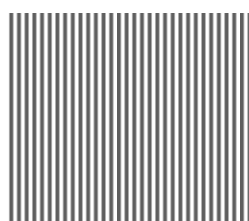# USB Engineering Cable

# 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 10 / Windows 11 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, RZ-EC5 or RZ-EC6). 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-EC5 or RZ-EC6), 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 10 / 11** 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-EC5 or RZ-EC6), 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 discconect or connect this proiduct 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.

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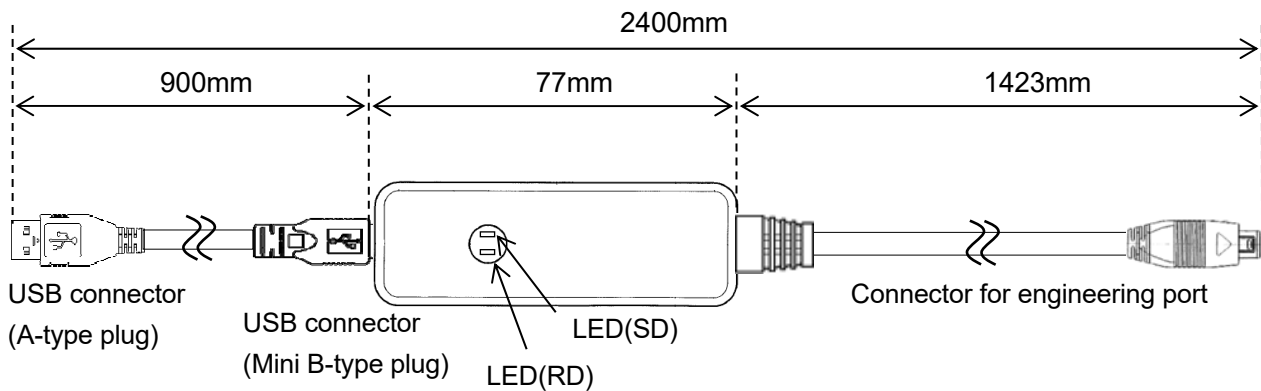Confirm that RZ-EC4 is not broken on the outer side.

### 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

2400mm

900mm | 77mm | 1423mm

USB connector
(A-type plug)

USB connector
(Mini B-type plug)

LED(SD)

LED(RD)

Connector for engineering port

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 / 3.0.

**2. Supported OS**
Microsoft Windows 10 (32bit/ 64bit)
Microsoft Windows 11 (64bit)

**3. CD-ROM drive**
Used at installation.

| ⚠ Caution | 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

**USB connector A-type (plug)**
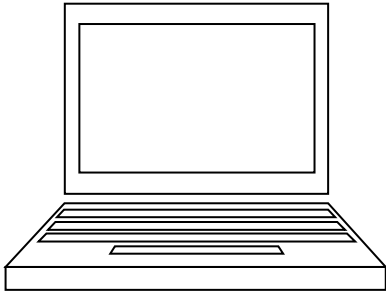
**Personal computer with a USB port**
**OS: Windows 10**
**Windows 11**
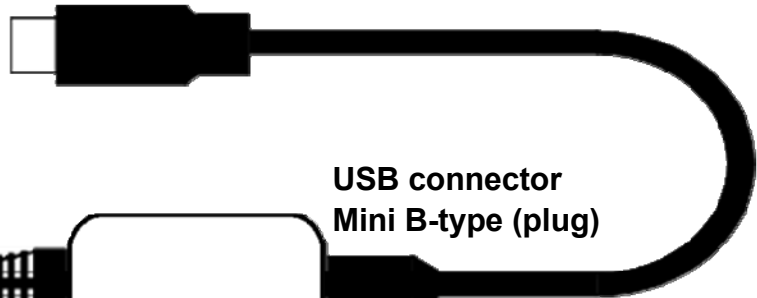
**USB connector Mini B-type (plug)**

