

Thank you for purchasing USB engineering cable 'RZ-EC4.'

RZ-EC4 is a USB engineering cable used exclusively for our products. This cable is designed to connect the engineering port of our product to the USB port of Windows 7/Windows 8.1/ Windows 10 personal computers (also mentioned as PC).

Using RZ-EC4 with the parameter programming software enables an easy parameter setup from the engineering port for a product without communications interface.

*Engineering cable is a cable dedicated for setting parameter of a device. Do not use it for data acquisition of the device or do not connect it to the device regularly.

Understand the cable properly and read this instruction manual beforehand in order to avoid any trouble.

Precautions for CHINO engineering cable users

- If the COM port number used by the other product is also set to this cable, it may cause COM port error for the both cables.
- When changing the COM port number after RZ-EC4 is installed on the PC, make sure to use unused COM port number.
- RZ-EC4 does not operate on driver of different type CHINO engineering cable (RZ-EC3 or RZ-EC5). Install a driver dedicated for RZ-EC4 by attached CD-ROM.
- If using RZ-EC4 on a personal computers (also mentioned as PC) using CHINO engineering cable (RZ-EC3 or RZ-EC5), do not set identical COM port number for both products. If both products are set to identical COM port number, COM port error or communication error may occur.

Request

— For the persons doing instrumentation, installation and sales —

Be sure to handover this instruction manual to the persons using the cable.

— For the users of the cable —

Preserve this instruction manual until you scrap the cable and write down the setting details.

Product warranty period

RZ-EC4 is warranted for one year from the date of delivery. If it is damaged during the warranty period, when used normally based on the cautions in the instruction manual, it will be repaired without any charge (only in Japan). In the case, we are sorry to trouble you, but please contact your dealer or nearest our sales office.

However, in cases of the followings, it will be repaired at your expense even during warranty period.

1. Failure or damage caused by improper use or connection, or invalid repair or modification.
2. Failure or damage caused by fire, earthquake, wind or flood, thunderbolt, or other extraordinary natural phenomena, or pollution, salt, harmful gas, abnormal voltage, or use of unspecified power.
3. Replacement of parts or accessories that have reached the end of their life.
4. Cause of the failure is made by product manufactured by other than CHINO.

Furthermore, the term 'warranty' in this sense covers only a CHINO's product itself. Therefore, we are not responsible for compensation for whatever the damage that is triggered by failure of our product.

Notices

1. You should not copy or forward fully or partially this document.
2. The contents of this document may be changed without notice.
3. We have taken enough care regarding the contents of this document, however if at all you notice a mistake, contact our nearest office.
4. Please understand that regarding the result of the operation, whatever is the result the company will not be responsible.

Trademark

- Microsoft and Windows are trademarks of Microsoft Corporation and the related company.
- Company names and product names appeared in this manual are trademarks and registered products of the respective companies.
- Please note that the marks "TM" and "®" are omitted throughout this manual.

1. For safe use of the product



In order to use the cable safely, read the following precautions and understand them.

1-1. Prerequisites for use


RZ-EC4 is a cable which is intended to connect the engineering port of our product to the USB port of **Windows 7/ 8.1/ 10** PCs. Do not use RZ-EC4 under any other conditions.

1-2. Symbol mark

The following symbol marks are used in this instruction manual hence understand the meaning of these symbol marks properly.

Symbol mark	Meaning
 Warning	This symbol indicates a description of cautions for avoiding the possibility of causing serious injury or death to a person.
 Caution	This symbol indicates a description of cautions for avoiding the possibility of causing slight injury to a person or damage to your product or to peripheral units.

1-3. Important

 Warning	In order to use the product correctly and safely, follow this instruction manual. Please understand beforehand that our company will not at all be responsible for any claims for injury, damage and passive damages due to wrong use of the product.
---	---

- If using RZ-EC4 on a PC using CHINO engineering cable (RZ-EC3 or RZ-EC5), do not set identical COM port number for both products. COM port error may occur.
- DO NOT use identical COM port number for the other product and RZ-EC4. COM port error may occur.
- DO NOT disconnect or connect this product while in communication. Error on the PC may occur.
- RZ-EC4 is a cable dedicated for setting parameter of a device. Do not use it for data acquisition of the device or do not connect it to a device regularly. Error may occur on a device.
- DO NOT connect two of RZ-EC4 to one PC. COM port error may occur.
- Always hold the connector and do not hold the cord when plugging or unplugging RZ-EC4.
- Never use RZ-EC4 for the equipment used in medical, nuclear, aerospace or transportation field which involves human lives.
- Never plug or unplug the USB engineering cable with wet hands while RZ-EC4 is connected. Doing so may cause an electrical shock or personal injury.
- Never allow foreign matter such as liquid and metallic substance to get into RZ-EC4. It may cause an electrical shock, fire or failure of the product. Use a dry, soft cloth to wipe away any dirt on the product. Do not use the organic solvent such as benzine and alcohol.
- Do not attempt to disassemble or remodel RZ-EC4. It may cause an electrical shock, fire or failure of the product.
- If there is an offensive smell, a strange noise or smoke or if the temperature increases abnormally, it is very risky hence cut off the power supply immediately and contact the dealer or our nearest office.
- CHINO is not responsible for recovering any data or programs lost while using RZ-EC4 in any circumstances. We recommend you to have a data backup regularly.
- If repairing or remodeling is necessary, contact the dealer or our nearest office. Only the service engineers appointed by our company will change the parts, do the repairing and remodeling.

1-4 Before use

After opening the package, confirm the following before using RZ-EC4. Although it is rare but if you notice any suspicion, contact the dealer or nearest CHINO's sales office.

