

Programmable Controller CS1D-CPU ...S

# **Replacement Guide** From CS1D-CPUDDS to CS1D-CPUDDSA

CS1D-CPU42S

CS1D-CPU44S

CS1D-CPU65S

CS1D-CPU67S

CS1D-CPU44SA

CS1D-CPU67SA

Replace Guide

## About this document

This document provides the reference information for replacing CS1D-CPU\*\*S with CS1D-CPU\*\*SA .

This document does not include precautions and reminders; please read and understand the important precautions and reminders described on the manuals of PLCs (both of PLC used in the existing system and PLC you will use to replace the existing PLC) before attempting to start operation.

## **Related Manuals**

| Man.No. | Manual  |
|---------|---|
| W405    | CS1D Duplex System OPERATION MANUAL                             |
| W394    | CS/CJ/NSJ PROGRAMMING MANUAL                                    |
| W474    | CS/CJ/NSJ Series INSTRUCTIONS REFERENCE MANUAL                  |
| W342    | CS/CJ/CP/NSJ Series Communications Commands REFERENCE MANUAL    |
| W463    | CX-One FA Integrated Tool Package SETUP MANUAL                  |
| W446    | CX-Programmer OPERATION MANUAL                                  |
| W447    | CX-Programmer OPERATION MANUAL: Function Blocks/Structured Text |
| W469    | CX-Programmer OPERATION MANUAL SFC Programming                  |
| W464    | CX-Integrator OPERATION MANUAL                                  |

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## CS1D-CPUDD Replacement Guide From CS1D-CPU42/44/65/67S to CS1D-CPU44/67SA

| Document | Change | Summary |
|----------|--------|---------|
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## **Table of Contents**

| 1. \$ | Specification   | 3  |
|-------|---|----|
| 1.1   | 1. Difference between CS1D-CPU□□S and CS1D-CPU□□SA                              | 3  |
| 2. \  | Work flow   | 4  |
| 2.1   | 1. Using a memory card: HMC-EF□□□ (Easy backup)                                 | 4  |
| 2.2   | 2. Using the CX-Programmer  | 5  |
| 3.    | About the CPU units   | 6  |
| 3.1   | 1. Prepare the CPU unit   | 6  |
| 3.2   | 2. About other units and power supply   | 6  |
| 4. 1  | Using a memory card: HMC-EF□□□ (Easy backup)                                    | 7  |
| 4.1   | 1. Prepare a memory card  | 7  |
| 4.2   | 2. Move the data stored in CS1D-CPU S to the memory card                        | 7  |
| 4.3   | B. Replace the unit to CS1D-CPU□□SA   | 7  |
| 4.4   | 4. Write the data stored in the Memory Card into CS1D-CPU□□SA                   | 8  |
| 5. I  | Using the CX-Programmer   | 9  |
| 5.1   | 1. Supported Tools  | 9  |
| 5.2   | 2. Read the data stored in CS1D-CPU□□S (using the CX-Programmer)                | 9  |
| 5.3   | B. Read the routing table stored in the CS1D-CPU□□S (using the CX-Integrator)   | 12 |
| 5.4   | 4. Read the data link table stored in the CS1D-CPU□□S (using the CX-Integrator) | 16 |
| 5.5   | 5. Convert and modify the programs to be used in CS1D-CPU□□SA                   | 21 |
| 5.6   | δ. Replace the unit to CS1D-CPU□□SA   | 23 |
| 5.7   | 7. Write data into CS1D-CPU□□SA. (CX-Programmer)                                | 23 |
| 5.8   | <ol> <li>Write the routing table into CS1D-CPU□□SA (CX- Integrator)</li> </ol>  | 25 |
| 5.9   | 9. Write the data link table into CS1D-CPU□□SA (CX- Integrator)                 | 29 |

## 1. Specification

## 1.1. Difference between CS1D-CPU S and CS1D-CPU SA

See followings.