**Connector for engineering port**
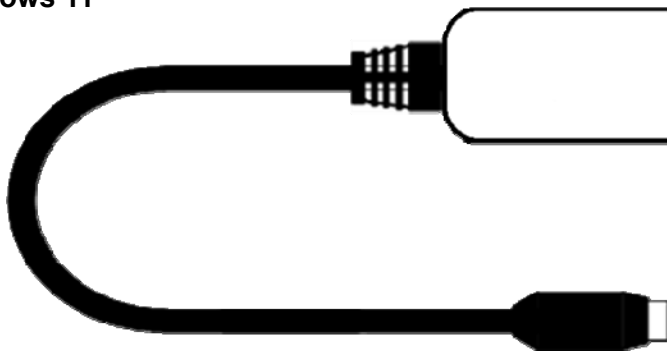
RUN PV
SLOPE
88888
WAIT SV
REM No. 8 88888
AL1 AL2 AL3 AL4
ERR
AT
MAN1
MAN2 OUT1:100.0%
MODE SEL A/M > ∨ ∧ ENT
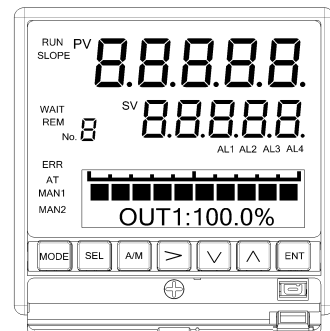
**CHINO product with an engineering port**

# 3. Installation of driver

*Following figures are windows of Windows 10.

> ⚠️
> **Warning** | In order to avoid accidents always read and understand these contents.

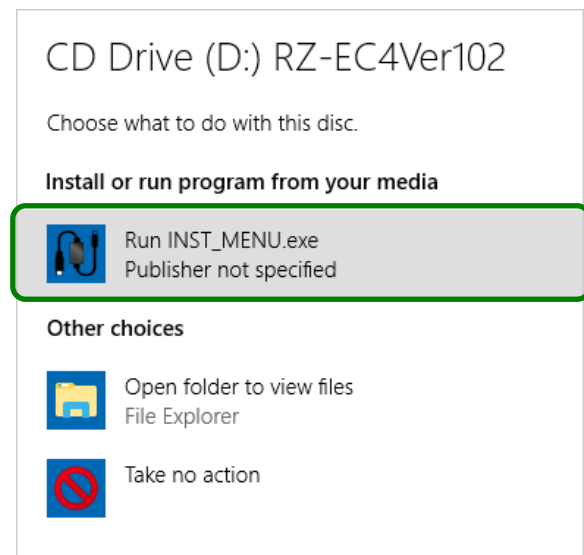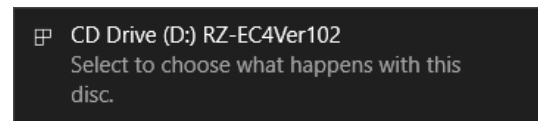<Procedure>
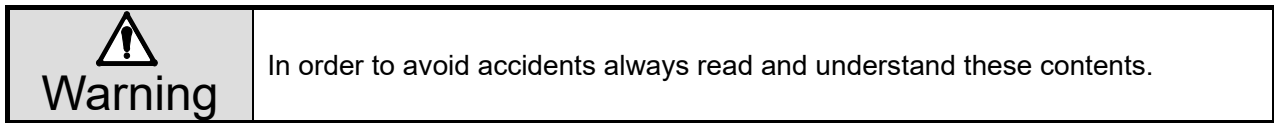
(1) Start Windows

　Start Windows.

　*Log ON by the user who belongs to a computer administrator (administrator) group.

(2) Insert CD-ROM

Set attached CD-ROM to a CD-ROM drive.
Select operation of this disc displayed on right
bottom corner of the window.
Click [Run INST_MENU.exe].

📁 CD Drive (D:) RZ-EC4Ver102
Select to choose what happens with this disc.

## CD Drive (D:) RZ-EC4Ver102

Choose what to do with this disc.

**Install or run program from your media**

Run INST_MENU.exe
Publisher not specified

**Other choices**

Open folder to view files
File Explorer

Take no action

(3) Language Selection

Language selection window of the installer is
displayed.
Click [English] button.

