Changes for the Better





Instruction Manual MITSUBISHI CNC EtherNet/IP Configuration Tool



MELSOFT Integrated FA Software

IB-1501536(ENG)-A

Introduction

This instruction manual describes how to use MITSUBISHI CNC EtherNet/IP Configuration Tool. Incorrect handling may lead to unforeseen accidents, so make sure to read this instruction manual thoroughly before operation to ensure correct usage.

MITSUBISHI CNC EtherNet/IP Configuration Tool supports the following NC series.

Appropriate NC

M800W/M800S/M80/M80W/E80 Series

Notes on Reading This Manual

- (1) For the specifications of individual machine tools, refer to the manuals issued by the respective machine tool builders. The "restrictions" and "available functions" described by the machine tool builders have precedence over this manual.
- (2) This manual describes as many special operations as possible, but it should be kept in mind that operations not mentioned in this manual cannot be performed.

Precautions for Safety

Always read the specifications issued by the machine tool builder, this manual, related manuals and attached documents before installation, operation, programming, maintenance or inspection to ensure correct use. Understand this numerical controller, safety items and cautions before using the unit.

This manual ranks the safety precautions into "DANGER", "WARNING" and "CAUTION".



When the user may be subject to imminent fatalities or major injuries if handling is mistaken.



When the user may be subject to fatalities or major injuries if handling is mistaken.



When the user may be subject to injuries or when property damage may occur if handling is mistaken.

Note that even items ranked as " **CAUTION**", may lead to major results depending on the situation. In any case, important information that must always be observed is described.

Not applicable in this manual.

Check condition of the NC device to transfer NC data and machining program by MITSUBISHI CNC EtherNet/IP Configuration Tool to NC device connected to the network. It may cause unintended rewriting of the program.

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Contents

1. Outline	1
2. Operating Environment of the EIP-CT	1
3. Installation	2
3.1 Requirements	2
3.2 Installation Procedure	2
3.2.1 Start setup.exe	3
3.2.2 Install Runtime	3
3.2.3 Start the EIP-CT Installation	5
3.2.4 Specify the Destination Folder for Installation	5
3.2.5 Start Installation	6
3.2.6 Copying	7
3.2.7 Installation Completed	7
3.2.8 Start the EIP-CT	8
3.3 Uninstallation	9
4. Screen Overview	
4.1 Screen Configuration	
4.2 Display Items	
5. Device Setting and Configuration File Output	11
5.1 When NC is Used with a Scanner	11
5.1.1 Configuration	11
5.1.2 Operations in the EIP-CT	
5.2 Adapter Function	24
5.2.1 Configuration	24
5.2.2 How to Obtain the EDS File	24
5.2.3 Configuration Setting	25
6. Diagnostic Function	
6.1 Procedures for Diagnostic Startup	
6.2 Diagnostic Screen	
6.2.1 Diagnostic Status Confirmation Screen	
6.2.2 I/O Data Confirmation Screen	
7. Compatible NC Versions	

1. Outline

1. Outline

In order to use the NC EtherNet/IP function, the connected device needs to be set with the "EtherNet/IP Configuration Tool (hereafter EIP-CT)". The EIP-CT is a tool which operates on Windows. With the EIP-CT, in addition to the setting of connected devices, diagnostic function to confirm the connecting status of connected devices is available.

This manual describes the essential information for the EIP-CT only. For details about the EIP-CT, refer to Help of the EIP-CT*.

*The contents that can be set with the EIP-CT depends on the NC EtherNet/IP specifications.

Also, the following functions in Help cannot be used with NC.

- The contents in "Downloading the configuration"
- The following contents in "8. Properties of the EtherNet/IP scanner"
 - The Ethernet tab
 - The EtherNet/IP tab
 - The User Data tab
- The contents in "13. Device names and items configuration"
- QoS, DNS Server, Host Name, Domain Name, DHCP, and BOOTP settings

2. Operating Environment of the EIP-CT

The EIP-CT operates in the following environment.

		1 3
PC requirements	OS	Windows 7 SP1 or later (32bit/64bit) Windows 8.1 (32bit/64bit) Windows 10 (32bit/64bit)
	CPU	CPU clock 1GHz or faster
	Harddisk space	200MB or larger (excluding the free space necessary for running the OS)
	Memory	2GB or larger
	Display	Video adapter and monitor with SVGA resolution (800 × 600) or higher
	External interface	CD-ROM compatible disc drive · Used for installation. USB port · The license key (USB dongle) uses one USB port.
	Required software	Microsoft Visual C++ 2008 SP1 Redistributeable Package Can be installed with the EIP-CT simultaneously. Microsoft .NET Framework 2.0 SP2 Comes with the compatible OS.
	Account	An administrator account · The EIP-CT does not start without an administrator account.
Supported languages	English	Only input to the tool in English is guaranteed. Japanese and non-Latin characters are not guaranteed.

Table 2-1 The EIP-CT Operating Environment

3. Installation

The following describes how to install the EIP-CT.

3.1 Requirements

The following is required for installing the EIP-CT.

