MITSUBISHI ELECTRIC
Changes for the Better

FACTORY AUTOMATION

Software Tools & IoT-related Products

GLOBAL IMPACT OF MITSUBISHI ELECTRIC

Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

Changes for the Better

"Changes for the Better" represents the Mitsubishi Electric Group's attitude to "always strive to achieve something better", as we continue to change and grow. Each one of us shares a strong will and passion to continuously aim for change, reinforcing our commitment to creating "an even better tomorrow".

Our advances in AI and IoT are adding new value to society in diverse areas from automation to information systems. The creation of game-changing solutions is helping to transform the world, which is why we are honored to be recognized in the 2019 "Forbes Digital 100" as one of world's most influential digital corporations.

#41
2019 Forbes
TOP 100 DIGITAL COMPANIES

Mitsubishi Electric is involved in many areas including the following:

Energy and Electric Systems
A wide range of power and electrical products from generators to large-scale displays.

Electronic Devices
A wide portfolio of cutting-edge semiconductor devices for systems and products.

Home Appliance
Dependable consumer products like air conditioners and home entertainment systems.
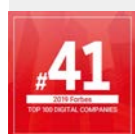
Information and Communication Systems
Commercial and consumer-centric equipment, products and systems.

Industrial Automation Systems
Maximizing productivity and efficiency with cutting-edge automation technology.

1

INITIATIVES THAT CONTRIBUTE TO ADDRESSING SOCIAL ISSUES

The Mitsubishi Electric Group will pursue value creation by addressing social challenges and will contribute to achieving the 17 goals of the SDGs[1] through all corporate activities.
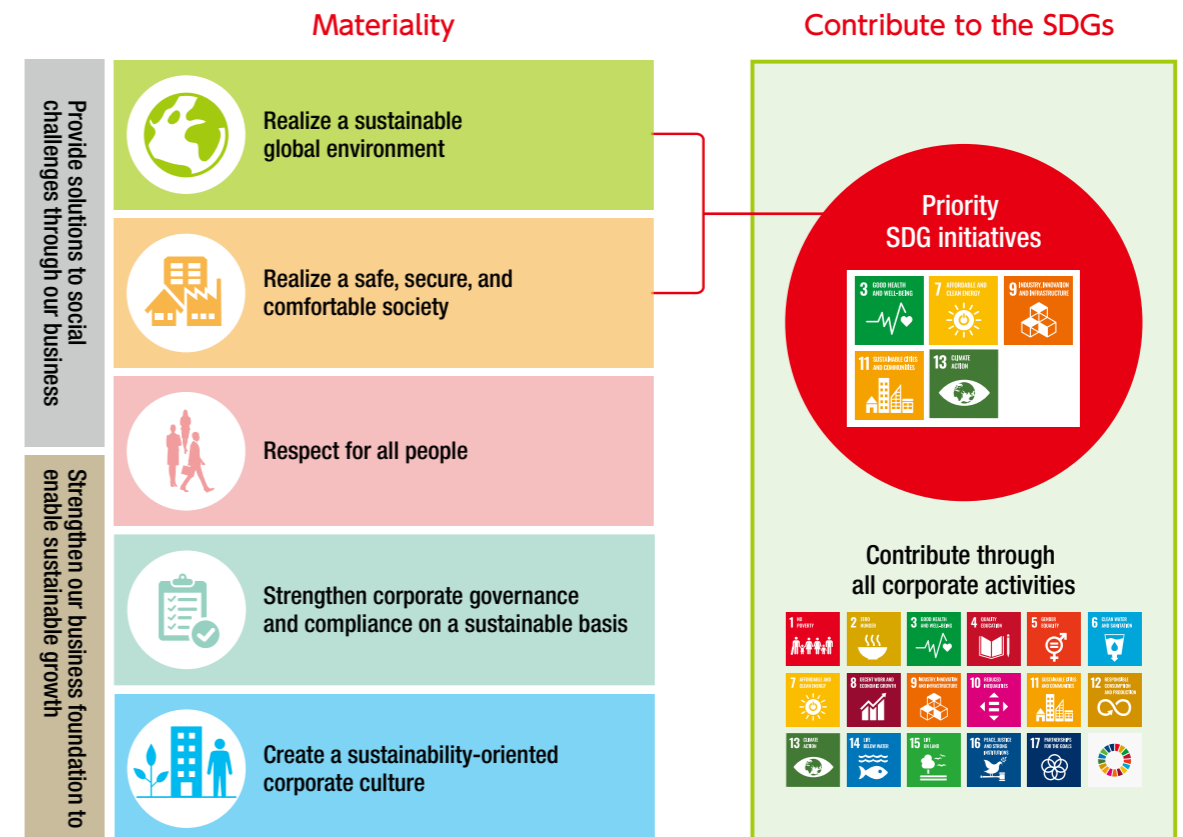
Environmental Initiatives