RZ-EC4 Driver Installer　　　　×

**Language Selection**
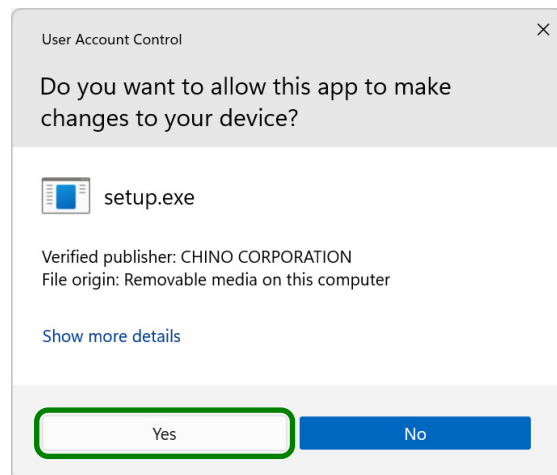
English　　　Japanese/日本語

EXIT

## (4) Start Install

Click [RZ-EC4 Driver] button.

*If RZ-EC4 is connected to the PC, disconnect it.
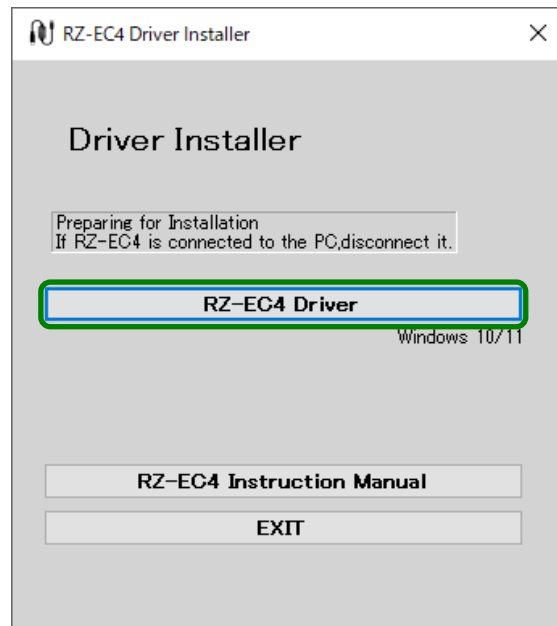
If user account control window is displayed, click [Yes] button.

## (5) Click [Next]

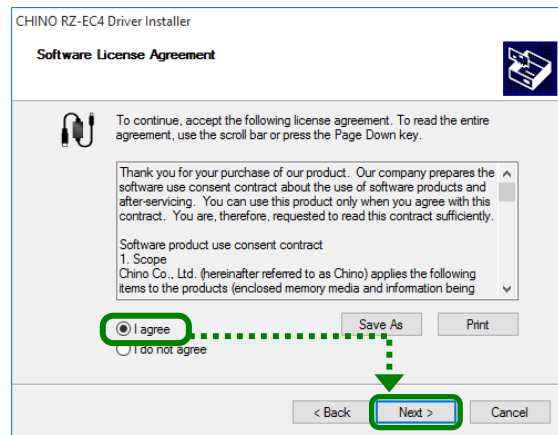Install start window is displayed.

Click [Next] button.

(6) Agree to a software license agreement

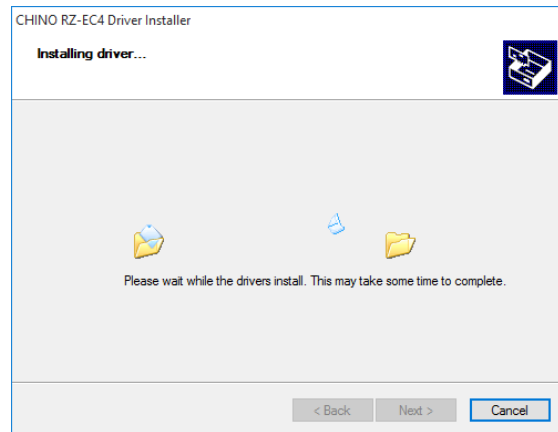Software license agreement is displayed. Read the contents thoroughly.

If you agree to the contents, select [I agree] and click [Next] button.

*If you select [I do not agree], you can not use RZ-EC4.

(7) Installation starts

Installation is started.

(8) Installation complete

Installation complete window is displayed.

Click [Finish] button.