### Table 1-1. Specification comparison table

| Туре                       | CS1D-CPU                       | CS1D-CPUDDSA                 | Remark                    |
|----------------------------|--------------------------------|------------------------------|---------------------------|
| Specification              |                                |                              |                           |
| The number of Input/Output | 42S: 960 points (2 racks)      | 44SA: 1,280 points (3 racks) |                           |
| points (the number of      | 44S: 1,280 points (3 racks)    | 67SA: 5,120 points (7 racks) |                           |
| penpheral port)            | 65/67S: 5,120 points (7 racks) |                              |                           |
| Program Capacity (Step)    | 42S: 10K                       | 44SA: 30K                    |                           |
|                            | 44S: 30K                       | 67SA: 250K                   |                           |
|                            | 65S: 60K                       |                              |                           |
|                            | 67S: 250K                      |                              |                           |
| Expanded data memory (EM)  | 42/44S: 32K words×1 bank       | 44SA: 32K words ×1 bank      |                           |
|                            | 65S: 32K words×3 bank          | 67SA: 32K words ×13 bank     |                           |
|                            | 67S: 32K words×13 bank         |                              |                           |
| Current Consumption        | 42/44S: DC5V 0.79A             | 44/67SA: DC5V 0.82A          |                           |
|                            | 65/67S: DC5V 0.82A             |                              |                           |
| Program language           | -Ladder diagram                | -Ladder diagram              |                           |
|                            | -Instruction list(IL)          | -ST                          |                           |
|                            |                                | -SFC                         |                           |
|                            |                                | -Instruction list (IL)       |                           |
| Function Block (FB)        | Unavailable                    | Available                    |                           |
| Online editing             | Only ladder diagram            | Ladder diagram, ST, SFC      | Online editing of FB is   |
|                            |                                |                              | available for             |
| Americales                 |                                | Available                    | CSTD-CPULISA.             |
| Array variables            |                                | Available                    |                           |
| STRING variables           |                                |                              |                           |
| Instruction execution time | 42/44S: 0.04µs                 | 44/67S: From 0.02µs          | time of CS1D CPURES       |
| (LD Instruction            | 65/67S: 0.02µs                 |                              | may differ from one of    |
| processing speed)          |                                |                              | CS1D-CPU                  |
|                            |                                |                              | replacement, confirm that |
|                            |                                |                              | the system can be         |
|                            |                                |                              | system                    |
|                            |                                |                              | ejetom.                   |

## 2. Work flow

- There are two replacement methods.
- (1) Using a memory card (HMC-EF 

  ) (Easy backup)
- (2) Using the CX-Programmer

### 2.1. Using a memory card: HMC-EF

#### 1. Before replacement



Figure 2-1: Work flow before replacement

2. Replacement flow from CS1D-CPU S to CS1D-CPU SA



Figure 2-2: Replacement flow using a memory card

## 2.2. Using the CX-Programmer

#### 1. Before replacement



#### Figure 2-3: Work flow before replacement

#### 2. Replacement flow from CS1D-CPU S to CS1D-CPU SA



Figure 2-4: Replacement flow using the support tool

## 3. About the CPU units

### 3.1. Prepare the CPU unit

We recommend that conventional lines of CS1D-CPU  $_{\Box}$  S should be replaced to new lines of CS1D-CPU  $_{\Box}$  SA as following.

| CS1D-CPU S          | CS1D-CPU□□SA | Remarks |
|---------------------|--------------|---------|
| (Conventional line) | (New line)   |         |
| CS1D-CPU42S         | CS1D-CPU44SA |         |
| CS1D-CPU44S         | CS1D-CPU44SA |         |
| CS1D-CPU65S         | CS1D-CPU67SA |         |
| CS1D-CPU67S         | CS1D-CPU67SA |         |

### 3.2. About other units and power supply

The other units and power supply used for CS1D-CPU S can be used for CS1D-CPU SA.

Note : Consider the product life, when using existing units.

## 4. Using a memory card: HMC-EF .... (Easy backup)

## 4.1. Prepare a memory card

Prepare a supported type of memory card, which is described in the brochure (R103-E1) and the manual (W405-E1).



### 4.2. Move the data stored in CS1D-CPU DS to the memory card

- (1) Insert the memory card into the CS1D-CPU $\square\square$ S.
- (2) Turn on the DIP switch (SW7) on the front.
- (3) Press the Memory Card Power Supply Switch for 3 seconds.



(4) Pressing the Memory Card Power Supply Switch for 3 seconds blinks the LED light (MCPWR) 1 time. The LED light blinks while the data is being transferred into the memory card. Once the data storage is completed, the LED light turns off.



Power is being supplied to the Memory (MCPWR)

#### 4.3. Replace the unit to CS1D-CPU□□SA

- (1) Turn off the power of the equipment.
- (2) Remove the CS1D-CPU  ${\scriptstyle \Box \Box}S$  from the CPU Backplane (CS1D-BC082S).

Also remove the INNER board and the memory card from the CPU unit.

(3) Attach the CS1D-CPU SA to the CPU Backplane (CS1D-BC082S).

Place the INNER board and the memory card inside the replaced CPU unit.