Table 3-1 Requirements for the EIP-CT installation				
PC for installation	A PC that meets the requirements described in "2. Operating environment of the EIP-CT".			
Installation disc	The EIP-CT installation disc Structure Drive letter:\ The drive letter varies by PC. setup.exe The Installer EDS The EDS file storage folder 00A1000C00600100.eds The NC control unit EDS file*			
	*This EDS file is required when using the NC control module as an adapter. The EDS file is used by the configuration tool for scanner device. Refer to the instruction manual of the scanner device for how to use the EDS file.			
License key (USB)	Required to use the EIP-CT. The license key is a USB dongle that is included with the installation disc.			

3.2 Installation Procedure

Install the EIP-CT by following the procedures below.

Table 3-2 The EIP-CT Installation procedures

Procedure	Description
1	Refer to 3.2.1 to 3.2.7 to run the installer.
2	Refer to 3.2.8 to confirm the screen after startup.

3.2.1 Start setup.exe

Execute "Drive letter\:setup.exe" from the installation disc.

3.2.2 Install Runtime

Runtime is required on the PC for installation. When Runtime is not installed, follow the procedure below to install Runtime. If Runtime is already installed, go to procedure 3.2.3.

The following dialog appears. Click the [Install] button.

MI	MITSUBISHI CNC EtherNet/IP Configuration Tool - InstallShield Wizard		
		IITSUBISHI CNC EtherNet/IP Configuration Tool requires the following items to be istalled on your computer. Click Install to begin installing these requirements.	
	Status	Requirement	
	Pending Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)		
		Cancel	

When the user account control function asks for permission to make changes to the computer, click the [Yes] button.

😗 Use	r Account Control				8
٢	Do you want to allow the following program from an unknown publisher to make changes to this computer?				
	Program name: Publisher: File origin:	setup.exe Unknown			
🕑 s	how <u>d</u> etails			<u>Y</u> es	<u>N</u> o
			<u>Change w</u>	hen these not	ifications appear

Wait until copying is completed.

MITSUBISHI CNC EtherNet/IP Configuration Tool - InstallShield Wizard			
	ITSUBISHI CNC EtherNet/IP Configuration Tool requires the following items to be stalled on your computer. Click Install to begin installing these requirements.		
Status	Requirement		
Installing Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)			
Installing M	Installing Microsoft Visual C++ 2008 SP1 Redistributable Package (x86)		
	Install Cancel		

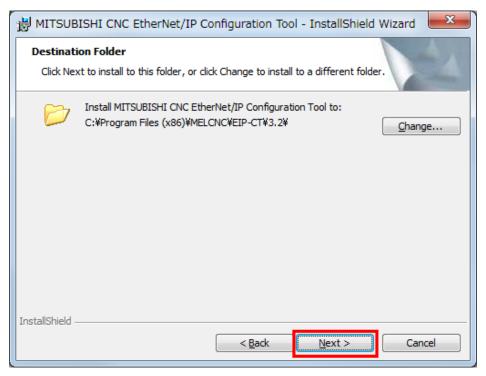
3.2.3 Start the EIP-CT Installation

Run setup.exe to start the installer and the following dialog appears. Click the [Next>] button.

HITSUBISHI CNC EtherNet/IP Configuration Tool - InstallShield Wizard		
	Welcome to the InstallShield Wizard for MITSUBISHI CNC EtherNet/IP Configuration Tool	
Δ.	The InstallShield(R) Wizard will install MITSUBISHI CNC EtherNet/IP Configuration Tool on your computer. To continue, dick Next.	
	WARNING: This program is protected by copyright law and international treaties.	
< <u>B</u> ack <u>Next</u> > Cancel		

3.2.4 Specify the Destination Folder for Installation

The destination folder can be specified. Specify a destination folder, or click the [Next>] button to install to the default destination.



3.2.5 Start Installation

Click the [Install] button to start the installation process.

😸 MITSUBISHI CNC EtherNet/IP Configuration Tool - InstallShield Wizard
Ready to Install the Program The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShieldCancel

When the user account control function asks for permission to make changes to the computer, click the [Yes] button.

🚱 User Account Control		
Do you want to allow the following program from an unknown publisher to make changes to this computer?		
	Program name:	C:\Users\AppData\Local\Downloaded Installations\{38194D13-668B-4E23-88F\MITSUBISHI CNC EtherNetIP Configuration Tool.msi
	Publisher:	Unknown
	File origin:	Hard drive on this computer
Show <u>d</u> etails		Yes No
		Change when these notifications appear

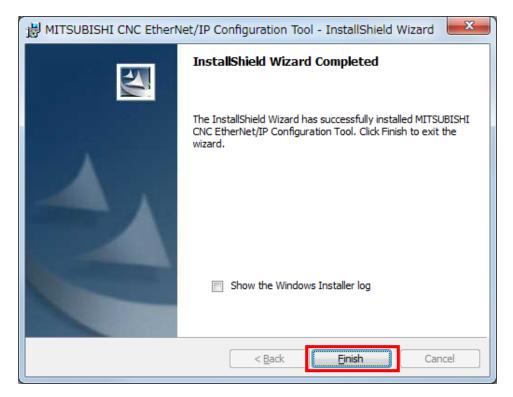
3.2.6 Copying

Wait until copying is completed.