(9) Connect RZ-EC4

Connect RZ-EC4 to an 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

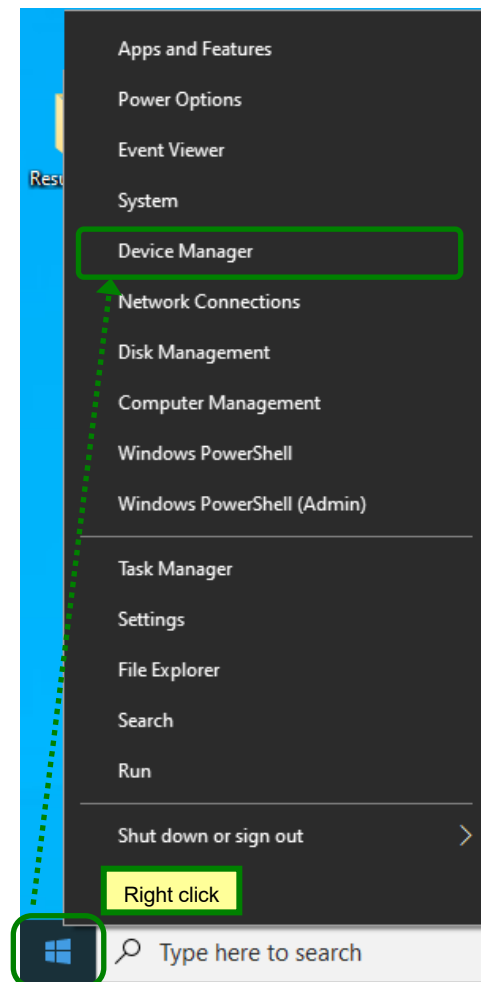*Following figures are windows of Windows 10.

       \<Procedure\>
(1)Connect to PC
      Connect RZ-EC4 to the PC.

(2)Start [Device Manager]
  Right click [Start] button, when menu is displayed,
  click [Device Manager].

| Apps and Features |
| Power Options |
| Event Viewer |
| System |
| Device Manager |
| Network Connections |
| Disk Management |
| Computer Management |
| Windows PowerShell |
| Windows PowerShell (Admin) |
| Task Manager |
| Settings |
| File Explorer |
| Search |
| Run |
| Shut down or sign out |

Right click

Type here to search

(3) Check Ports and Universal Serial Bus controllers

Device Manager window is displayed.
Double-click each [Ports (COM&LPT)] and
[Universal Serial Bus controllers] and confirm
that following is displayed.

[Ports (COM&LPT)]
CHINO USB ENG Port (COM*)

[Universal Serial Bus controllers]
CHINO USB ENG Converter

*COM port number varies depending on the
environment of the PC.
*It may take sometimes to the PC to recognize
RZ-EC4 after connecting it to the PC. Check
COM port number first and start
communication.
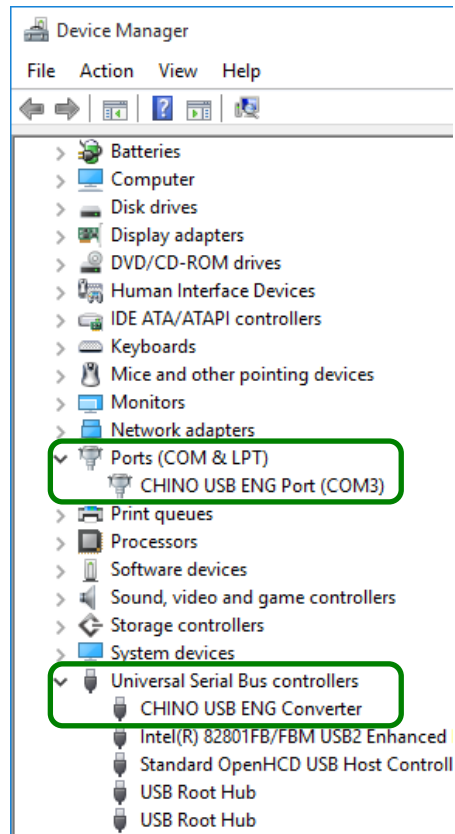
(4) Check complete

Close device manager window after the check.
It is confirmed that RZ-EC4 is surely recognized by the PC and available to use.