### 4.4. Write the data stored in the Memory Card into CS1D-CPU - SA

- (1) Insert the Memory Card into the CS1D-CPU = SA.
- (2) Turn on the DIP switch (SW7) on the front.
- (3) Turn on the power of the CPU unit.
- (4) Turning on the power blinks the LED light (MCPWR) 1 time. The LED light blinks while the data is being written into the CPU unit. After the writing is completed, the LED light turns off.
- (5) Turn off the DIP switch (SW7) on the front.

## 5. Using the CX-Programmer

#### 5.1. Supported Tools

CX-Programmer Ver.9.7 or later versions can connect to both CPU units. Depending on the selected CPU version, the desired CX-Programmer version may not be available. Carefully select the version of CX-Programmer to meet your functions used with CS1D-CPU S.

#### 5.2. Read the data stored in CS1D-CPU S (using the CX-Programmer)

Read the ladder programs, PLC system settings, and the data memory stored in the CS1D-CPU $\square$ S using the CX-Programmer.

- (1) Connect the CS1D-CPU $\square\square$ S to a PC with connection cables for peripheral tools.
- (2) Start the CX-Programmer. (Start menu Program OMRON CX-One CX-Programmer -

#### CX-Programmer)

| Device Name (1<br>NewPLC1    | ) Select "CS1D-S" for "PLC   | C type."                   |
|------------------------------|------------------------------|----------------------------|
| Device Type<br>CS1D-S        | <ul> <li>Settings</li> </ul> | (2) Click Sottings         |
| Network Type                 | Settings                     |                            |
| -Comment                     |                              |                            |
|                              |                              |                            |
| OK Cancel                    | Help                         |                            |
| evice Type Settings [CS1D-S] |                              | X                          |
| CPU Type                     | (3) Select the prop          | er CPU model to connect th |
| Total Program Area Size      |                              |                            |
| Expansion Memory             |                              |                            |

(3) Select "CS1D-CPU CS (CS1D-S)" for "PLC type." (File - New...)

| Device Type Settings [CS1D-S] | X  |
|-------------------------------|--|
| CPU Type                      | (3) Select the proper CPU model to connect the CPU unit. |
| Total Program Area Size       | Read Only  |
| 32KW [1 Bank]                 | Read Only  |
| Timer / Clock                 | ult  |
| ОК                            | キャンセル ヘルプ  |

(4) Select the connection method to a PC.

| Change BLC   |                              |
|--------------|------------------------------|
|              |                              |
| Device Name  |                              |
| NewPLC1      |                              |
| Device Type  |                              |
| CS1D-S       | Settings                     |
|              |                              |
| Network Type |                              |
| Toolbus      | Settings                     |
|              | Connection method to a PC    |
| Comment      | (Example: Toolbus, Ethernet) |
|              |                              |
|              |                              |
|              |                              |
|              |                              |
| OK Cancel    | Help                         |

- (5) Connect the PLC with online. (*PLC Work online*)
- (6) Read programs, PLC system settings, I/O table, CPU BUS unit settings, variable table, and comments.

| LC - Transier - From PLC)                                    |                    |                     |
|--|--------------------|---------------------|
| Upload Options   | ×                  |                     |
| PLC: 新規PLC1  | ок 🖵               |                     |
|  | Cancel             | (2) Click <b>OK</b> |
| ✓ 🥵 Program(s)<br>✓ 🕼 Settings                               | Scan Programs      | L                   |
| ·····································                        |                    |                     |
| ✓ ✓ ✓ Special Unit Setup                                     |                    |                     |
| Comments (1) C   | heck all boxes     |                     |
|  |                    |                     |
|  |                    |                     |
| Symbols, Comments, Program index                             |                    |                     |
| Transfer To/From: Comment memory 💌                           |                    |                     |
| <ul> <li>Transfer files of all tasks</li> </ul>              |                    |                     |
| C Transfer files by the task                                 |                    |                     |
| 🗌 🔲 Use comments (rung comments, annotations) of t           | he PC.             |                     |
| Note: PLC Memory areas(CIO Timer/Counter Data n              | nemory etc) is not |                     |
| transferred. Please transfer PLC Memory areas from<br>window | the PLC Memory     |                     |
| THILDOT.   |                    |                     |
|  |                    |                     |
|  |                    |                     |
|  |                    |                     |
|  |                    |                     |

(PLC - Transfer - From PLC)

#### (7) Read the PLC memory. (PLC - Edit - Memory)



- (8) Change the status of the CX-Programmer to offline. (*PLC Work online*)
- (9) Save the PLC memory as a file and name it. (File Save as...)
- (10) Stay open the CX-Programmer. (to use later)

#### 5.3. Read the routing table stored in the CS1D-CPUDDS (using the CX-Integrator)

Read the routing table stored in the CS1D-CPU $\square$ S using the CX-Integrator.