📸 MITSUBISHI CNC EtherNet/IP Configuration Tool - InstallShi 🗔 💷 💻 🏹			
-	MITSUBISHI CNC EtherNet/IP Configuration Tool gram features you selected are being installed.		
Please wait while the InstallShield Wizard installs MITSUBISHI CNC EtherNet/IP Configuration Tool. This may take several minutes.			
	Status:		
	Copying new files		
InstallShield -			
	< <u>B</u> ack <u>N</u> ext > Cancel		

3.2.7 Installation Completed

Click the [Finish] button.



3.2.8 Start the EIP-CT

Insert the license key to the PC with the EIP-CT installed, and follow the procedure below to start the EIP-CT. *Be sure to insert the license key before starting the EIP-CT.

*The driver for the license key is automatically installed when the license key is inserted into the PC. [Start] – [All programs] – [MELCNC] – [EIP Configuration tool] – [EIP-CT]

MELCNC	Control Panel
EIP-CT	Devices and Printers
🍌 Help	
	Default Programs
	Help and Support
1 Back	
Search programs and files	Shut down 🕨

Start the EIP-CT, and confirm that the following screen appears. If the following screen does not appear, the installation may have failed. Install the EIP-CT again from the beginning.

MITSUBISHI CNC Ethe	erNet/IP Configu	uration Tool	
File Description Help			
🗅 🖬 🛠 🗇 🗖	⊒ ?		
1 X & EtherNet/IP Netw 	vork (config01)		
ැනි ම ආ මා - ලි Not available.		Add New Element	
Device Library 🐝 Ne	twork Detection	IP Address OK Cancel AJL7	
- Device ability DO 110			
Date / Time	Level	Event	*
01/16/18 14:21:33 01/16/18 14:21:33	Information Information	Normal mode Configuration loaded	
🛄 Output Message View			
Posdu		Configuration: Dead At Man Communication Made: Diffice Taxast State: Unknown	MAT NUM DEE

This is the end of the EIP-CT installation procedure.

3.3 Uninstallation

Uninstall the EIP-CT by the following procedures.

Table 3-3 The EIP-CT uninstallation procedures

Procedure	Description
1	Log in with an administrator account.
2	Remove the license key from the PC.
3	Open the control panel with [Start] – [Control Panel], and select "Programs and function".
4	Select the software below from the list, and click the Uninstall button. "MITSUBISHI CNC EtherNet/IP Configuration Tool"
5	Only perform this procedure when required. A data file used by the EIP-CT is in the folder below. The data file is not deleted in procedure 4. Delete the data file manually as required. C:\ProgramData\MELCNC\EIP-CT\3.2

4. Screen Overview

4. Screen Overview

The startup screen of the EIP-CT is shown below. Basic operations are executed from the Menu bar, Configuration description window, Resource window, and Configuration area window. The figure below is an example of when the Device Library tab is selected in the Resource window.

Note that the following screen appears when the EIP-CT is started up for the second or subsequent time. When the EIP-CT is started up for the first time, a different screen appears.

4.1 Screen Configuration

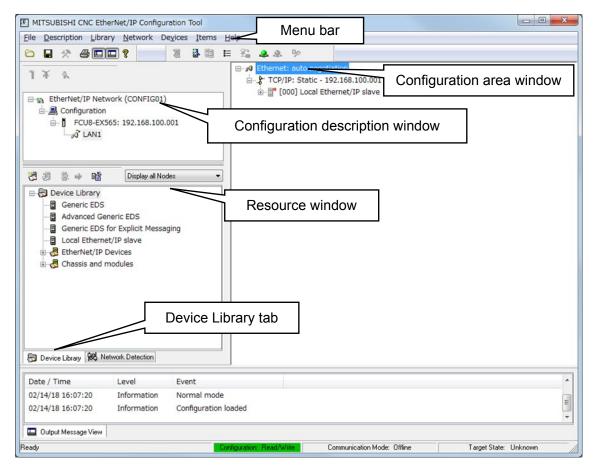


Fig. 4-1 The EIP-CT Startup screen

4.2 Display Items

Item	Description
Menu bar	A bar containing all the functions available with the EIP-CT.
Configuration description window	A window where the NP IP address is set.
Resource window	A window that displays the devices that can be added to the configuration area window.
Device Library tab	A window that obtains device information from an EDS file and displays a list of it. EDS files can also be added, deleted, and rearranged.
Configuration area window	A window where the configuration and parameters of communicating devices are set.
	The configuration file that is output contains the configurations set in this window.

5. Device Setting and Configuration File Output

This section describes the basic operations for setting devices, and generating configuration files. The setting method for devices depends on whether an NC control unit is used with a scanner or with an adapter. A description for each case follows.

5.1 When NC is Used with a Scanner

With the EtherNet/IP scanner function, the NC control unit can communicate with adapters (such as I/O units).

The scanner function and the adapter function can be used at the same time.