The Mitsubishi Electric Group has set forth Environmental Sustainability Vision 2050 to clarify the company's stance on addressing long-term environmental issues and creating new value for a sustainable future toward 2050.

The new vision identifies environmental protection as a top corporate priority and stipulates increased initiatives toward this end. It defines Mitsubishi Electric's future course toward 2050 for implementing key initiatives in the form of the Environmental Declaration and Three Environmental Action Guidelines.

Environmental Sustainability Vision 2050

Environmental Declaration

Environmental Sustainability Vision 2 0 5 0

Protect the air, land, and water with our hearts and technologies to sustain a better future for all.

To solve various factors that lead to environment issues, the Mitsubishi Electric Group shall unite the wishes of each and every person, and strive to create new value for a sustainable future.

Three Environmental Action Guidelines

1	2	3
Apply diverse technologies in wide-ranging business areas to solve environmental issues	Challenge to develop business innovations for future generations	Publicize and share new values and lifestyles

Key Activities

Climate Change Measures Resource Circulation Live in Harmony with Nature	Long-term Activities Innovation Nurturing Human Resources	Understanding Needs Co-create and Disseminate New Values Live in Harmony with the Region

The Mitsubishi Electric Group's Materiality

Materiality

Contribute to the SDGs

Provide solutions to social challenges through our business
- Realize a sustainable global environment
- Realize a safe, secure, and comfortable society

Strengthen our business foundation to enable sustainable growth
- Respect for all people
- Strengthen corporate governance and compliance on a sustainable basis
- Create a sustainability-oriented corporate culture

Priority SDG initiatives

Contribute through all corporate activities

2

CNC Software Tools & IoT-related Products

Engineering Tools

Machine design and electrical circuitry design

Machine assembly and adjustment

User Support Tools

Operation and maintenance

IoT

Products
Some of the items in this catalog are under development. Software and CNC displays are therefore subject to change without notice.
For details of GX Works2 and GX Works3 (PLC development software), refer to the GX Works2 Catalog (L(NA)08122) and GX Works3 Catalog (L(NA)08334).

MITSUBISHI ELECTRIC
CNC
The Best Partner for Your Success
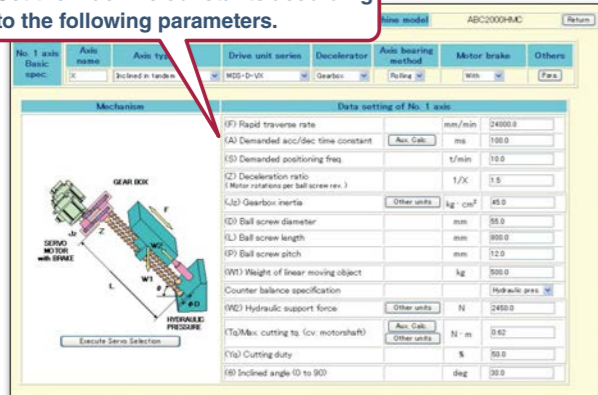
NC Servo Selection

Charge-free

NC Designer2
(Screen Design)

M800V M80V M800 M80 E80 M700V M70V E70

● It is difficult to figure out the best choice of machine from a wide selection of servo motors.

● What can I use to create an original screen to differentiate the machine?

Find it with NC Servo Selection!

Use NC Designer2!
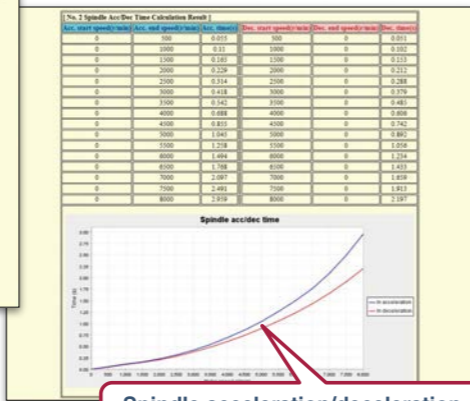
Input the machine constants for selection of the optimum servo motor.

