Precautions in using FinsGateway CS1 Bus Interface Embedded Edition

1. Setting the Board ID

In CS1Bus Interface Board, up to four Boards can be used on one computer simultaneously by setting a Board ID to each Board. The Board ID is factory-set as 0.
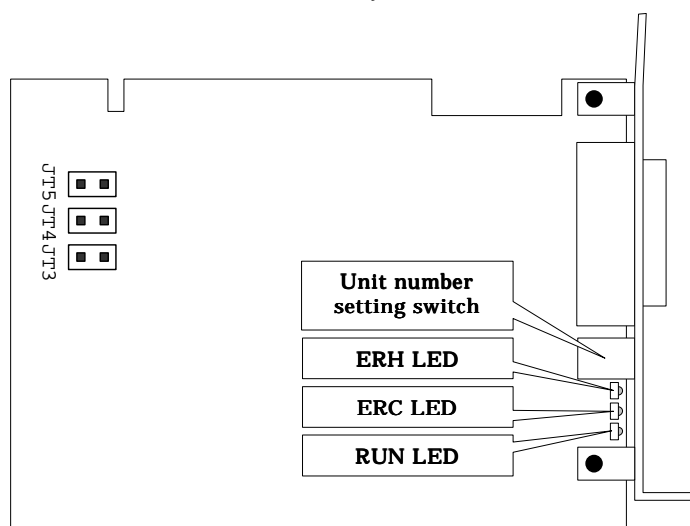
JT3	JT4	Board ID	Remarks
Short	Short	0	Factory-set
Short	Open	1	-
Open	Short	2	-
Open	Open	3	-

Caution: ●Do not short JT5, which is not used.

   ●Do not set the same Board ID for more than one Board.

   ●For the details of the LED indication, refer to *7. Troubleshooting with LED Indication* in this document.

   ●For the detailed specifications and others, refer to *CS1Bus Interface Board Operation Manual* (Cat. No. V211-E1).

2. Setting on the CS1

In order to use CS1Bus Interface Service, setting on the CS1 (I/O table (Indispensable) and routing tables (If needed)) is required in addition to setting for FinsGateway on the computer.

2.1. Creating the I/O Table

For how to set the I/O table of CS1, refer to *CS1 Series Operation Manual* (Cat. No. W339-E1).

Caution: ●Before creating the I/O table with CX-Programmer, connect CS1 and the computer with the I/O Expansion Cable dedicated to CS1Bus Interface Board, turn ON the power of both, and then start the CS1Bus Interface Service of FinsGateway. If the service is not activated, the I/O table can not be created.

●Creating the I/O table will restart CS1Bus Interface Service of FinsGateway, which is to read the I/O table having been created and to make it effective. Confirm that restarting CS1Bus Interface Service will not affect the equipment before transferring.

2.2. Setting the Routing Tables

Use the PLC network configuration tool (referred to as CX-Net, hereafter) to set the routing tables retained by CS1. To the routing tables, set the CS1's local network table (and the relay network table, if required). For FINS communications, set the CS1's local network address so that it is identical to that of CS1Bus Interface Service in FinsGateway.

For how to use CX-Net, refer to *CX-Server User Manual* (Cat. No. W362-E2).

Caution: Transferring the routing table from CX-Net to the CPU Unit will restart CS1Bus Interface Service of FinsGateway, which is to read the routing table having been set and to make it effective. Confirm that restarting CS1Bus Interface Service will not affect the equipment before transferring.

Note: ●If FINS communications are not used, (using only with I/O communications on the CS1 bus), setting routing tables is not required.

●When setting CS1's routing tables, CS1 and the computer does not necessarily need to be connected with the I/O Expansion Cable dedicated to CS1Bus Interface Board.

3. Precautions in Designing the System

- When CS1 and the computer are connected with the I/O Expansion Cable dedicated to CS1Bus Interface Board, even if the power of CS1 is turned ON, CS1 will not enter RUN status as long as starting of CS1 Bus Interface Service of FinsGateway has not completed after the computer started up. Design the system considering the start-up times of the computer, CS1Bus Interface Service, and CS1.

- Turning OFF the computer power while CS1Bus Interface Service is being activated will cause CS1 to be in the reset status. Design the system considering this effect. To recover, restart CS1, turn ON the computer power again, and then start CS1Bus Interface Service of FinsGateway.

- Turning OFF the CS1 power while CS1Bus Interface Service is being activated will cause CS1Bus Interface Service of FinsGateway to stop. Design the system considering this effect. To recover, turn ON the CS1 power again, and then restart CS1Bus Interface Service of FinsGateway.

- Disconnecting the I/O Expansion Cable dedicated to CS1Bus Interface Board while CS1Bus Interface Service is being activated will cause CS1 to be in an I/O bus error (a fatal error) and CS1Bus Interface Service to stop. Design the system considering this effect. To recover, restart CS1 and CS1Bus Interface Service.

4. Restarting the CPU Bus Unit using Auxiliary Area

CS1 has a function to restart the CPU Bus Unit using the Auxiliary Area. CS1 can restart the CPU Bus Unit (CS1Bus Interface Service of FinsGateway) at a rising edge of A501, CS1 CPU's Auxiliary Area. (Refer to *CS1 Series Operation Manual* (Cat. No. W339-E1) for details.)

Caution: When restarted, the Message Service and the Data Link Service once stop. After restarting, the Data Link service automatically starts, depending on the setting. If restarted while the Data Link is being activated, it may take some time to complete restarting because the Data Link service is interrupted, depending on timing.

5. Troubleshooting with LED Indication

The CS1Bus Interface Board is equipped with three LEDs: RUN, ERC, and ERH. Indication status of these LEDs allows to judge operation status and errors.

RUN	ERC	ERH	Status	Remedy
ON	OFF	OFF	CS1Bus Interface Service of FinsGateway has normally been started.	-----
OFF	ON	ON	Unit type error	After confirming the cable connection status and the Unit No. of the CPU Bus Unit, restart CS1 CPU and CS1Bus Interface Service.
OFF	ON	OFF	Hardware error in the Board	The Board needs to be replaced.
OFF	OFF	ON	The corresponding Unit does not exist in the CS1 I/O table.	Create an I/O table in CS1 CPU.
			The access right for the cyclic area can not be obtained. (The CS1 CPU does not release the access right for 41 seconds.)	After confirming the cable connection status, restart CS1 CPU and CS1Bus Interface Service.
			Duplicate/incorrect Unit No. of CPU Bus Unit	After confirming the Unit No. of the other CPU Bus Unit, set a correct Unit No.
			WDT error in CS1 CPU	Restart CS1 CPU and CS1Bus Interface Service.
			I/O Bus error in CS1	After confirming the connection status of each CS1, restart CS1 CPU and CS1Bus Interface Service.
			Power interruption in CS1 CPU	After confirming the power status of CS1, restart CS1 CPU and CS1Bus Interface Service.
			The cable dedicated to CS1Bus Interface Board was disconnected.	After confirming the cable connection, restart CS1 CPU and CS1Bus Interface Service.