The following describes the operations on the EIP-CT when using the NC control unit with a scanner.

5.1.1 Configuration

Figure 5-1 gives an overview of the configuration when an NC control unit is used as a scanner.

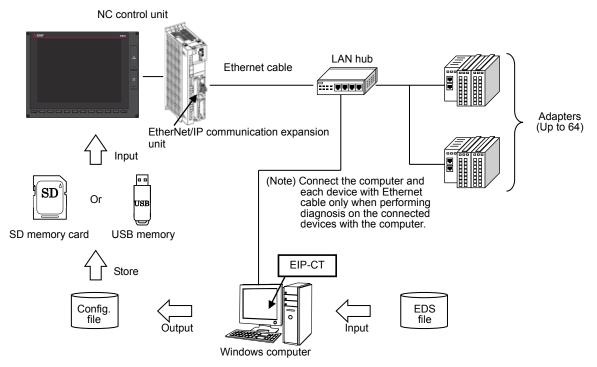


Fig. 5-1 Configuration when EtherNet/IP scanner function is used

5.1.2 Operations in the EIP-CT

In order to use EtherNet/IP, the connected device needs to be set using the EIP-CT tool on a Windows computer. The configuration file output from the EIP-CT is input to the NC control unit using the NC control unit input/output function.

Output the configuration file by following the procedure below.

(1) Creating a new configuration by starting the EIP-CT.

This procedure is only required for the first startup of the EIP-CT (the procedure is not required when the EIP-CT is started up for the second or subsequent time).

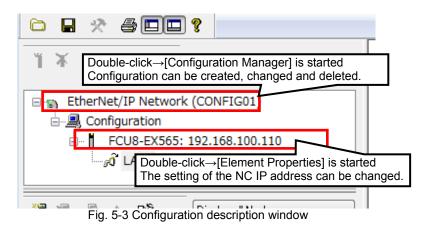
When the EIP-CT is started, the following dialog appears.

Select [FCU8-EX565], input the IP address of the EtherNet/IP communication expansion unit in [IP Address], and then select [OK].

Element Properties		×
Element 1:		
-Select the Element to	Add: Select [FCU8-EX565]	
Type Desc	ription	
FCU8-EX565 Mitsu	ubishi CNC M800/M80 Series EtherNet/IP	
I	Input IP address of the EtherNet/IP communication expansion unit, and match it with the parameter of the unin number for which the expansion unit is mounted. #1958 Ext Unit1 IP Addr or #1961 Ext Unit2 IP Addr	t
	OK <u>Cancel</u> All	 ?

Fig. 5-2 Add new element dialog

*Configuration can be created, changed, and deleted, and the IP address of an EtherNet/IP communication expansion unit can be changed on the "Configuration description window".



(2) Register the EDS file to the EIP-CT

The EDS file contains the information of the EtherNet/IP connected devices.

When the EDS file is registered to the EIP-CT, the connected device information appears in the "Device Library", and the connected devices can be registered to the "Configuration area window". Confirm if the information of connected devices exists in the "Device Library" of the EIP-CT.

The registration of the EDS file by this procedure is required only when the information of connected devices does not exist in the "Device Library" (when it exists, this procedure is not required.)

Obtain the EDS file of the adapters to be connected from the device manufacturer.

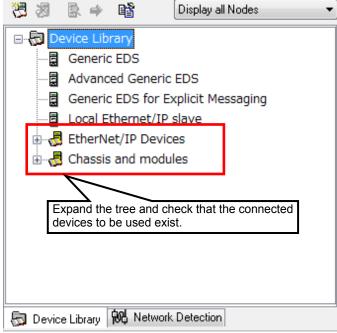


Fig. 5-4 Device Library window

(a) Select the [Add	d] button 📴 above the "D	Device Library"
	🛛 🗐 Local Ethernet/II	ic EDS Explicit Messaging D clave E EDS file [Add] button
	EDS Management	
	This Wizard allows you to add EDS files.	
	< 戻る(<u>B</u>)	次へ(N)> キャンセル ヘルプ

Fig. 5-6 EDS Management screen

(3) Register the connected device to the "Configuration area window"

Select the device to be connected from the "Device Library" and then select the [Insert in Configuration] button.

Display all Nodes	•
Dev Select the [Insert in Configuration] butt	on
Generic EDS	
Advanced Generic EDS	
Generic EDS for Explicit Messaging	
Local Ethernet/IP slave	≡
EtherNet/IP D Select the device to be	
Mitsubishi (connected.	
🖨 🧏 Communications , apter	
FCU8-EX565 Revision 1.1	

Fig. 5-7 Device Library screen

(4) Setting connected device

When the procedure (3) is performed, the setting dialog of the connected device appears. In this procedure, the setting detail differs depending on the EDS file (device).

(a) Inputting the IP address of the device to be connected to the NC unit

Set the IP address of the device to be connected to the NC unit.

If necessary, also change the device number. Normally, consecutive numbers starting with 001 are used.

For how to set and confirm the IP addresses of the connected devices, refer to the manual of each connected device.