| ⚠ Caution | (1) For the COM port number, the smallest available number on your personal computer is automatically assigned to RZ-EC4.<br>(The COM port number depends on the environment of your personal computer.)<br>(2) The COM port number can be changed from the property of [CHINO USB ENG Port (COM*)] on the [Device Manager] screen.<br>(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

*Following figures are windows of Windows 10.
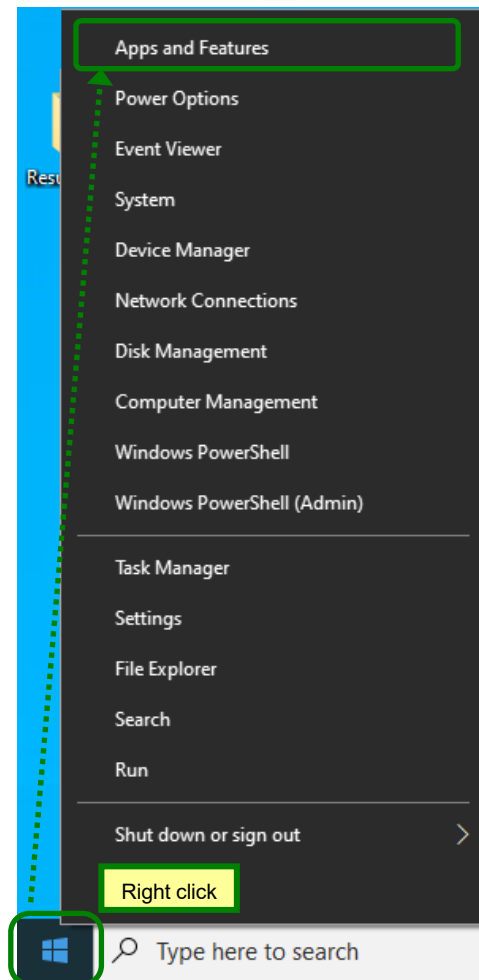
      &lt;Procedure&gt;

(1) Remove RZ-EC4

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

(2) Start [Apps and Features]

  Right click [Start] button, when menu is displayed, click [Apps and Features]*.

  * For Windows 11, [Installed apps].

| Apps and Features |
|---|
| Power Options |
| Event Viewer |
| System |
| Device Manager |
| Network Connections |
| Disk Management |
| Computer Management |
| Windows PowerShell |
| Windows PowerShell (Admin) |
| Task Manager |
| Settings |
| File Explorer |
| Search |
| Run |
| Shut down or sign out |

Right click

Type here to search

### (3) Select [Converter Driver]

When the list of apps and features is displayed, click [CHINO USB ENG Converter Driver].
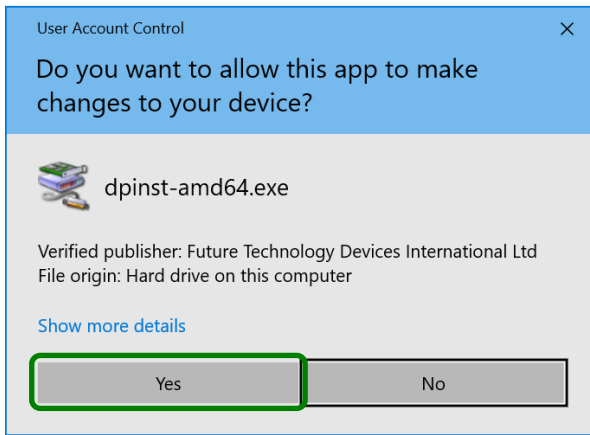Click [Uninstall].
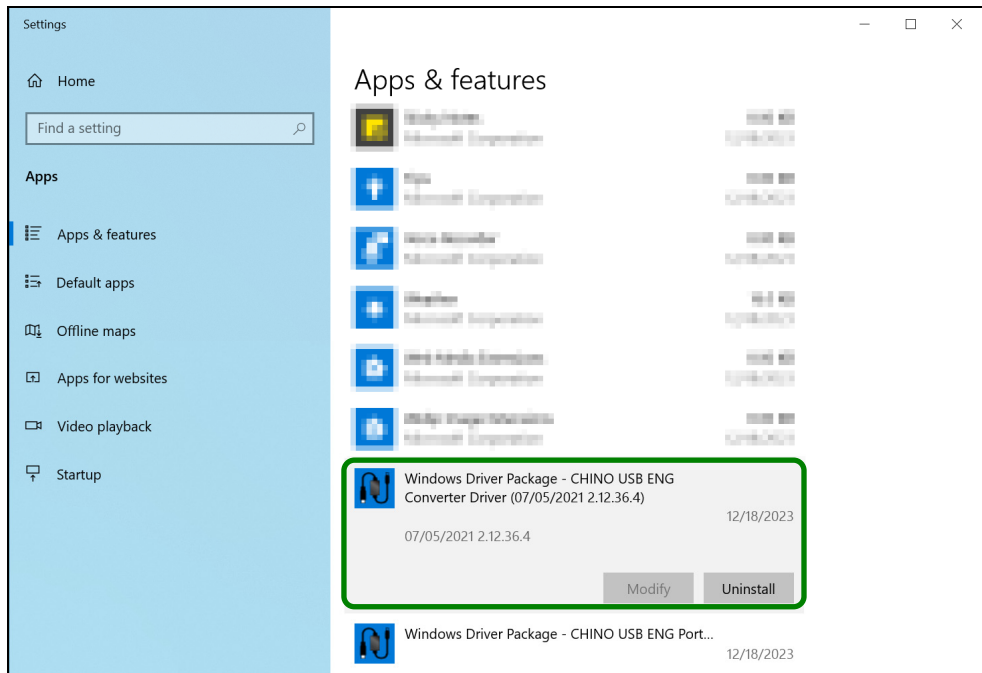