(1) Double-click **I/O Table and Unit setup** from the workspace of the CX-Programmer to open the I/O table.



(2) Select the PLC from the I/O table.



(3) Start the CX-Integrator. (Options - Start Special Application - Start with Settings Inherited)

| PLC IO Table                     | - NewPLC1   |  |
|----------------------------------|---|--|
| File Edit View                   | Options Help  |  |
| 🔒 🎒 🛃 🗝                          | Transfer to PLC<br>Transfer from the PLC<br>Compare with PLC  | 144 🗸 🚟 🐱  |
| 🕀 🛶 Inner Boar<br>🗄 🏰 [0000] Mai | Create  |  |
|                                  | Verify<br>Delete<br>Hot Swap<br>Online Add Unit<br>Rack/Slot Start Addresses<br>Units Profile information<br>Dip Switch Information<br>Change ETN21 Mode<br>Consumption and Width | •  |
|                                  | Start Special Application<br>Compare with Project<br>Check  | <ul> <li>Start with Settings Inherited</li> <li>Start Only</li> <li>Associate Special Application</li> </ul> |

(4) The CX-Integrator starts.



(5) Select the port connecting to the PC.

| CX-Integrator  | × |
|--|---|
| Selected Item CPU Port(253) : Peripheral Port                  | _ |
| Select the item from the following list.                       |   |
| CPU Port(252) : Serial Port<br>CPU Port(253) : Peripheral Port |   |
|  |   |
|  |   |
|  |   |
| OK Cancel  |   |

(6) Select the **Network structure only** and click **Transfer.** 



#### Following image is displayed.



(7) Start the routing table setting tool. (*Tools – Start Routing Table*)

| [Network I_GPUPort_PeripheralPort(NTLink):Net(-)] |  |  |
|---|--|--|
| . <u>C</u> omponent                               | Tools Windows Help   |  |
| Ko Gi   | Start <u>D</u> ata Link<br>Start <u>R</u> outing table   |  |
| त्र स्त्र 🔶 🦈                                     | NT Link tool     Image: boold state       Device Net tool     Image: boold state       Controller Link tool     Image: boold state       Ethernet tool(H)     Image: boold state |  |

Following window is displayed.



[Notes] If the unit does not have the routing table setting, no changes are shown on the table.

(8) Close the routing table setting page. (*File – Exit*)

Save the routing table as a file and name it as you like.

| 🧧 名前を付けて保ィ      | 存                  |                  | ×                      |
|-----------------|--------------------|------------------|------------------------|
| 保存する場所(1):      | 퉬 tmp              | -                | 💣 🎟 •                  |
| 名前 ▲            |                    | ▼ 更新日時           | ▼ 種類                   |
| 📕 _tmp          |                    | 2019/05/29 11:14 | ファイル フォルダ              |
| 📕 _tmp2         |                    | 2019/05/29 11:14 | ファイル フォルダ              |
| 10_             |                    | 2019/05/29 11:14 | ファイル フォルダ              |
| <u>    15  </u> |                    | 2019/05/29 11:14 | ファイル フォルダ <sup>.</sup> |
| •               |                    |                  | F                      |
| ファイル名(N):       | *rtg               |                  | 保存(S)                  |
| ファイルの種類(T):     | Local Table (*rtg) | •                | キャンセル //               |

(9) Change the status of the CX-Integrator to offline.

| Integrator – [Network1 CPUPort PeripheralPort(NTLink):Ne                           | 2 X1                                   |
|--|--|
| nsert <u>N</u> etwork <u>C</u> omponent <u>T</u> ools <u>W</u> indows <u>H</u> elp | Click <b>Work online</b> to change the |
|  |  |
| ii   | 7                                      |
|  |  |
|  |  |
| Network1_CPUPort_PeripheralPort(NTLir  | nk):Net(-)                             |

(10) Close the CX-Integrator. (*File – Exit*)

Do you want to save changes to new project? Click No.

#### 5.4. Read the data link table stored in the CS1D-CPU S (using the CX-Integrator)

Read the data link table stored in the CS1D-CPU DS using the CX-Integrator.

(1) Double-click **I/O Table and Unit setup** from the workspace of the CX-Programmer to open the I/O table.