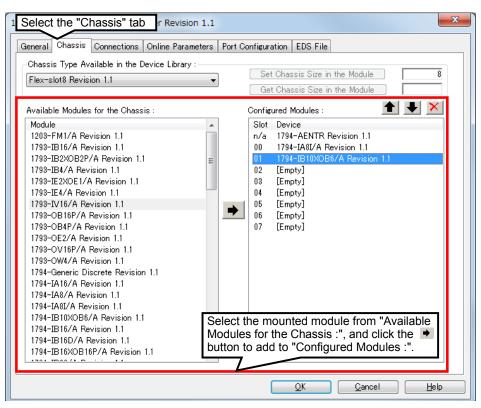
r Select the "General" tab. General Connections Online Paramet Device Designation Device Name : DEVICE-B Number : 001	*If 000 is set, the connected device cannot communicate correctly. Active Configuration :
Number : 001 - Comment :	To enable adapters, keep the box checked.
Network Properties Name ► IP Address ► DHCP Re ► Enable DHC	
Description :	× •
Ping Ping Loop Stop on Error Clear	
	OK <u>C</u> ancel <u>H</u> elp

Fig. 5-8 Setting dialog of connected device (General tab)

(b) Module setting (only when Rockwell Point I/O is used)

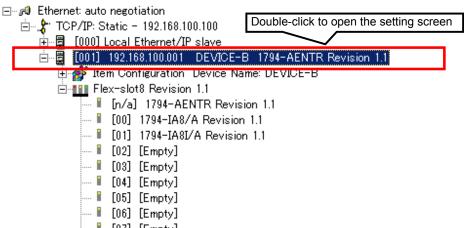
Select the module connected to the Point I/O chassis.

This operation is only required when a Rockwell Point I/O is being used as an adapter. When using other devices, skip this procedure.



* Note

The setting can be changed. However, when the "Add" on the [Devices] menu is used to open the setting screen, the EIP-CT stops when the setting screen is closed. Open the setting screen by double-clicking the Point I/O in the "Configuration area window".



--- 🖡 [07] [Empty]

(c) Application type setting

Set the application type of the connected device. Refer to the manual of the connected device to confirm which application types are supported. The following is the example of when Exclusive Owner is selected.

n Select the "Connections" tab				×
General Connections Online Parameters Port Con	figuration EDS File	е		
Configured Connections : Co	onnections Paramete	ers:		
📩 🚽 Evolucius Owner	lame Connection Type	Value Exclusive-owner	Unit	
Use the Add and Remo	ve			
buttons to set the adapt application type.	ter			
Add Remove				
Connection type.				×
Previous Next		<u>o</u> k	<u>C</u> ancel	<u>H</u> elp

(d) Setting the data size to be sent/received between the NC and the connected device Refer to the manual of the connected device for the communication data size to be set to the connected device.

Select the "Connections" tab			— ×
General Connections Online Parameters Port	Configuration EDS File		
Configured Connections :	Connections Parameters :		
en molex EIP Adapter Select "Gener	a	Value	Unit
- General	Connection Bit Health Offset	###	
Check Device Identity	🛛 🛏 Request Packet Interval (RPI)	30	ms
Configuration Setting	⊨ Time-out Multiplier	Set the in	out size
	⊨ Input – T–>0	$\overline{}$	
	⊨ Input Size	1	bytes
	⊨ Input Mode	Multicast	
	⊨ Input Type	Fixed	
	► Priority	Scheduled	
	► Trigger Type	Set the or	utput size
	► Output - O->T ► Output Size		bytes
		1	bytes
	 Output Mode 	Point to Point	
	Output Mode Output Type	Point to Point Fixed	
	⊨ Output Type	Fixed	
4 III >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	⊨ Output Type	Fixed	
	⊨ Output Type	Fixed	
Add Remove	⊨ Output Type	Fixed	
Add	⊨ Output Type	Fixed	
	⊨ Output Type	Fixed	
Add Remove	⊨ Output Type	Fixed	
Add Remove Description Output size in bytes.	⊨ Output Type	Fixed	×
Add Remove Description Output size in bytes.	⊨ Output Type	Fixed	× •
Add Remove Description Output size in bytes.	 Priority 	Fixed Scheduled	
Add Remove Description Output size in bytes.	⊨ Output Type	Fixed	Help

Fig. 5-9 Setting dialog of connected device ("Connections" tab) (sending/receiving size)

(e) Select a communication method between NC and connected device

Where possible, select "Point to Point" for the send method of the adapter. Up to 20 adapters and 1 TTL whose send method is "Multicast" can be connected.

General Connections Online Parameters Port Configured Connections : molex EIP Adapter Select "General Check Device Identity Configuration Setting	Configuration EDS File Connections Parameters : ral" Connection Bit Health Offset Request Packet Interval (RPI) Time-out Multiplier Input - T->0 Input Size Input Mode Priority Priority Output - O->T Output Size Output Size Output Mode Output Mode Output Type Priority Priority	Change the send method of the adapter to "Point to Point" Multicast Fixed Set the send method of the scanner. <u>bytes</u> Point to Point Fixed Scheduled
Add Remove Description Output size in bytes. The default size in the EDS file is 0 bytes.	<u>ОК</u>	<u>Cancel</u> <u>Help</u>

Fig. 5-10 Setting dialog of connected device ("Connections" tab) (setting communication method)

(f) Setting instance ID input/output object

This setting may be unnecessary. Refer to the manual of the connected device for the instance ID to be set.