Request

1. Do not drop RZ-EC4 while taking it out of the box
2. When transporting RZ-EC4, pack in a box in an outer case with a bed of cushions.
3. If not using RZ-EC4 for a long time, store it in normal ambient temperature and dust free place.
4. Preserve this instruction manual until you scrap RZ-EC4.
5. When disposing RZ-EC4, follow the garbage collection method of the each community, and cooperates to recycle.

Cautions on handling CD-ROM

- Remove CD-ROM media from a drive, when not using it.
- Make sure to put CD-ROM in a CD case and store.
- Do not put CD-ROM in a place with direct sunlight or high temperature and humidity.
- If not using CD-ROM for a long time, put it in a CD case and store it in a place where is normal ambient temperature and free of dust.
- Pay attention not to put finger print, stain, dust, scratch and water (oil) drop etc. on a label surface and signal surface.
- Clean stains such as finger print on the signal surface with soft cloth. (Do not use paint thinner, benzine or organic solvent etc.)
- Physical or external cause of deterioration of CD-ROM is unavoidable.

1-4-1 Confirm the exterior

Confirm that RZ-EC4 is not broken on the outer side.

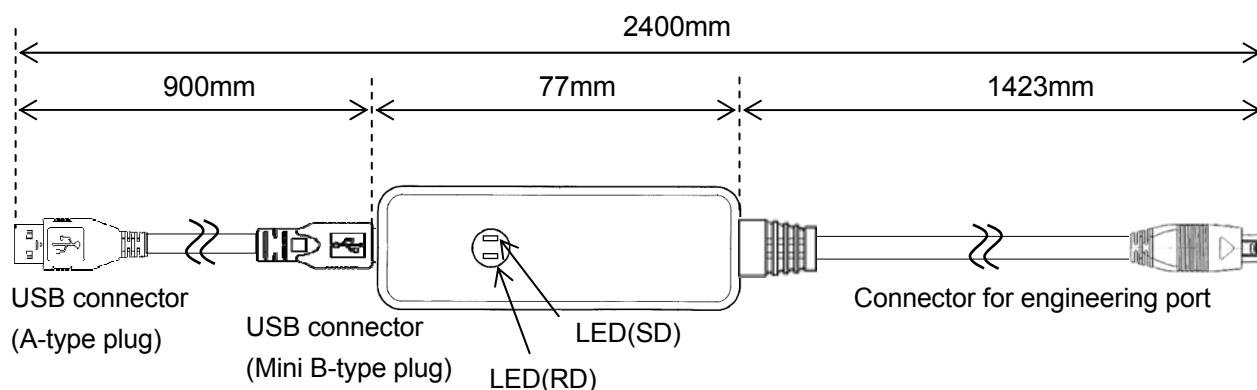
1-4-2 Confirm the attachments

The following attachments are included to RZ-EC4, confirm them.

Name	Quantity
Driver software (CD-ROM) *Include instruction manual	1

2. Operation environment and connection to peripherals

2-1. External dimensions



LED Display

LED Name	Color	Condition	Description
SD	Orange	ON	Data is transmitted from the PC to CHINO product.
		OFF	Data is NOT transmitted from the PC to CHINO product.
RD	Yellow-green	ON	The PC is receiving data from CHINO product.
		OFF	The PC is NOT receiving data from CHINO product.

2-2. Installation condition

1. Environment

- (1) In a room.
- (2) Away from direct sunlight.
- (3) Away from high temperatures and humidity.
- (4) Where there are no vibrations and shocks.
- (5) Away from liquids (water etc.).
- (6) Away from condensation.
- (7) Under 'Excess voltage category II , Pollution level 2' based on the EN standard.

2. Atmosphere

- (1) Away from strong noise, static electricity, electric field, magnetic field etc.
- (2) Surrounding temperature within -10 to 50°C, surrounding humidity within 10 to 90% rh.
- (3) Variation in temperature is less.
- (4) Away from corrosive gas, explosive gas, ignition gas and combustible gas.
- (5) Away from salt, iron and conductive material (Carbon, iron etc.).
- (6) Away from steam, oil and chemicals etc.
- (7) Away from dust etc.
- (8) Away from the surroundings where high temperature is generated.
- (9) Away from places where temperature remains stored.

2-3. Operation environment

1. Personal computer

Any DOS/V personal computer equipped with a USB port.

*The function of the USB port must be guaranteed by the maker of the PC.

*Operation verification of RZ-EC4 is performed by using USB port of USB2.0.

2. Supported OS

Microsoft Windows 7 (32bit/ 64bit)

Microsoft Windows 8.1 (32bit/ 64bit)

Microsoft Windows 10 (32bit/ 64bit)

* RZ-EC4 is not supported by Microsoft Windows XP (32bit), but operations are confirmed.

*Refer to the "Note for using Windows XP.pdf" in this CD-ROM when installing RZ-EC4 to the Windows XP.

3. CD-ROM drive

Used at installation.



To perform Windows Update or version up of your computer OS, uninstall the driver first then proceed to the action. After OS version up is completed, install the driver again. If OS version up is done while the driver is still installed in your computer, driver may malfunction or the driver may not be able to uninstall.

2-4. Device setting and connection

1. Port setting of a device

Set "ENG" for a device with setting item "Port switch". Refer to the instruction manual of the device and set.

(e.g.) For Digital Indicator with Alarms DI5000

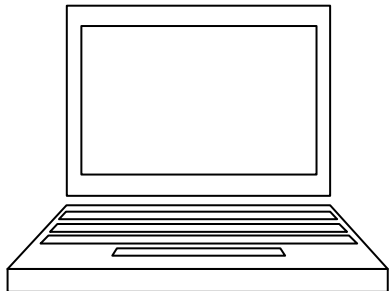
At "Port switch (MODEt)", change setting value to "ENG".