- NewProject NewPLC1[CS1D-S] Stop/Program Mode Symbols IO Table and Unit Setup Settings Memory card PLC Clock Memory Programs Totak (00) Stopped
- (2) Select the PLC from the I/O table.



(3) Start the CX-Integrator. (Options – Start Special Application - Start with Settings Inherited )



(4) The CX-Integrator starts.



(5) Select the port connecting to the PC.

| CX-Integrator  | × |
|--|---|
| Selected Item CPU Port(253) : Peripheral Port                  |   |
| Select the item from the following list.                       | _ |
| CPU Port(252) : Serial Port<br>CPU Port(253) : Peripheral Port |   |
|  |   |
|  |   |
|  |   |
| OK Cancel  |   |

(6) Select Network structure only and click Transfer.



Following image is displayed.



(7) Open the data link table setting tool from the CX-Integrator. (Tools - Start Data link)

| [Network1_CPUPort_PeripheralPort(NTLink):Net(-)] |                             |   |
|--|-----------------------------|---|
| . <u>C</u> omponent                              | Tools Windows Help          |   |
|  | Start <u>D</u> ata Link     | 1 |
|  | Start <u>R</u> outing table |   |
| a 🛛 🔶 🤹  | NT Link tool                |   |
|  | DeviceNet teel              |   |
|  | Device <u>n</u> et tool     |   |
|  | Controller Link tool        |   |
|  | Ethernet tool( <u>H</u> )   |   |

If the data link table setting is not required for the configuration, the data link table setting tool is grayed-out. Skip the following procedures.

| rator - [Network1_CPUPort_PeripheralPort(NTLink):Net(-)] |  |             |
|--|--|-------------|
| <u>N</u> etwork <u>C</u> omponent                        | <u>T</u> ools <u>W</u> indows <u>H</u> elp   |             |
|  | Start <u>D</u> ata Link<br>Start <u>R</u> outing table   |             |
|  | NT Link <u>t</u> ool<br>Device <u>N</u> et tool<br>Controller <u>L</u> ink tool<br>Ethernet tool( <u>H</u> ) | ><br>><br>> |
| Netwo  | Echoback te <u>s</u> t between PLC nodes<br><u>C</u> PS file   | •           |

Select the network to read the data link table.

| Select Network                           | x |
|--|---|
| Selected Item Unit-02: ControllerLink    |   |
| Select a network from the following list |   |
| Unit-02: ControllerLink(#001)            |   |
|  |   |
|  |   |
| 1  |   |
| OK Cancel                                |   |

Following window is displayed.

| Datalink Component |                         |   |  |
|--------------------|-------------------------|---|--|
| File View Table    | Online Options Help     |   |  |
|                    | ▋₽₹₽                    |   |  |
|                    |                         |   |  |
| Node               | Click the               | e icon <sup>.</sup> Transfer from PLC         |  |
| Node01             |                         |   |  |
| Node02             |                         |   |  |
| Node03             | – Link Start CH – – – – |   |  |
| Node04             | Chatan                  |   |  |
| Node05             |                         |   |  |
| Node06             |                         | No datalink table is registered.              |  |
| Node07             | Area1                   | Double click or select and press the Enter ke |  |
| Node08             |                         |   |  |
| Node09             | Area2                   |   |  |

#### Click Yes.

| Datalink ( | Component   | × |
|------------|---|---|
| <u>^</u>   | This is a PLC online Read operation to Node 2.<br>This operation will change the state of the datalink table.<br>Press Yes to proceed or No to cancel the operation |   |
|            | (はい(Y) いいえ(N)   |   |

After the data link table setting is read, the following image is displayed.



(8) Close the data link table setting. (File - Exit)

Save the data link table as a file. Name it as you like.

| 名前を付けて保ィ    | 7                      |                  | ×         |
|-------------|------------------------|------------------|-----------|
| 保存する場所(1):  | 鷆 tmp                  |                  | 📸 🎫       |
| 名前 ←        |                        | ▼ 更新日時           | ▼ 種類      |
| 🛛 🚺 _tmp    |                        | 2019/05/29 11:14 | ファイル フォルダ |
| 🛛 🚺 _tmp2   |                        | 2019/05/29 11:14 | ファイル フォルダ |
| 010         |                        | 2019/05/29 11:14 | ファイル フォルダ |
| JE 15_      |                        | 2019/05/29 11:14 | ファイル フォルダ |
| •           |                        |                  | F         |
| ファイル名(N):   | *.cl2                  |                  | 保存(S)     |
| ファイルの種類(T): | Controller Link (*cl2) | •                | キャンセル     |

(9) Change the status of CX-Integrator to offline.