Select the "Connections" tab	×
General Connections Online Parameters Port Configuration EDC_FU Configured Connections : Connections Par Input instance ID of Image: Select "Configuration Setting" Name *Setting is not required when nothing is displayed.	
Configuration Setting Input Instance 101 Output Instance 102 Configuration Instance 103	
Add Remove	
Previous Next OK Cancel H	elp

Fig. 5-11 Setting dialog of connected device ("Connections" tab)

(g) Confirm if the setting is registered on the "Configuration area window"

After the procedure (3), select [OK] to register the connected device on the "Configuration area window"

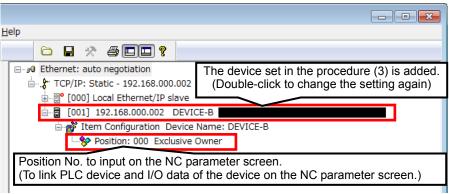
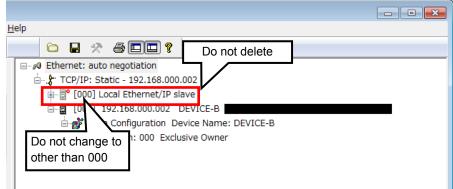


Fig. 5-12 Configuration area window

* Note

Do not delete "Local Ethernet/IP slave". If "Local Ethernet/IP slave" is deleted, the NC will not operate correctly. Also, never change the device number of Local Ethernet/IP slave to a number other than 000. The Local Ethernet/IP slave will not operate correctly if a number other than 000 is specified.





(5) Outputting the configuration file from the EIP-CT

After all connected devices are registered in procedure (3) and (4), output the configuration file. When the configuration is saved on the EIP-CT, the file is output automatically.

(a) Select the menu [File] \rightarrow [Save], or press [Ctrl] + [S] keys to save the configuration.

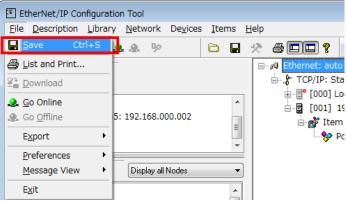


Fig. 5-14 Saving the configuration

(b) The configuration file "EipConfData.BIN" is created in the following folder. "C:\ProgramData\MELCNC\EIP-CT\3.2\Config\XXX*"

*XXX represents the configuration name set on the EIP-CT. The default value on the initial startup of the tool is "config01".

Organize 👻 📄 🤅	Open	New folder	≣≣ ▼ 🚺	
💹 Recent Places	*	Name	Туре	
		config	XML Document	
Libraries		configuration	Configuration settings	
Documents	ConfTag1_0.Bin	BIN File		
J Music		ConfTag1_0.Def	Configuration file	
Pictures		DescCnf	Configuration settings	
Videos Videos		EipConfData.BIN	BIN File	
		EIP-CT	Text Document	
Nomputer		EipIOBin.10	10 File	
		e [,

(6) Inputting the configuration file to the NC control unit

This section explains how to input the configuration file "EipConfData.BIN" to the NC control unit. This operation uses the "input/output" function of NC.

[Preparation] Save the configuration file "EipConfData.BIN" on an SD card or a USB memory and insert it in the NC control unit.

After inserting the SD card or USB memory, perform the following operations on the input/output screen.

- (a) Select [Mainte] \rightarrow [I/O] to move to the input/output screen.
- (b) For [A:Dev], select the device where the configuration file is saved.
- (c) For the file name for [A:Dev], set "EipConfData.BIN".
- (d) For [B:Dev], select "Memory".
- (e) For the directory of [B:Dev], input "/FNET".
- "FieldNet Config File" is set to the directory automatically.
- (f) Select [Trnfr $A \rightarrow B$].

The configuration file is input to the NC control unit.

		NON MODE	Monitr	Setup	Edit	Diagn	Mainte
Prog entry Character Device <program> EipConfData*</program>	DS <char> <comm< th=""><th>ain ain 243.86M</th><th>A:Dev Dir: File - B:Dev Dir: File INP data CMP data</th><th>DS / EipConfl Memory FieldNe</th><th>Data.BIM</th><th>N</th><th></th></comm<></char>	ain ain 243.86M	A:Dev Dir: File - B:Dev Dir: File INP data CMP data	DS / EipConfl Memory FieldNe	Data.BIM	N	
1. ⁵⁰⁶		M01 No operatio	on mode			S/W Key	22:52
Mainte Param	I/0					Key	Inia
Area Device change select	Dir Fi		Trnsfr A->B	Compare A:B	Erase A	Erase B	Rename A->B

Fig. 5-16 Inputting the configuration file

Note 1) If the configuration file name is changed from "EipConfData.BIN" with the "Rename" function on the input/output screen, the NC control unit does not recognize the renamed file as the EtherNet/IP configuration file.