### (4) Delete [Converter Driver]

[Uninstall] button is displayed again, so click it.
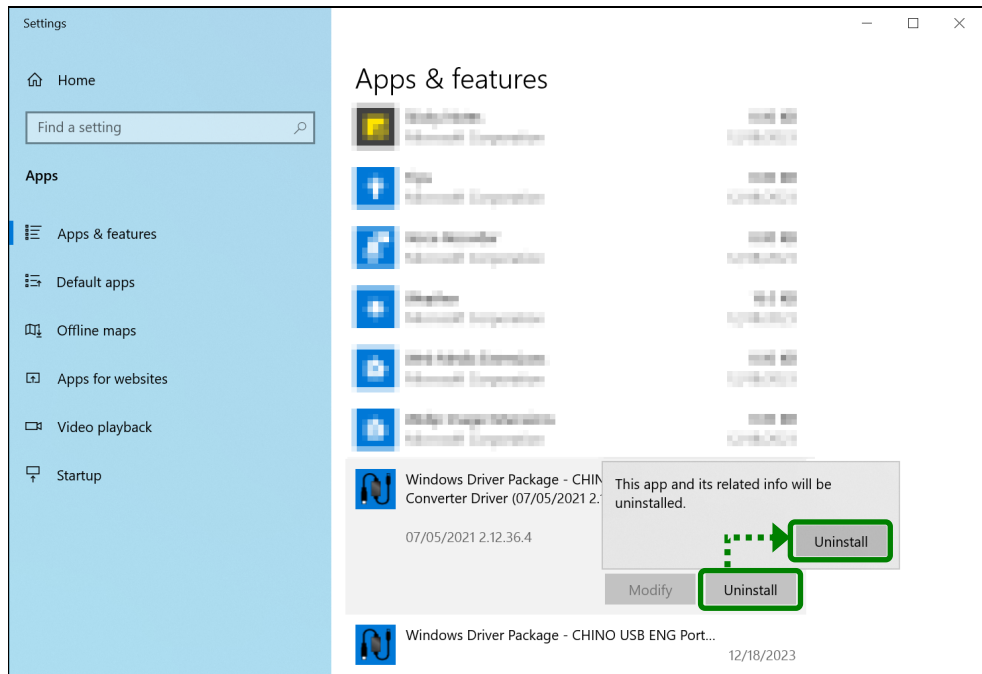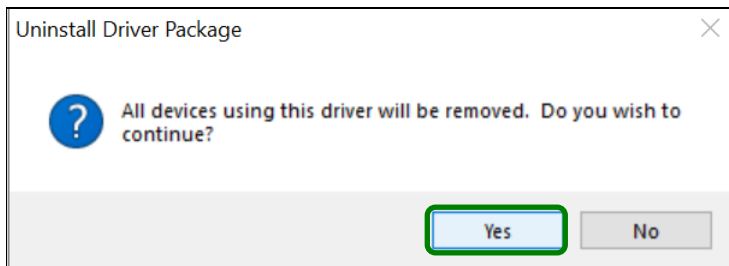
## (5) Start uninstalling

If user account control window is displayed, click [Yes] button.