Warning

To avoid accidents, make sure to read and understand the following items.
RZ-EC4 is a cable dedicated for setting parameter of a device. Do not use it for data acquisition of the device or do not connect it to a device regularly. Error may occur on a device

2. Connection



Personal computer with a USB port

OS: Windows 7

Windows 8.1

Windows 10

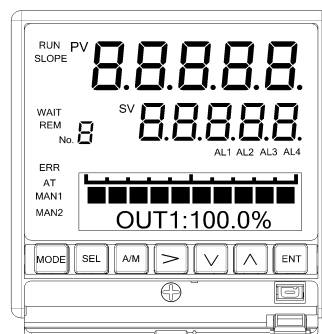
USB connector
A-type (plug)



USB connector
Mini B-type (plug)



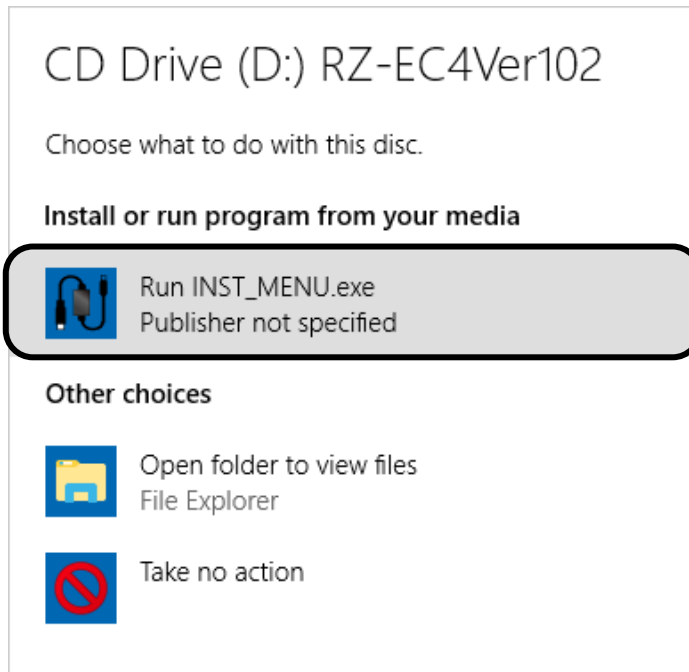
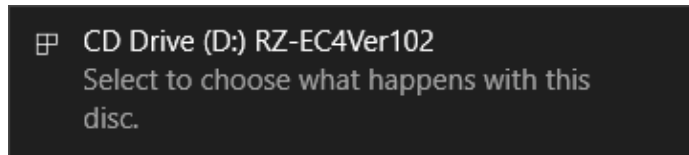
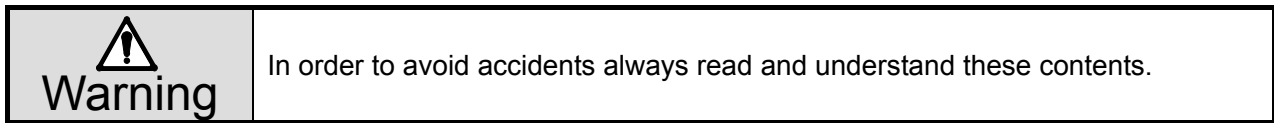
Connector for engineering port



CHINO product with an
engineering port

3. Installation of driver

*Following figures are windows of Windows 10.

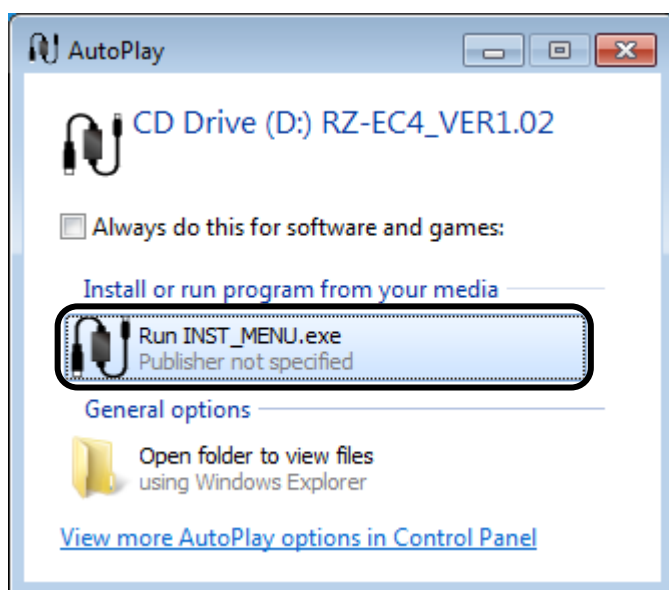


1. Power on the PC and start up Windows.

*Log on by a user who belongs to the Administrators group.

After the start-up process completes, insert the attached CD-ROM into the drive, installer starts automatically.