This function automatically calculates spindle acceleration/deceleration times and selects the optimum power supply unit.

NC Designer2 provides a development environment that allows machine tool builders to customize screens easily.

Two types of screen development methods are available: the interpreter system (programming without C++) for simple screen development and the compiler system (programming with C++) with a complex controller.

Set the machine constants according to the following parameters.

Calculation results of spindle acceleration/deceleration times

Combine parts to customize the screen without programming.

Easy to make a trend graph

Servo motor selection

Spindle acceleration/deceleration times are shown in a graph.

* The trend graph is a dedicated control of the M800V/M80V/M800/M80/E80 Series.

■ Main functions

■ Main functions

- Servo motor capacity selection
- Spindle acceleration/deceleration time calculation
- Power supply unit selection
- Power supply facility capacity calculation

- Multi-axis drive unit combination function
- Saving selected data

- Registration of screens created in the CNC menu
  Screens created using NC Designer2 can be registered in the main operation, setup and editing menus.
- Easy to create custom screens using the template and macro functions
  Screens can be created easily by using Mitsubishi Electric standard screen templates.
  Various original processes can also be added easily using macro language instead of C language.
- C Language Library strongly supports screen development
  Besides drawing, this function strongly supports event controls such as mouse and key operations and window functions that are indispensable for creating GUI such as the window system, etc.

■ NC Servo Selection Main specifications

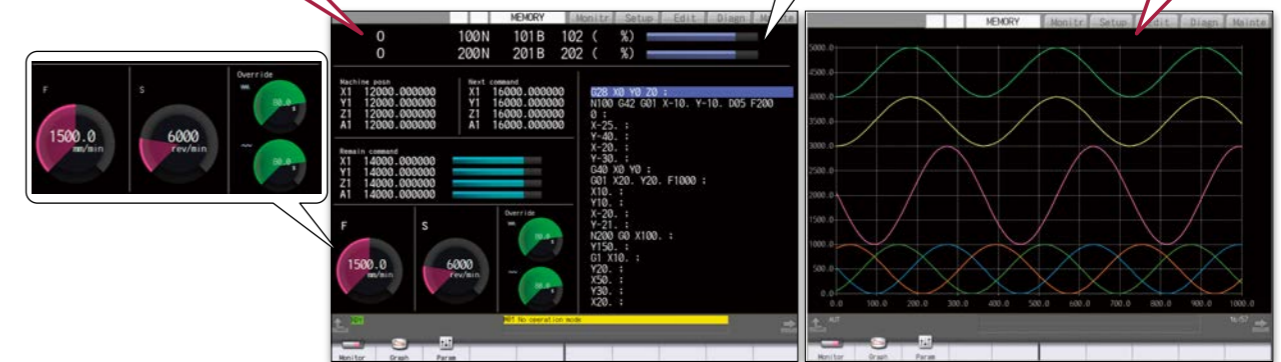| Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese

■ NC Designer2 Main specifications

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese
Languages supported in original screen	English/Japanese/German/Italian/French/Spanish/Simplified Chinese/Traditional Chinese/Korean/Portuguese/Hungarian/Dutch/Swedish/Turkish/Russian/Czech/Polish/Indonesian/Vietnamese[1]
Supported CNCs	M800V/M80V/M800/M80/E80/M700V/M70V/E70 Series

*1. Excluding the M700V/M70V/E70 Series.