| -Integrator – [Network1 CPIIPort PeripheralPort(NTI ink):Net <sup>(1)</sup>        |  |  |  |
|--|--|--|--|
| nsert <u>N</u> etwork <u>C</u> omponent <u>T</u> ools <u>W</u> indows <u>H</u> elp | Click the icon: <b>Work online</b> to change |  |  |
|  |  |  |  |
| III A' II 37 37 🔶 🕈 🖬 27 38 😵 🖄 🕷  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Network1_CPUPort_PeripheralPort(NTLinl   | <):Net(-)                                    |  |  |

- (10) Close the CX-Integrator. (*File Exit*)Do you want to save changes to new project? Click No.
- (11) If you use several networks in the CPU unit, read each data link table setting, individually. Carry out the step (1) through (10) described in the section 6. It takes several minutes.

## 5.5. Convert and modify the programs to be used in CS1D-CPU - SA

Convert and modify the programs to be used in CS1D-CPU SA with CX-Programmer.

| (1) Change the PLC type to CS1D-CPU□□SA. ( <i>PLC</i> – C | hange Model)                     |
|---|----------------------------------|
| Change PLC X  |                                  |
| Device Name   |                                  |
| NewPLC1   |                                  |
| Device Type   |                                  |
| CS1D-S Settings   |                                  |
| Network Type  | (1) Click Setting from PLC type. |
| Toolbus   |                                  |
|   |                                  |
| Comment   |                                  |
|   |                                  |
| -   |                                  |
|   |                                  |
| OK Cancel Help  |                                  |
|   |                                  |
| Douise Tupe Settings [CS1D_S]                             | V                                |
|   |                                  |
|   | 1                                |
| CPU Type  |                                  |
| CPU42 (2) Select  | ct the CPU model to use.         |
|   |                                  |
| CPU65   |                                  |
| EXCPU67   |                                  |
| 32KW [1 Bank] 📃 🗖 Read Only                               |                                  |
| File Memory   |                                  |
| None 🔽 🗖 Read Only  |                                  |
| Timer / Clock   |                                  |
| 🔽 Installed   |                                  |
| Maka Default  |                                  |
| (3) Click   | COK.                             |
|   |                                  |
|   |                                  |

(2) The program check function (Compilation) runs because the PLC type was changed. The result is displayed on the output window. Any errors to be corrected.



## IPLO/Program Name : NewPLO//OLKI

#### [Notes]

If an error (any address is not assigned to the variable) occurs, the original program might include unused

variables. Please delete the unused variables as follows. (*Edit – Delete Unused symbols*)
Select area to delete

| <ul> <li>Delete unused symbols of all area</li> <li>Delete unused symbols of the selected area</li> <li>Select area</li> </ul> | (1) Select either one. |
|--|------------------------|
| A-bit<br>A-CH<br>D<br>E<br>E bank0<br>E bank1<br>E bank2<br>E bank3  |                        |
| E bank4<br>E bank5 (2) Click   | ОК.                    |
| OK Cancel  |                        |

(3) Program check function (Compilation) runs again. Any errors to be corrected.

(*Program – Compile (Program check)*) Repeat this procedure until no errors found.

- (4) Save as a file and name it. (*File Save as...*)
- (5) Stay open the CX-Programmer. (to use later)

### 5.6. Replace the unit to CS1D-CPU - SA

- (1) Turn off the equipment.
- (2) Remove the CS1D-CPU S from the CPU Backplane (CS1D-BC082S).
- (3) Attach the CS1D-CPU $\square\square$ SA to the CPU Backplane (CS1D-BC082S).
- (4) Check the unit is firmly attached to the equipment, and turn on the power.

#### 5.7. Write data into CS1D-CPU SA. (CX-Programmer)

Write ladder programs, PLC system settings, and the data memory into the CS1D-CPU□□SA using the CX-Programmer.