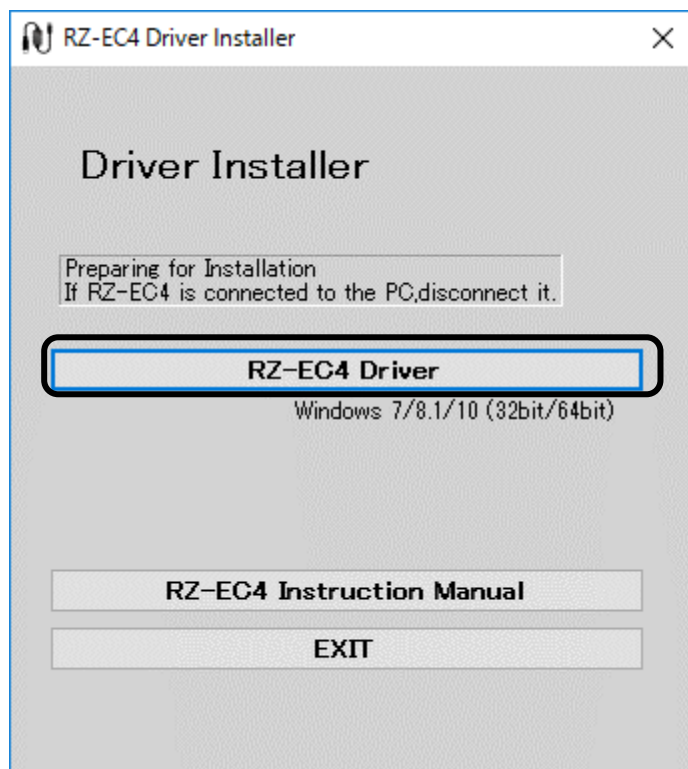
Click **[Run INST_MENU.exe]** button.



*Figure on the left is for Windows 7.

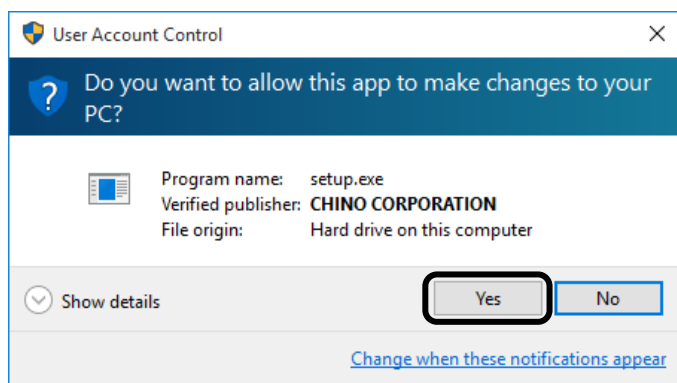


2. Language Selection of the installer is displayed.
Click **[English]** button.



3. Click **[RZ-EC4 Driver]** button

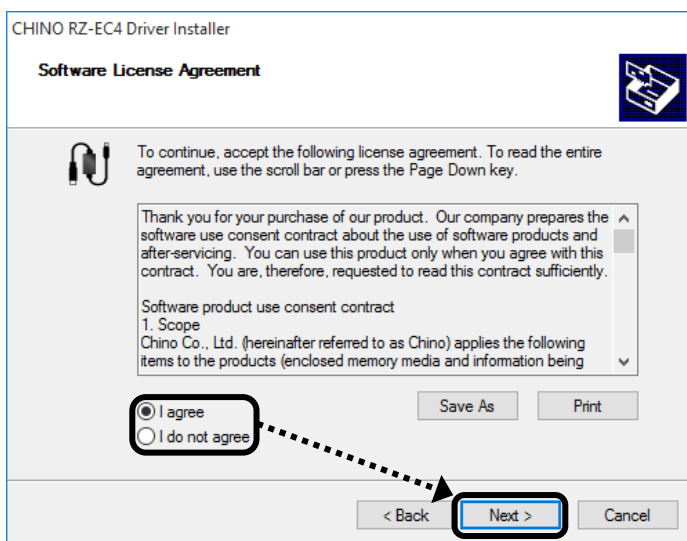
*If RZ-EC4 is connected to the PC, unplug it.



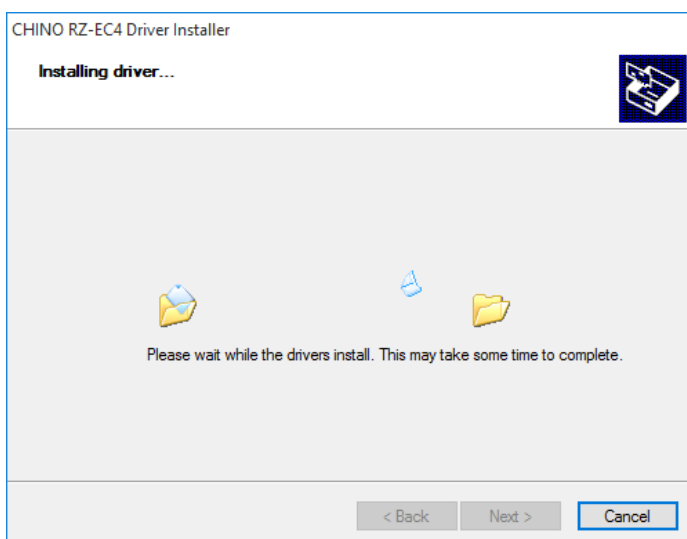
4. When User Account Control is displayed, click on the **[Yes]** button to proceed.