NC Compiler2
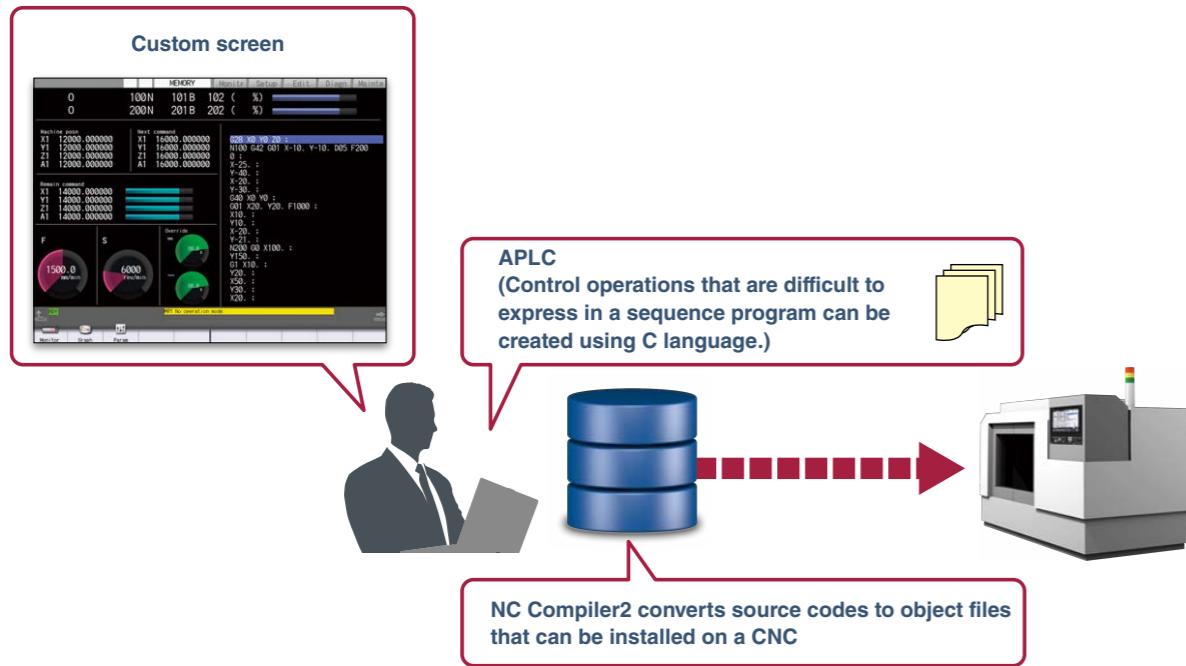## (Compiler)

| M800V | M80V | M800 | M80 | C80* |

*APLC only

● We want to create C modules that run on a CNC.

NC Compiler2 allows easy conversion of source codes!

Source codes written in C or C++ are converted to object files that can be run on a Mitsubishi Electric CNC.

Custom screen

APLC
(Control operations that are difficult to express in a sequence program can be created using C language.)

NC Compiler2 converts source codes to object files that can be installed on a CNC

■ **Related functions**

- Development of custom screens using NC Designer2 compilation method (C++)
- APLC release (Control operations that are difficult to express in sequence program can be created using C language.)
- Motion control release (Development of control processes such as coordinate transformation)

■ **NC Compiler2   Main specifications**

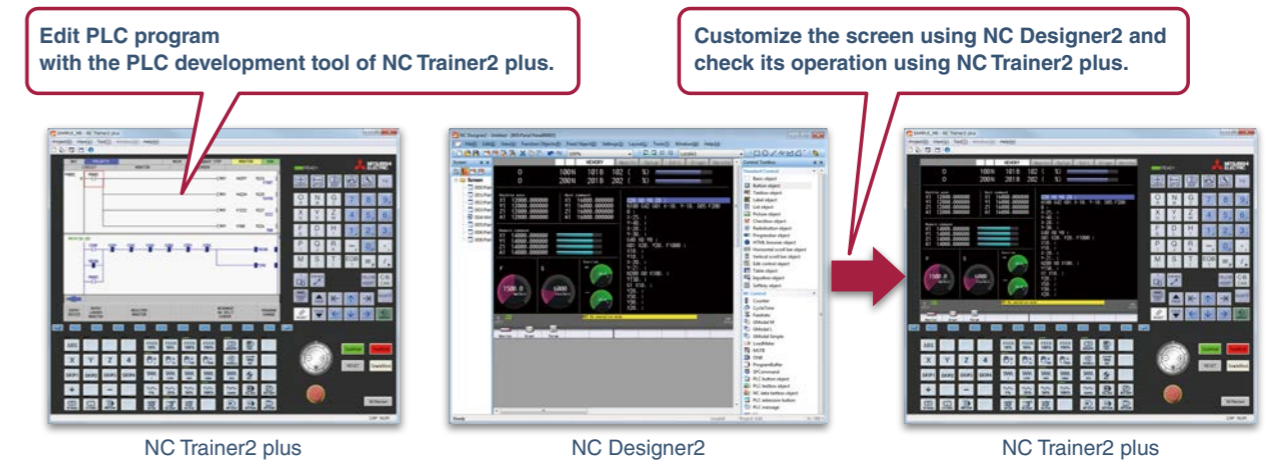| Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS
Languages	English/Japanese
Supported CNCs	M800V/M80V/M800/M80/C80 Series
Operating environment	CPU: Clock speed of 1 GHz or higher
	Memory: 2 GB or more
	Hard disk: 100 MB or more of free space (excluding the space required for OS operation)