- (1) Connect the CS1D-CPU SA to a PC with connection cables for peripheral tools.
- (2) Connect the PLC to online (*PLC Work online*)

(3) Transfer programs, PLC system settings, I/O table, CPU BUS unit settings, variable table, comments, and

program index. (*PLC – Transfer – To PLC*)

| Download Options  | ×   |                       |
|---|---|-----------------------|
| PLC: NewPLC1<br>Include:<br>Program(s)<br>Settings<br>Settings<br>Settings<br>Symbols<br>Comments<br>Program index<br>(1) Check   | OK<br>Cancel<br>Transfer All<br>ck all boxes.   | (2) Click <b>OK</b> . |
| Symbols, Comments, Program index<br>Transfer To/From: Comment memory<br>Transfer files of all tasks<br>Transfer files by the task<br>C Clear program memory<br>Exclude Port(HostLink, Peripheral) of PLC Settings<br>target.<br>(Check when transferring CPU unit serial comms p<br>changed by NT Link auto-online or CPU unit param<br>CX-Integrator)<br>Note: PLC Memory areas(CIO, Timer/Counter, Data me<br>transferred. Please transfer PLC Memory areas from the<br>window. | from the transfer<br>port settings<br>neter edit of<br>emory, etc.) is not<br>he PLC Memory |                       |

#### (4) Transfer the PLC memory. (PLC – Edit – Memory)



(5) Change the status of CX-Programmer to offline. (PLC – Work online)

#### 5.8. Write the routing table into CS1D-CPU SA (CX- Integrator)

Write the routing table into the CS1D-CPU SA using the CX-Integrator.

(1) Double click I/O Table and Unit setup from the workspace of the CX-Programmer to open the I/O table.



(2) Select the PLC from the I/O table.



(3) Start the CX-Integrator. (Options – Start Special Application - Start with Settings Inherited )



(4) The CX-Integrator starts.



(5) Select the port connecting to the PC.

| CX-Integrator  | × |
|--|---|
| Selected Item CPU Port(253) : Peripheral Port                  |   |
| Select the item from the following list.                       | _ |
| CPU Port(252) : Serial Port<br>CPU Port(253) : Peripheral Port |   |
|  |   |
|  |   |
|  |   |
| OK Cancel  |   |

(6) Select Network structure only and click Transfer.



Following image is displayed.



(7) Start the routing table setting tool. (*Tools – Start Routing table*)

| [Network 1_C      | PUPort_Peri   | ohe                                  | ralPort(NTLink):Net(-)] |         |  |
|-------------------|---|--------------------------------------|-------------------------|---------|--|
| <u>C</u> omponent | <u>T</u> ools <u>W</u> indow                                    | vs                                   | <u>H</u> elp            |         |  |
|                   | Start <u>D</u> at   | a Lir                                | ık                      |         |  |
|                   | Start <u>R</u> ou   | ting                                 | table                   |         |  |
| 3 23 🔶 🧌          | NT Link <u>t</u><br>Device <u>N</u> e<br>Controller<br>Ethernet | ool<br>t too<br><u>L</u> ini<br>ool( | ol<br>k tool<br>(H)     | * * * * |  |





| Routing T | able  | $\times$ |
|-----------|---|----------|
| <u> </u>  | Are you sure you want to download this Routing Table to the PLC ? |          |
|           | (はい(Y) いいえ(N)   |          |

Following window is displayed when the data has been transferred correctly.

| Routing Table  | × |
|--|---|
| The routing table was successfully transferred to the PLC. |   |
| ОК   |   |

- (8) Close the routing table settings. (File Exit)
- (9) Change the status of CX-Integrator to offline.



(10) Close the CX-Integrator. (*File – Exit*)Do you want to save changes to new project? Click **No.** 

### 5.9. Write the data link table into CS1D-CPU SA (CX- Integrator)

Write the data link table stored in the CS1D-CPU $\square$ S into the CS1D-CPU $\square$ SA using the CX-Integrator. If it is not required to read the data link table in this section, skip the following procedures.

(1) Double-click the I/O Table and the Unit setup from the workspace of the CX-Programmer to open the I/O table.



(2) Select the PLC from the I/O table.



(3) Start the CX-Integrator. (Options – Start Special Application - Start with Settings Inherited)



(4) The CX-Integrator starts.



(5) Select the port connecting to the PC.

| CX-Integrator  | × |
|--|---|
| Selected Item CPU Port(253) : Peripheral Port                  |   |
| Select the item from the following list.                       | _ |
| CPU Port(252) : Serial Port<br>CPU Port(253) : Peripheral Port |   |
|  |   |
|  |   |
|  |   |
| OK Cancel  |   |

(6) Select Network structure only and click Transfer.



Following image is displayed.