5. Welcome to CHINO RZ-EC4 Driver Installer is displayed.
Click on the **[Next]** button.



6. Software License Agreement is displayed.
Check **[I agree]** and click on the **[Next]** button.



7. Install screen is displayed and install is started.



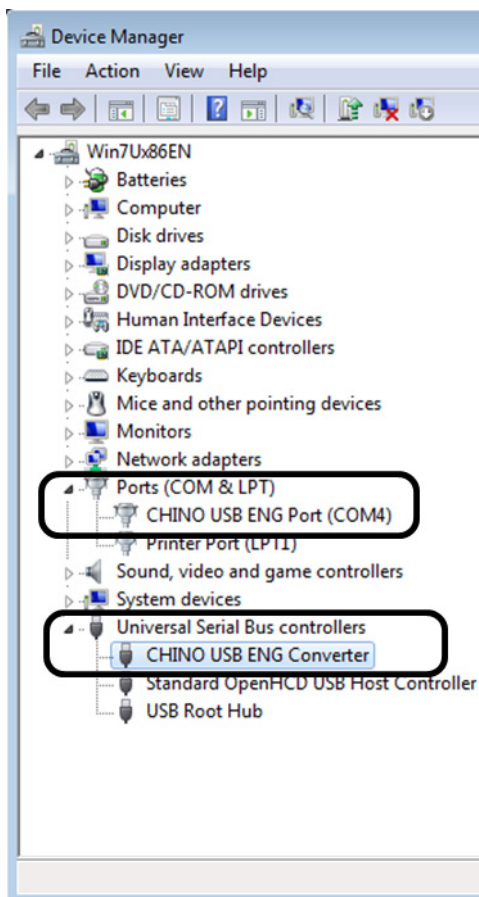
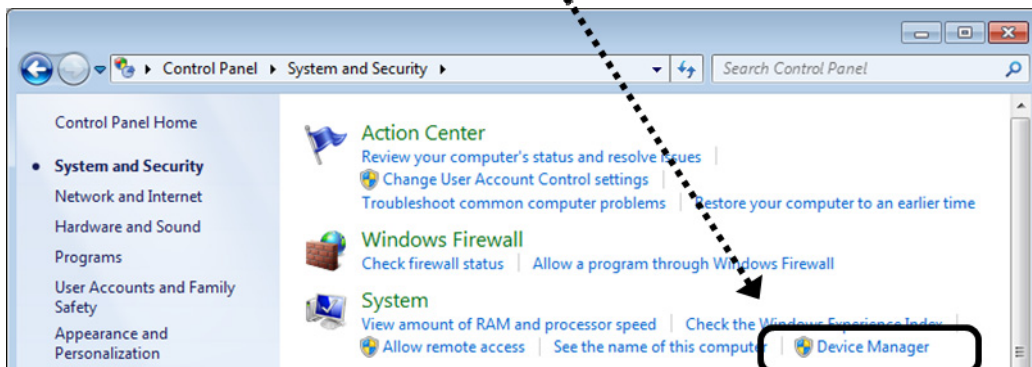
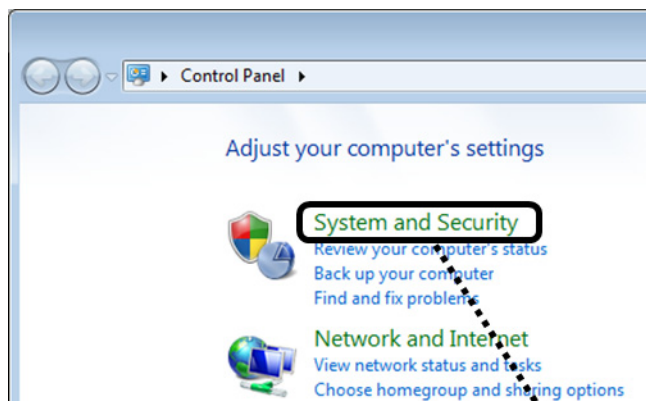
8. Install Complete screen is displayed.
Click on the **[Finish]** button to finish.

9. Connect RZ-EC4 to the USB port of the PC.
Driver software is automatically installed.

*If installation is failed during procedure (1) to (8), start again from (1).

4. Checks after installation

4-1. Checks after installation for Windows7



1. Connect RZ-EC4 to the PC.
2. From the **[Start]** menu, select **[Control Panel]** and then **[System and Security]**.
When the System and Security screen is displayed, click on the **[Device Manager]**.

3. On the **[Device Manager]** screen, double click on **[Ports (COM & LPT)]** and **[Universal Serial Bus controllers]** and confirm that the following is displayed.

[Ports (COM & LPT)]

CHINO USB ENG Port (COM*)

[Universal Serial Bus controllers]

CHINO USB ENG Converter

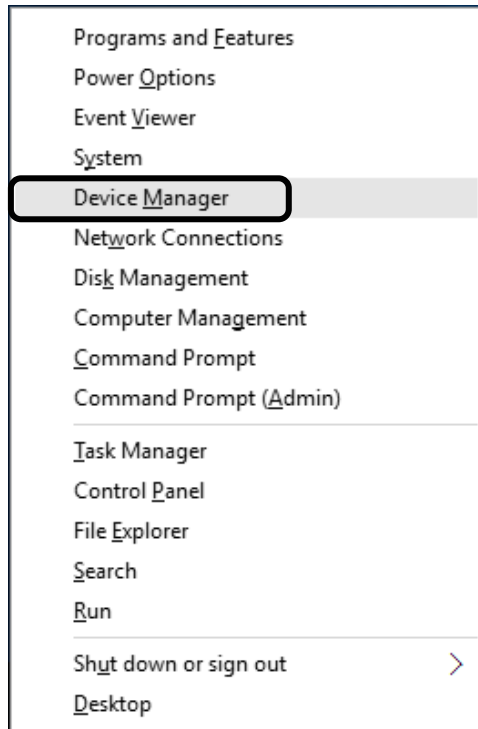
- * The COM port number depends on the environment of your PC.
- * It may take time for the PC to recognize RZ-EC4 after the product has been connected. Confirm the COM port number then start communication.