NC Trainer2 plus
(Customization Support)

| M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | E70 |

● How can I check the operation of customized screens, PLC programs, etc. on my computer?

NC Trainer2 plus allows easy debugging from a PC!

NC Trainer2 plus supports customization development. It helps to program and debug the ladder programming of the user PLC to be developed by machine tool builders and to check the operations of customized screens.

Edit PLC program with the PLC development tool of NC Trainer2 plus.

Customize the screen using NC Designer2 and check its operation using NC Trainer2 plus.

NC Trainer2 plus   NC Designer2   NC Trainer2 plus

■ **Main functions**

- Development support for customized screens (Even if there is no NC device, it can be debugged using a computer.)
- Development support for user PLC (ladder)
- Provides a machine operating environment (customized machine operation panel) that meets the specifications of the user's machine tool.
- Supports the development of C modules for APLC release and motion control release

■ **NC Trainer2 plus   Main specifications**

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese
Supported CNCs	M800V (equivalent to M830V) /M80V/M800 (equivalent to M830) /M80/E80/C80*1/ M700V (equivalent to M730V) /M70V/E70 Series
Operating environment	CPU: 2.66 GHz or higher and processor with 2 or more cores
	Memory: 2 GB or more
	Available hard disk space: 400 MB or more (excluding the free space necessary for running the OS)
	Display resolution: FHD (1920×1080) or higher

*1. GX Works3 (GX Simulator3) is required.

NC Configurator2
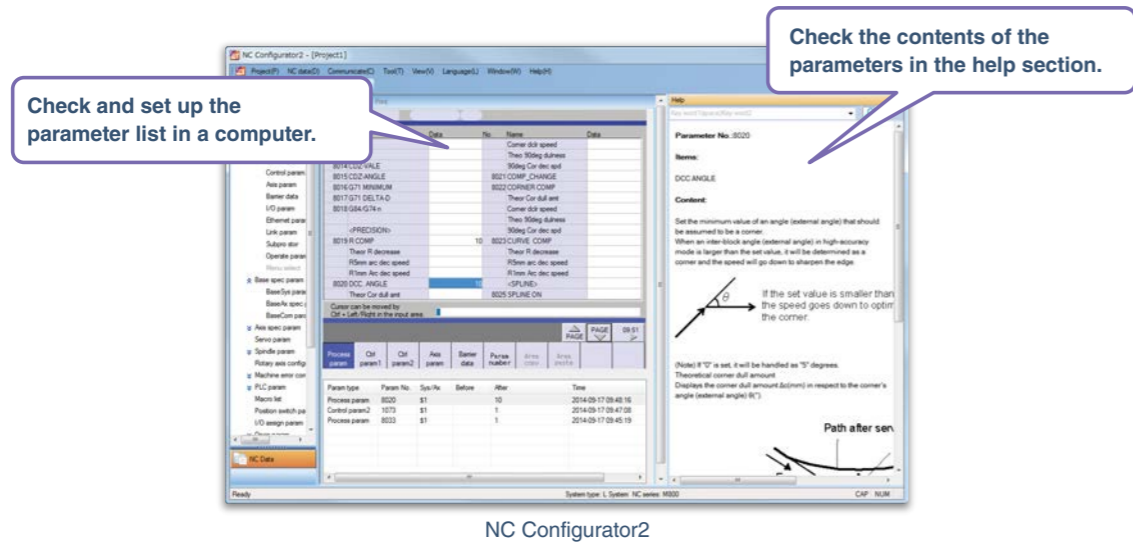## (NC Parameter Setup)

Free version is limited in function

| M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70 | C70 |

● It is difficult to set up each parameter according to the manual.

Easy setup using NC Configurator2!