5.2 Adapter Function

The NC control unit can communicate with scanner devices (controller, etc.) with the EtherNet/IP adapter function.

The adapter function and the scanner function can be used at the same time.

5.2.1 Configuration

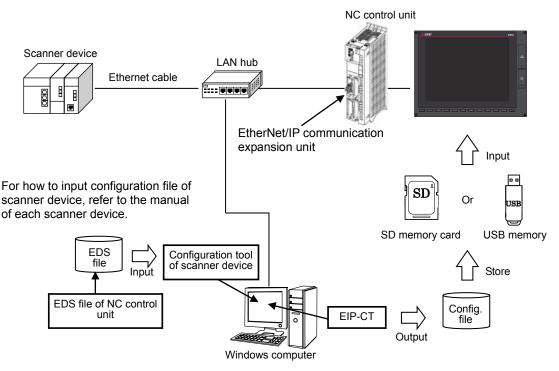


Fig. 5-17 Configuration when the EtherNet/IP adapter function is used

Note) Only one scanner device can write Implicit Messages to the NC control unit. When two or more scanner devices write to the NC control unit, the devices compete for memory, causing data to be lost.

5.2.2 How to Obtain the EDS File

In order to set the scanner devices that communicate with the NC control unit, the EDS file of the NC control unit is required. The EDS file of the NC control unit is stored on the installation disc of the configuration tool.

How to use the EDS file varies with each configuration tool of the scanner device. Refer to the instruction manual of the scanner device for details.

5.2.3 Configuration Setting

In order to use the adapter function, the connected device needs to be set with the EIP-CT, which is the tool operated on Windows. The configuration file with the adapter function enabled is output from the EIP-CT. Use the input/output function of the NC control unit to input the configuration file to the NC control unit, enabling the use of the NC control unit adapter function.

(1) Creating a new configuration by starting the EIP-CT

This procedure is only required for the first startup of the EtherNet/IP (the procedure is not required when the EIP-CT is started up for the second or subsequent time).

When the EIP-CT is started, the following dialog appears.

Select [FCU8-EX565], input the IP address of the EtherNet/IP communication expansion unit in [IP Address], and then select [OK].

Element Properties	S	X
Element 1:		
-Select the Eleme	ent to Add:	Select [FCU8-EX565]
Туре	Description	
FCU8-EX565	Mitsubishi CN	IC M800/M80 Series EtherNet/IP
	IP Addres	Input IP address of the EtherNet/IP communication expansion unit, and match it with the parameter of the unit number for which the expansion unit is mounted. #1958 Ext Unit1 IP Addr or #1961 Ext Unit2 IP Addr
		OK <u>C</u> ancel ヘルプ

Fig. 5-18 Add New Element dialog

- (2) Setting the adapter function
 - Set the adapter function.
 - (a) Double-click "Local Ethernet/IP slave" in the "Configuration area window" to open the "Local Ethernet/IP slave" dialog.

ms <u>H</u>	elp
	🖃 🕫 Ethernet: auto negotiation
	🗄 🗤 🐉 TCP/IP: Static - 192.168.100.110
vation	
<u> </u>	
=	Double-click→[Local Ethernet/IP slave dialog] is started
0	
-	

Fig. 5-19 Configuration area window

(b) Set the adapter function

Enable the adapter function. Set the sizes of instance 101 (PLC output data) and instance 102 (PLC input data) of assembly objects.

After setting the following, select [OK].

Seneral Configuratio	n			
Device Designat	ion		Check this box	
Device Name :	DEV Use "000" for	device No	to set to Active.	
Number :	000 -		Active Configuration :	
Comment :				
			Ψ.	
Connection Hea	Ith Bit Offset : 1		Set the size of IN/OUT	
	Do not cha		Note that it is opposite to the	•
Assembly Instan	initial valu	es.	size of IN/OUT set with the scanner device.	
		Instance	Size	
	Outputs (T->O)	101	256 (1-509) Bytes 🔄 Variable	
	Outputs (T->O) Inputs (O->T)	101		
	Inputs (O->T)	102	256 (1-505) Bytes Variable	
	Inputs (O->T) Configuration	102		
☑ Heartbeat	Inputs (O->T)	102	256 (1-505) Bytes Variable	
V Heartbeat	Inputs (O->T) Configuration	102	256 (1-505) Bytes Variable	

Fig. 5-20 Setting dialog of the NC control unit (Host)

(3) Outputting the configuration file from the EIP-CT Output configuration file.

When configuration is saved on the EIP-CT, the configuration file is output automatically. (a) Select the [File] menu \rightarrow [Save], or press [Ctrl] + [S] keys to save the configuration.

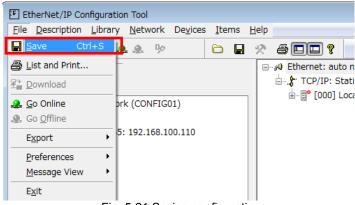


Fig. 5-21 Saving configuration

(b) The configuration file "EipConfData.BIN" is created in the following folder. "C:\ProgramData\MELCNC\EIP-CT\3.2\Config\XXX*"

*XXX represents the configuration name set on the EIP-CT. The default value on the initial startup of the tool is "config01".