4. Close the screen after confirmation.

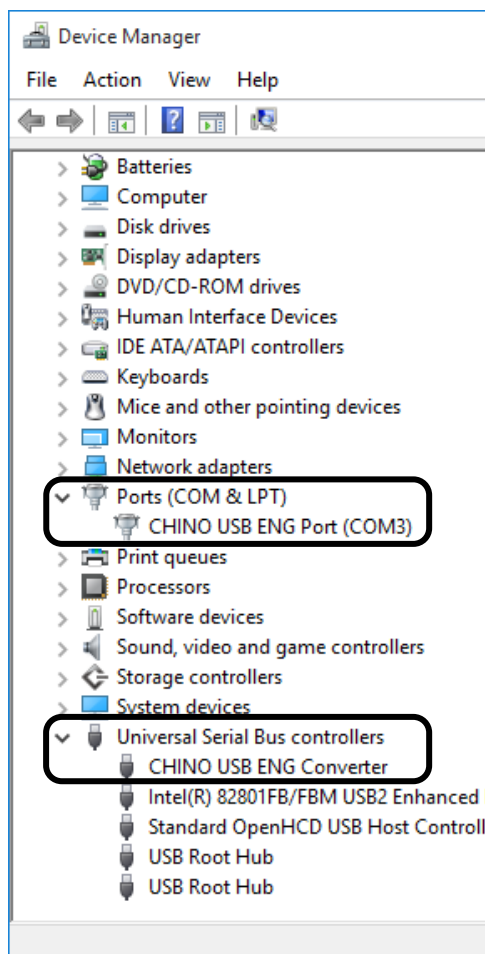
Now RZ-EC4 has been recognized by your personal computer correctly and ready for use.

4-2. Checks after installation for Windows 8.1/ Windows 10

*Following figures are windows of Windows 10.



1. Connect RZ-EC4 to the PC.
2. Display a menu from a keyboard [] + [X] keys and click on the [Device Manager].



3. On the Device Manager screen, double click on [Ports (COM & LPT)] and [Universal Serial Bus controllers] and confirm that the following is displayed.

[Ports (COM & LPT)]

CHINO USB ENG Port (COM*)

[Universal Serial Bus controllers]

CHINO USB ENG Converter

- * The COM port number depends on the environment of your PC.
- *It may take time for the PC to recognize RZ-EC4 after the product has been connected. Confirm the COM port number then start communication.

4. Close the screen after confirmation.

Now RZ-EC4 has been recognized by your PC correctly and ready for use.



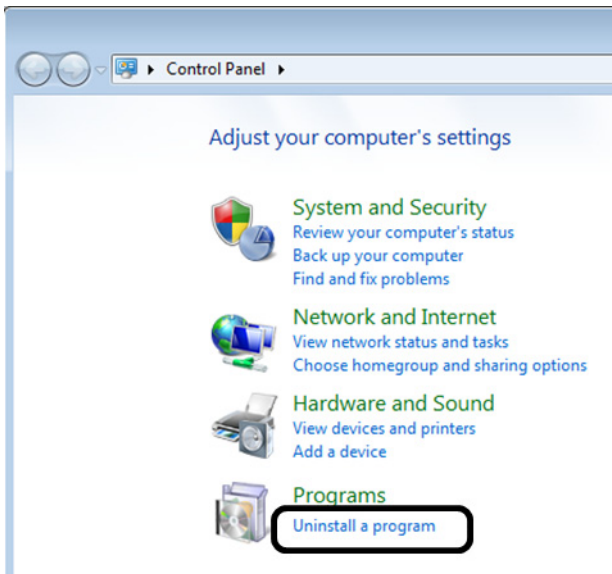
Caution

- (1) For the COM port number, the smallest available number on your personal computer is automatically assigned to RZ-EC4.
(The COM port number depends on the environment of your personal computer.)
- (2) The COM port number can be changed from the property of [CHINO USB ENG Port (COM*)] on the [Device Manager] screen.
- (3) To change the COM port number, DO NOT set several identical COM port numbers. Make sure to use unused COM port number.

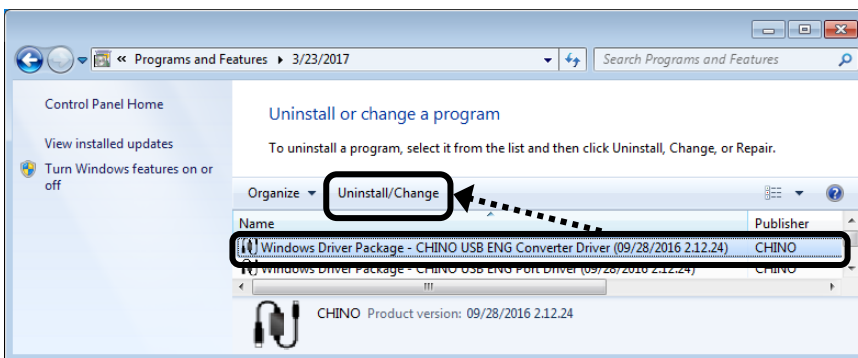
5. Uninstalling of driver

5-1. Uninstalling of driver for Windows 7

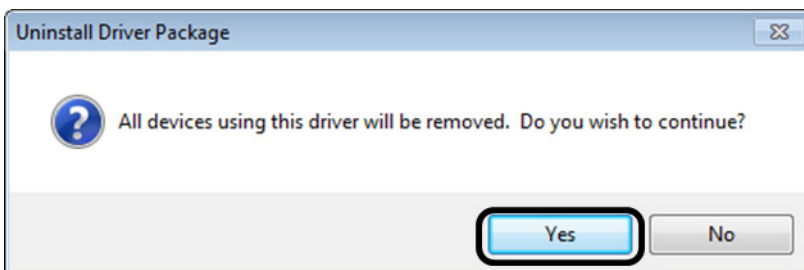
1. If RZ-EC4 is connected to the personal computer, remove it.
2. From the **[Start]** menu, select **[Control Panel]**.
When the Control Panel screen is displayed, click on the **[Uninstall a program]**.