(7) Select Data link table setting tool of the CX-Integrator. (Tools – Start Data Link)

| [Network 1_C        | PUPort_PeripheralPort(NTLink):Net(-)] |  |
|---------------------|---------------------------------------|--|
| . <u>C</u> omponent | Tools Windows Help                    |  |
| 10 CA               | Start <u>D</u> ata Link               |  |
| <u> </u>            | Start <u>R</u> outing table           |  |
| 김 성의 🔶 🤊            | NT Link <u>t</u> ool                  |  |
|                     | Device <u>N</u> et tool               |  |
|                     | Controller Link tool                  |  |
|                     | Ethernet tool( <u>H</u> )             |  |
|                     |                                       |  |

Select the network to read the data link table.

| Select Network    |                      | ×      |
|-------------------|----------------------|--------|
| Selected Item     | Unit-02: Controller  | Link   |
| Select a network  | from the following I | ist    |
| Unit-02: Controll | erLink(#001)         |        |
|                   |                      |        |
|                   |                      |        |
|                   |                      |        |
|                   | ОК                   | Cancel |

Following image is displayed.

| D     | atalink C        | nponent                                      |          |
|-------|------------------|--|----------|
| File  | View 1           | ole Online Options Help                      |          |
|       | Do 🛋             | ▋▋₽₽₽₽₽₽₩ <mark>↓%∞ぬ</mark> ₿× <b>₽</b> ₽₽₽₽ | ?        |
| - Not | de               | <area1></area1>                              |          |
|       | Node01<br>Node02 | (1) Click the icon: <b>Open</b> .            |          |
|       | Node03           | Link Start CH                                |          |
|       | Node04           | Status                                       |          |
|       | Node05           |  |          |
|       | Node06           | No datalink table is registered.             | Fustan I |
|       | Node07           | Area1 Create and show the datalink table of  | the spe  |
|       | Node08           |  |          |
|       | Node09           | Area2  |          |

| <mark>·</mark> 開K | ×  |
|-------------------|--|
| ファイルの場所(I):       | 🍌 tmp 🗣 🔁 💣 🎟 🕶                                |
| 名前 ▲              | ▼  更新日時  ▼  種類                                 |
| 🔒 _tmp            | 2019/05/29 11:14 ファイル フォルダ                     |
| 🔡 _tmp2           | 2019/05/29 11:14 ファイル フォルダ・                    |
| 10_               | 2019/05/29 11:14 ファイル フォルダ・                    |
| Jan 15_           | 2019/05/29 11:14 ファイル フォルダ・                    |
| •                 | (2) Enter the file created in the section 5.4. |
| ファイル名(N):         | 開((0)  |
| ファイルの種類(T):       | Controller Link (*cl2 *cl3 *clk) マキャンセル        |

|                                     |                    | (3) Clic | k the ico | n: Transf   | fer to | PLC.   |           |  |
|-------------------------------------|--------------------|----------|-----------|---|--------|--------|-----------|--|
| 👭 Datalink Component                |                    | (0) 0    |           |   |        |        |           |  |
| File View Table Online Options Help |                    |          |           |   |        |        |           |  |
|                                     | ® <mark>2</mark> @ |          |           |   |        |        |           |  |
|                                     |                    |          |           |   |        |        |           |  |
| Node PLC                            | <area 1=""/>       |          |           | <are< td=""><td>a2&gt;</td><td></td><td></td><td></td></are<> | a2>    |        |           |  |
| Node01 CS1D-S Vode01                | ink Addr. Size     | Offset   | Src Addr. | Link Addr.  | Size   | Offset | Src Addr. |  |
| D Node02                            | 01000 32           | 0        | 00000     | D10000  | 64     | 0      | D00000    |  |
| Node03 Link Start CH                | 01032 32           |          | Send      | D10064  | 64     |        | Send      |  |
| Node04                              |                    |          |           |   |        |        |           |  |
| Node05                              |                    |          |           |   |        |        |           |  |
| Node06                              |                    |          |           |   |        |        |           |  |
| Node07 Area1                        |                    |          |           |   |        |        |           |  |

#### Click Yes.



Following window is displayed when the routing table has been transferred correctly.



- (8) Close the Data link table setting. (File Exit)
- (9) Change the status of CX-Integrator to offline.

| Jategrater - [Network 1 CPUIDert PerioheralPort/NTLink]·Net <sup>2,33</sup> |  |
|---|--|
| nsert Network Component Tools Windows Help                                  | Click the icon: <b>Work online</b> to change |
|   | the status to online.                        |
| iii o` e ta ta ♦ ♥ ₽ # # \$\$ 8 6 1.1.4.6 5                                 |  |
|   |  |
|   |  |
| Network1_CPUPort_PeripheralPort(NTLin                                       | k):Net(-)                                    |

- (10) Close the CX-Integrator. (File Exit)Do you want to save changes to new project? Click No.
- (11) If you use several networks in the CPU unit, read each data link table setting, individually. Carry out the step 1 through 10 described in the section 5. It takes several minutes