## (6) Click [Yes]

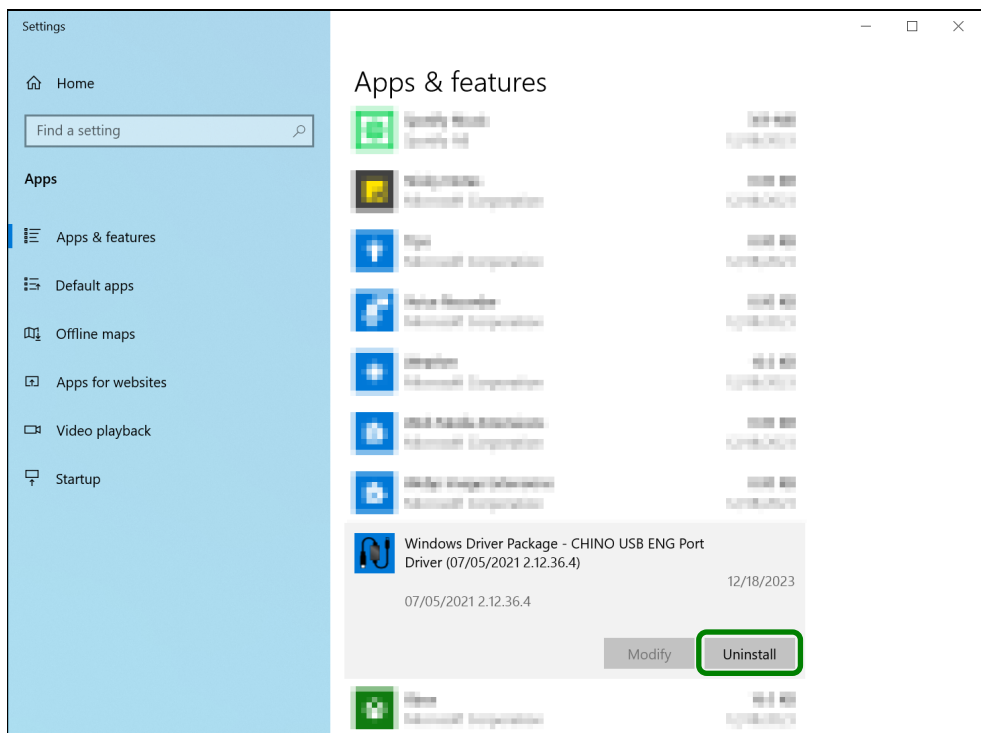When confirmation window is displayed, click [Yes] button.
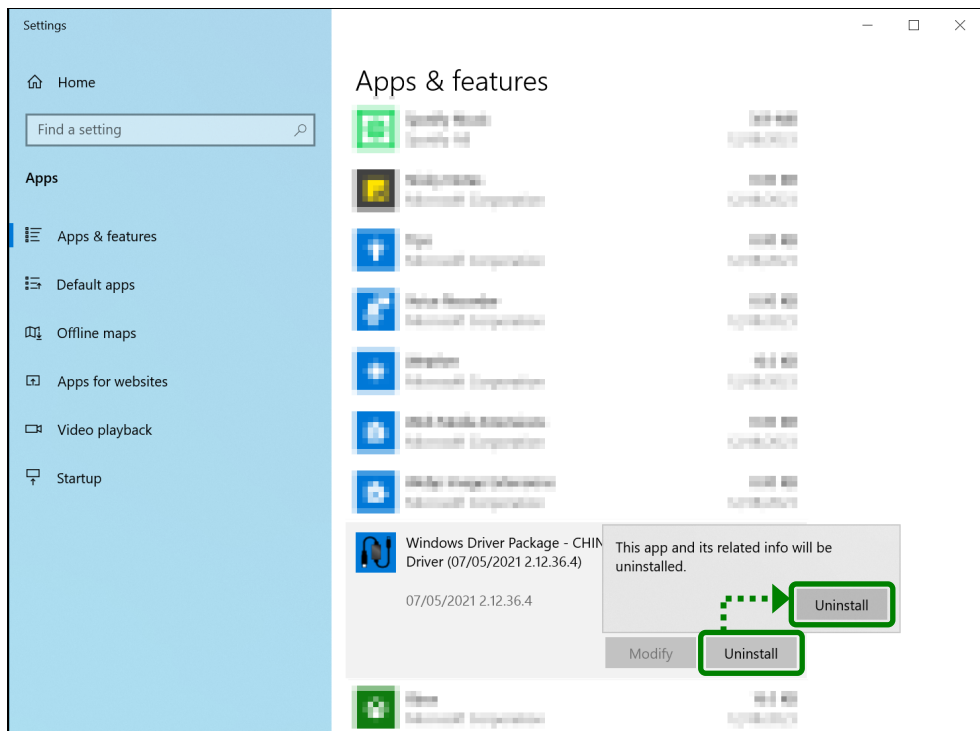Uninstalling starts.