3. On the Programs and Features screen, select a following shown below and click on **[Uninstall/Change]**.

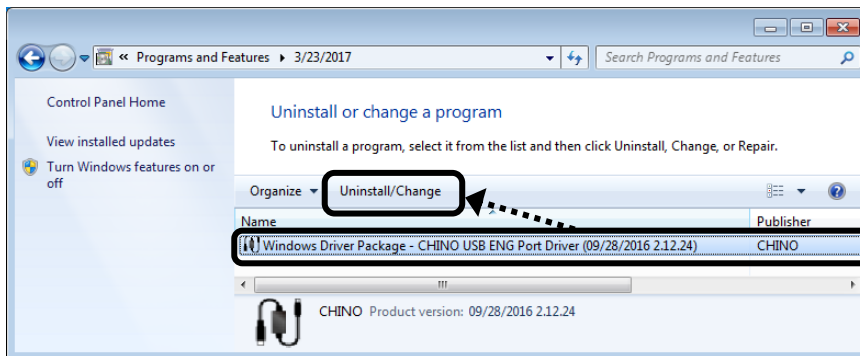


CHINO USB ENG Converter Driver



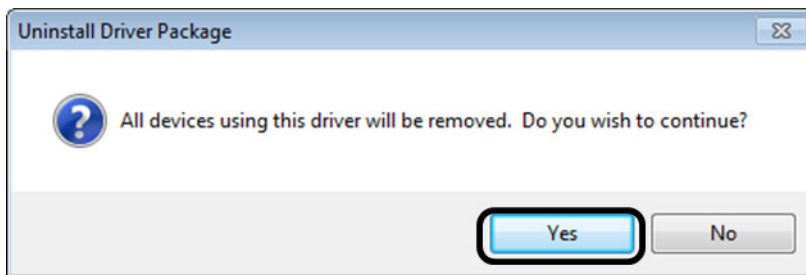
4. On Uninstall Driver Package screen, click on **[Yes]** button. Uninstalling is started.

5. When **[CHINO USB ENG Converter Driver]** is deleted from a list of Program and Features, select a following shown below and click on **[Uninstall/Change]**.



CHINO USB ENG Port Driver

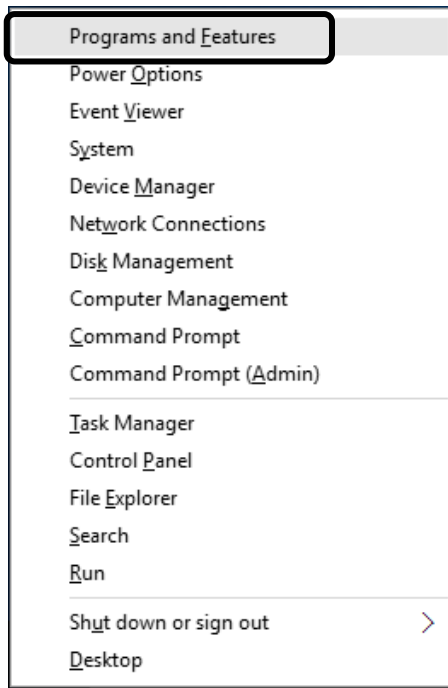
6. On Uninstall Driver Package screen, click on **[Yes]** button. Uninstalling is started.




7. Uninstalling is completed.

5-2. Uninstalling of driver for Windows 8.1/ Windows 10

*Following figures are windows of Windows 10.

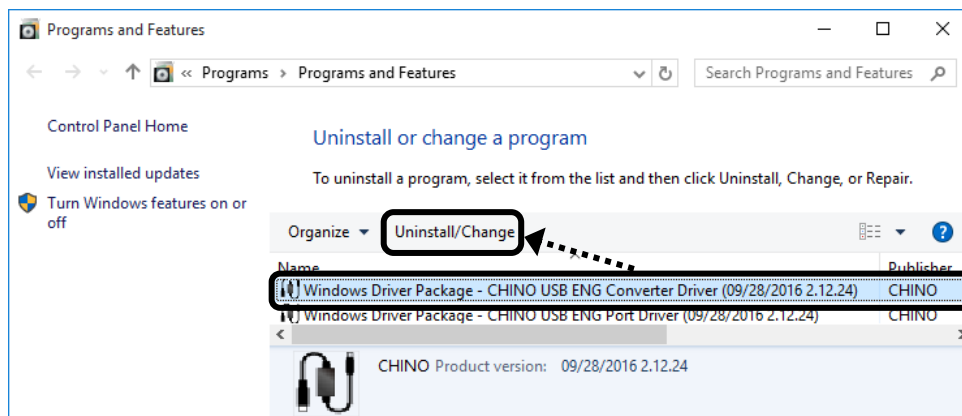


1. If RZ-EC4 is connected to the personal computer, remove it.

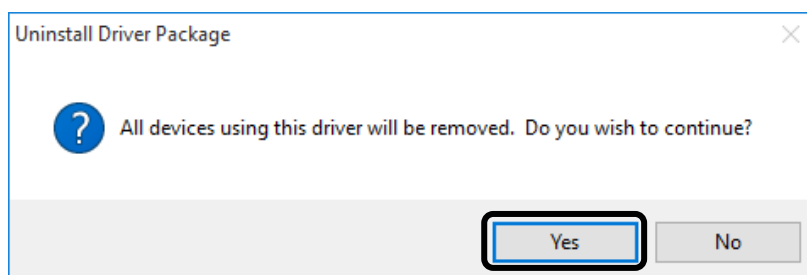
2. Display a menu from a keyboard []+[X] keys and click on the [Program and Features].