NC parameters required for NC control and machine operation can be edited on a computer.
Initial parameters can also be easily created by inputting the machine configuration.

Check and set up the parameter list in a computer.

Check the contents of the parameters in the help section.

NC Configurator2

■ Main functions

- NC parameter setting/search
- Help (parameter explanation)
- Offline comparison of parameter input/output
- NC data input
- Printing

The following are included in the full-mounted version.
- Parameter initial setting wizard
- Function parameters

■ NC Configurator2　Main specifications

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese
CNC connections	CNCs supported: M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70/C70 Series
	Connection configuration: Ethernet/RS-232C (parameter read/write in serial communication) /USB (C70 Series only)
	Connectable CNCs: 8 (max.)
Precaution	The free version has limited functions.

NC Analyzer2
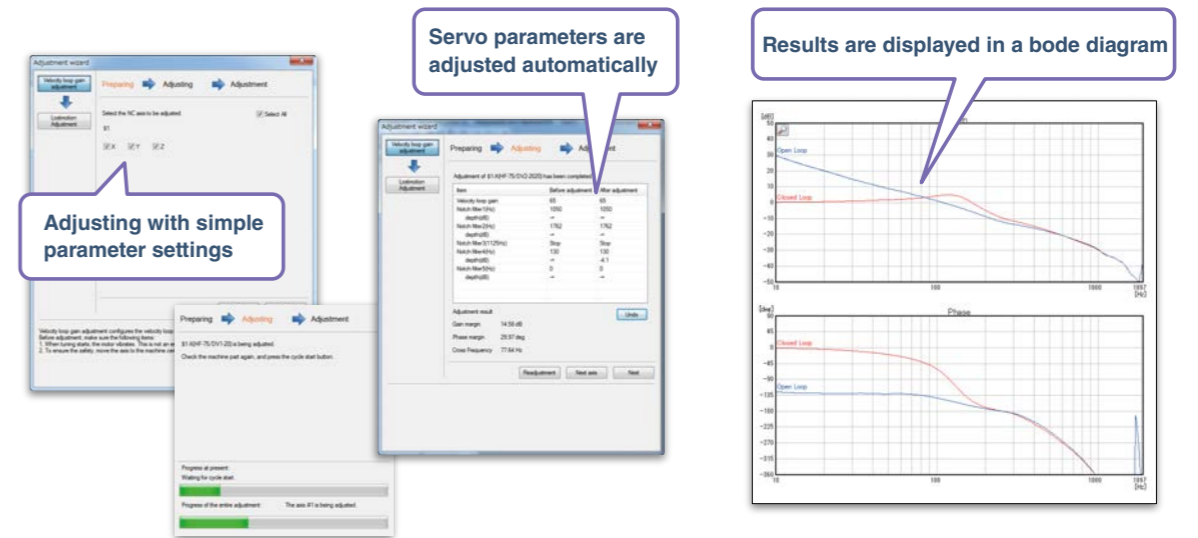## (Servo/Spindle Adjustment)

| M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70 | C70 |

● Servo parameter adjustment sounds complicated.
● I don't have a tool for measuring machine characteristics on hand.

Easy adjustment and measurement with NC Analyzer2!

NC Analyzer2 helps to make servo parameter settings by measuring and analyzing machine characteristics.
Measurement and analysis can be performed by running a servo motor using the machining program for adjustment, or using the vibration signal.
This function can sample various types of data.

Servo parameters are adjusted automatically

Results are displayed in a bode diagram

Adjusting with simple parameter settings

■ Main functions

- Adjustment wizard
  Speed loop gain adjustment
  Notch filter setting
  Circularity adjustment
  Display adjustment progress

- Graph
  Bode diagram measurement display
  Servo waveform measurement
  Display waveforms before/after adjustments
- Project management
  Measured waveforms batch management

■ NC Analyzer2　Main specifications

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese/Korean
CNC connections	CNCs supported: M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70/C70 Series
	Connection configuration: Ethernet