## (7) Select [Port Driver]

From Apps & features, confirm that [CHINO USB ENG Converter Driver] is deleted.
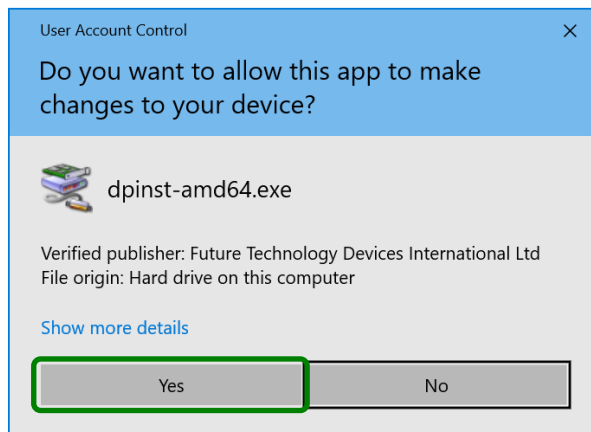Then select [CHINO USB ENG Port Driver] and click [Uninstall].

(8)  Delete [Port Driver]

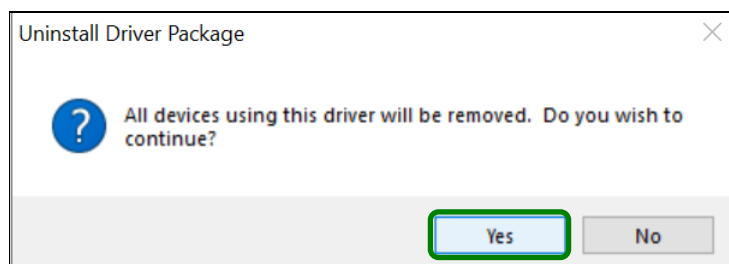  [Uninstall] button is displayed again, so click it.



(9)  Start uninstalling

If user account control window is displayed, click [Yes] button.



(10)Click [Yes]

When confirmation window is displayed, click [Yes] button.

Uninstalling starts.



(11)Uninstall complete

# 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. | ▪ Check device engineering port (communication port) is set to "ENG". Refer to the section "2-4 Device setting and connection".<br>▪ Make sure that the connection between the PC and the CHINO product is made properly.<br>▪ Confirm that the driver of RZ-EC4 is installed correctly.<br>▪ Check the COM port number set on the PC. |
| The personal computer does not recognize the product. | ▪ 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.<br>▪ 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.<br>▪ RZ-EC4 does not operate on a driver of CHINO engineering cable (RZ-EC3, RZ-EC5 or RZ-EC6). Install specific driver from attached CD-ROM. |
| The product can not be installed to the PC. | ▪ 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. |
|---|---|

# 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

| ⚠️ Caution | (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 10 / Windows 11 |
| 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 50ºC |
| Operating humidity | : 10 to 90% rh (non-condensing) |
| Operating altitude | : 2000m maximum |
| Weight | : Approx. 80g |

# CHINO

Printed in Japan