3. On the Programs and Features screen, select a following shown below and click on [Uninstall/Change].

CHINO USB ENG Converter Driver

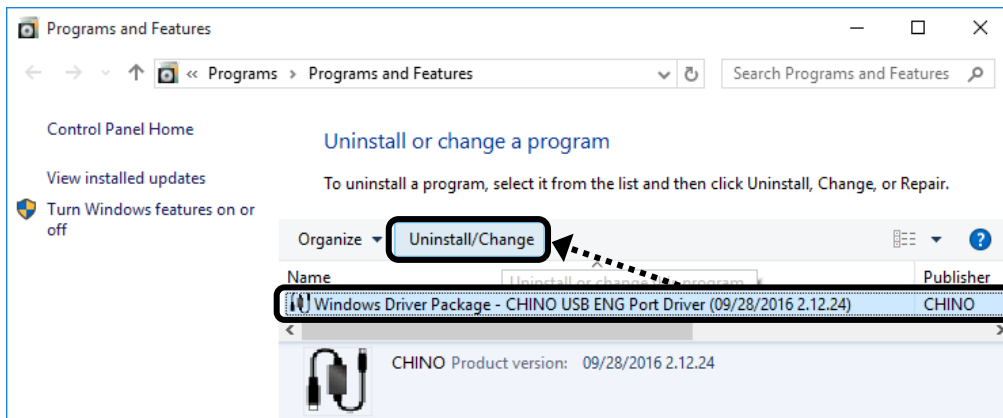


4. On Uninstall Driver Package screen, click on [Yes] button. Uninstalling is started.

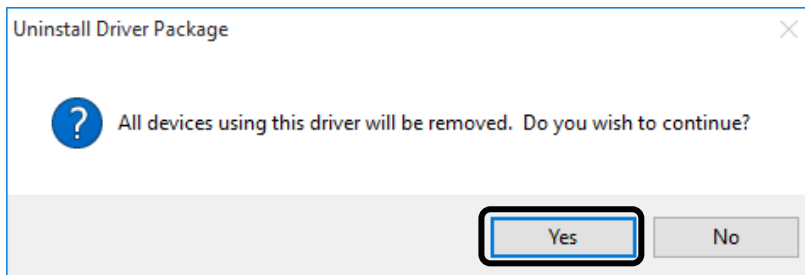


5. When **[CHINO USB ENG Converter Driver]** is deleted from a list of Program and Features, select a following shown below and click on **[Uninstall/Change]**.

CHINO USB ENG Port Driver



6. On Uninstall Driver Package screen, click on **[Yes]** button. Uninstalling is started.




7. Uninstalling is completed.

6. Troubleshooting

Cause and countermeasure is explained if abnormal operation or function of RZ-EC4 is found.

Phenomenon	Cause and Countermeasure
Communication with the product not established.	<ul style="list-style-type: none">▪ Check device engineering port (communication port) is set to "ENG". Refer to the section "2-4 Device setting and connection".▪ Make sure that the connection between the PC and the CHINO product is made properly.▪ Confirm that the driver of RZ-EC4 is installed correctly.▪ Check the COM port number set on the PC.▪ Make sure that the communication port of the connected product is set to "ENG". <p>*If the COM port error and/or the communication error occurred due to the identical COM port numbers set to the former version 'RZ-EC3' and this product 'RZ-EC4', refer to the "Note for using former version RZ-EC3.pdf" in this CD-ROM.</p>
The personal computer does not recognize the product.	<ul style="list-style-type: none">▪ If an USB hub or USB extension cable is in use, it is rare but the PC can not recognize the product. In that case, connect the product directly to the USB port of the computer.▪ It may take time for the PC to recognize RZ-EC4 after the product has been connected. After a few minutes, check the COM port status from the device manager.▪ RZ-EC4 does not operate on a driver of CHINO engineering cable (RZ-EC3 or RZ-EC5). Install specific driver from attached CD-ROM.
The product can not be installed to the PC.	<ul style="list-style-type: none">▪ For the installation to the Windows XP, refer to the "Note for using Windows XP.pdf" in this CD-ROM.▪ If installation is failed, start again from procedure (1) of "3. Installation of driver".

When problems are not improved after executing troubleshooting above, contact the dealer or your local CHINO's sales agent.

 Warning	If repairing or remodeling is necessary, contact the dealer or our nearest office. Only the service engineers appointed by our company will change the parts, do the repairing and remodeling.
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7. Checking and disposal

7-1. Checking

1. Checking according to the trial operation

Every time before starting the operation, do a trial operation and confirm that the final product is correct.

7-2. Disposal



- (1) A small amount of hazardous substance below the specified level with RoHS directive is included in this cable.
- (2) When disposing the cable, always request a professional to do it, or dispose the cable in according to the garbage collection method of the each community.
- (3) Separate the box, plastic bags, and cushioning materials the cable is packaged in according to the garbage collection method of the each community, and please cooperates to recycle.

8. Specifications

Supporting operation environment	: Microsoft Windows 7/ Windows8.1/ Windows 10	
Interface	: USB Ver. 2.0 compatible	
Communications speed	: max 38400bps	
Connector specification	: USB side	: USB connector (A-type plug)
	: Device side	: Dedicated engineering connector
Power supply system	: Bus power (powered from the USB port of PC)	
Supply voltage	: 5V DC	
Consumption current	: 7.5mA	
Operating temperature	: -10 to 50°C	
Operating humidity	: 10 to 90% rh (non-condensing)	
Operating altitude	: 2000m maximum	
Weight	: Approx. 80g	

CHINO

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