 (4) Inputting the configuration file to the NC control unit Refer to "5.1.2(6) Inputting the configuration file to the NC control unit" in "5.1.2 Operations in the EIP-CT"

6. Diagnostic Function

Using the EIP-CT, which is a tool operating on Windows, enables the current status of each connected device to be diagnosed.

In order to perform diagnostics, a Windows computer with the EIP-CT installed needs to be connected to the EtherNet/IP communication expansion unit with an Ethernet cable.

6.1 Procedures for Diagnostic Startup

- (1) Start the EIP-CT.
- (2) Connect the EIP-CT and the device.Select the [Online Command] button from the menu.



When it is successful, the [Online Command] button is grayed out and the [Offline Command] button next to the [Online Command] button is valid.

(3) Enable the diagnostic function



(4) Select the device to be diagnosed

Double-click the device to be diagnosed on the "Configuration area window". The device icon in red cannot be diagnosed. The one in green can be diagnosed.

🔊 🗿 🔲 Green: Can be diagnosed				
Ethernet: auto negotiation				
🗑	Double-click the device to be diagnosed.			
📴 🔂 [000] Local Ethernet/IP slave				
[001] 192.168.100.001 DEVICE-B				

Fig. 6-3 Configuration area window

(5) Perform diagnostic

Click the "Diagnostic" tab to open the diagnostic screen.

	Refresh Every 500 ms 🔽 18		
Exclusive Owner	Name	Value	
IO Data	► Status		
	⊨ Input Status	0	
	⊨ Output Status	0	
	► Counter		
	⊨ Frame Error Counter	0	E
	⊨ Time-Out Counter	0	
	⊨ Refused Counter	5	
	⊨ Production Counter	1012	
	🕨 - Consumption Counter	1012	
	🕨 - Production Byte Counter	2024	
	⊨ Consumption Byte Counter	2024	
	🕨 - Theoretical Packet/s	66	
	⊨ Real Packet/s	68	
	🖻 Diagnostic		
	Production Connection ID	0xC2970001	
	Consumption Connection ID	0×42980001	*
			*
•	•		$\overline{\nabla}$
Status			
Status, General Description: OK			*
Complementary Information: The IO data	a are correctly exchanged		-

Fig. 6-4 Diagnostic screen

6.2 Diagnostic Screen

There are two types of diagnostic screen: A screen for checking the current input/output status, and a screen for checking the current I/O data.

6.2.1 Diagnostic Status Confirmation Screen

This is a screen to confirm input/output status, input/output counter, and current RPI setting value, etc. The value 0 set to the input/output status indicates a normal status whereas any other value indicates an error. The details of the error appear at the bottom of the screen under "Status".

		×
General Connections Online Parameters	Module Informations Port Configuration	Diagnostic EDS File
Exclusive Owner	Refresh Every 500 ms 🔽 18	M- Input/output status
IO Data	Name	Value
	► Status Input Status Output Status	0
	► Counter ► Frame Error Counter	0
	 ⊨ Time-Out Counter ⊨ Refused Counter 	⁰ Input/output counter
	 ⊨ Production Counter ⊨ Consumption Counter ⊨ Production Byte Counter 	1012 1012 2024
	 Froduction Byte Counter Consumption Byte Counter 	2024
	► Theoretical Packet/s ► Real Packet/s	66 68
	 Diagnostic 	
	 Production Connection ID Consumption Connection ID 	0xC2970001 0x42980001
< <u> </u>	Status details	*
Status Status. General Description: OK Complementary Information: The IO data	are correctly exchanged	۸ ۳
Previous <u>N</u> ext	<u>K</u>	<u>C</u> ancel <u>H</u> elp

Fig. 6-5 Diagnostic screen (status confirmation)

6.2.2 I/O Data Confirmation Screen

This is a screen to confirm what data is input/output for the device.

				— ×
General Connections Online Parameters	Module Informations Po	t Configuration	Diagnostic EDS Fi	e
Status Status	Refresh Every 500 ms Input BF 00 Output ED 00	IO3 IO3	Output	ata Length (bytes): 2 Status: 0
	re correctly exchanged			Ψ
Previous <u>N</u> ext		<u>O</u> K	<u>C</u> ancel	<u>H</u> elp

Fig. 6-6 Diagnostic screen (I/O data confirmation)

7. Compatible NC Versions

7. Compatible NC Versions

		Model		
M800W	M800S	M80	M80W	E80
		Version D4		

Revision History

Date of revision	Manual No.	Revision details
Mar. 2018	IB(NA)1501536-A	First edition created.

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Notice

Every effort has been made to keep up with software and hardware revisions in the contents described in this manual. However, please understand that in some unavoidable cases simultaneous revision is not possible.

Please contact your Mitsubishi Electric dealer with any questions or comments regarding the use of this product.

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MITSUBISHI CNC

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