NC Trainer2/NC Trainer2 plus
(Training Tool)

| M800V | M80V | M800 | M80 | E80 | C80* | M70V | E70 |

*C80 Series is supported only by NC Trainer2 plus. C80 Series is not supported by NC Trainer2.
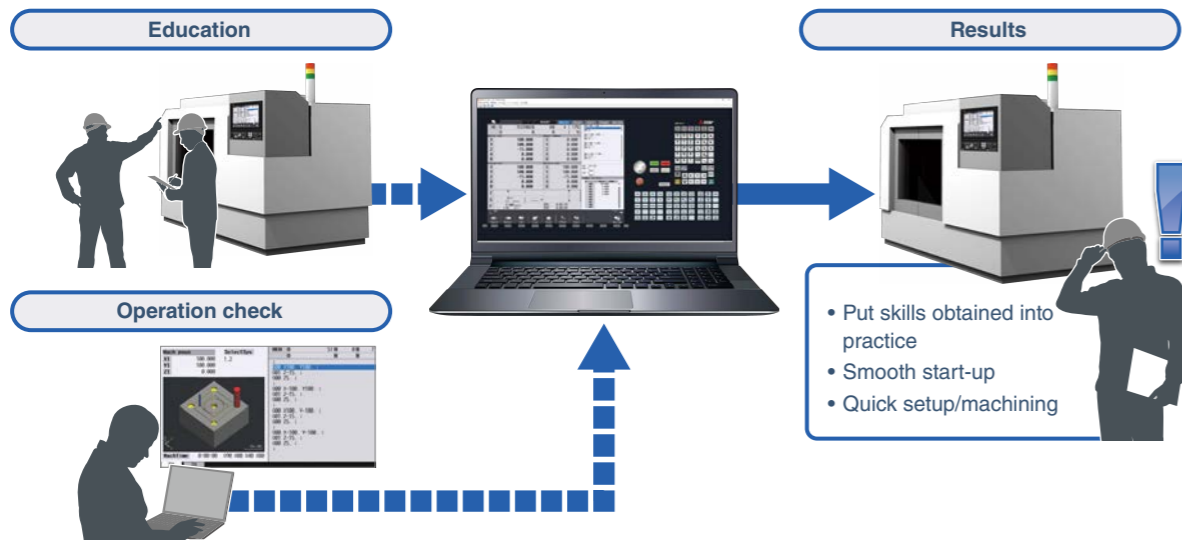
● How can I train myself in CNC operations without accessing the machine?

Hone operating skills with NC Trainer2/NC Trainer2 plus!

This is an application for operating the CNC screen and machining programs on a computer without a CNC control unit or special display unit.

It can also be used for learning CNC operations and checking machining programs. The machining programs created on NC Trainer2/NC Trainer2 plus can be used in actual CNCs.

Education

Results

Operation check

• Put skills obtained into practice
• Smooth start-up
• Quick setup/machining

■ **Main functions**

• Create projects that reproduce a variety of machining environments.
• Not only the NC screen, but also the NC keyboard and operation panel are displayed on the computer.

■ **NC Trainer2/NC Trainer2 plus　Main specifications**

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese/Simplified Chinese/Traditional Chinese
Supported CNCs	M800V (equivalent to M830V) /M80V/M800 (equivalent to M830) /M80/E80/C80*[1]/ M700V (equivalent to M730V) /M70V/E70 Series
Operating environment	CPU: 2.66 GHz or higher and processor with 2 or more cores
	Memory: 2 GB or more
	Available hard disk space: 400 MB or more (excluding the free space necessary for running the OS)
	Display resolution: FHD (1920×1080) or higher
Precaution	Before executing machining programs on an actual CNC, sufficient review should be conducted to prevent interference or other errors.

*1. Operation with NC Trainer2 plus is available. GX Works3 (GX Simulator3) is required.

NC Explorer
(Data Transfer)

Charge-free

| M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70 |

● How can I transfer data prepared on a computer to a CNC?

Easy data transfer using NC Explorer!

CNC machining data file can be operated using Windows File Explorer on a computer when the computer is connected with multiple CNCs via Ethernet.

Drag and drop to transfer machining data files

Machining data file

NC Explorer

Ethernet

Machining data file
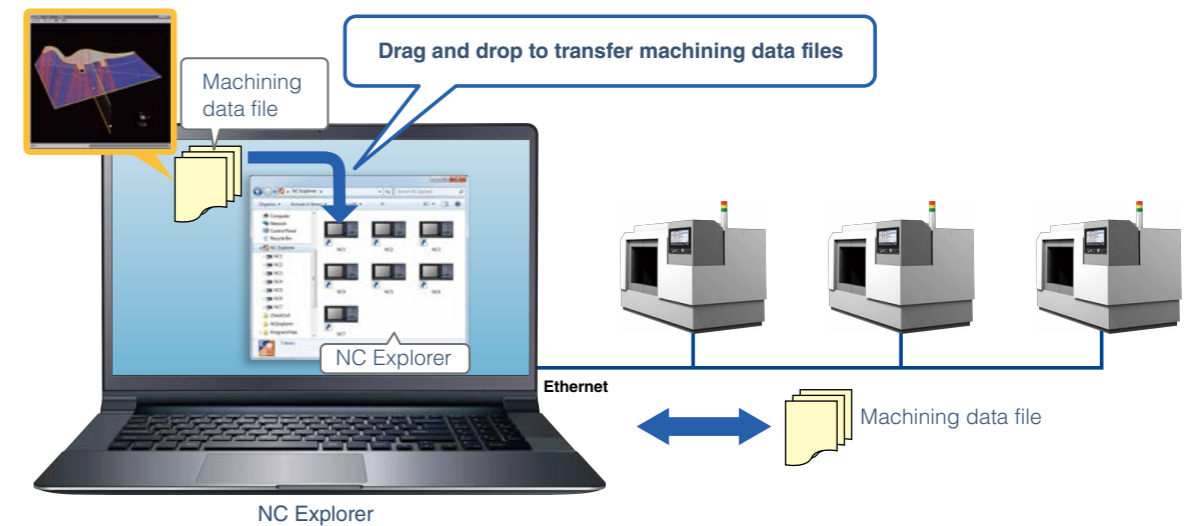
NC Explorer

■ **Main functions**

• Cooperation with Windows File Explorer
  Operational CNCs are displayed as folders on Windows File Explorer.
  Drag and drop to transfer files.

■ **NC Explorer　Main specifications**

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
CNC connections	CNCs supported: M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70 Series
	Connection configuration: Ethernet

NC Monitor2
(Remote Monitoring)

M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70

● **How can I monitor a CNC on a computer in the office without visiting the factory?**

Easy monitoring with NC Monitor2!

Taking advantage of the network in a plant, CNC operation status can be monitored from remote locations.
Several CNCs can be connected and monitored simultaneously.

Monitor the status of multiple CNCs on a single computer

Ethernet

NC Monitor2

■ **Main functions**

• Adopts the same screen structure
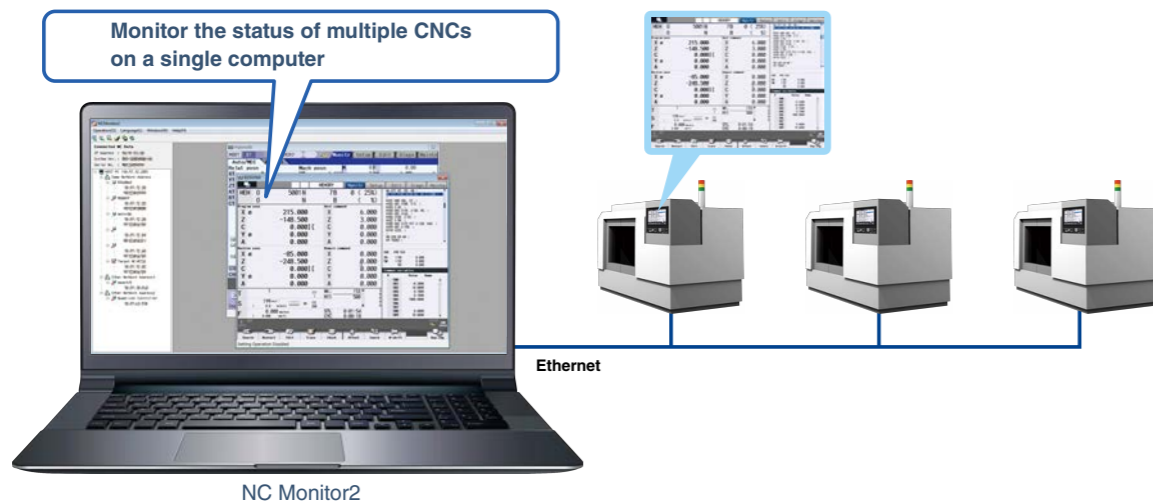 The monitoring display is constructed to mirror the CNC display unit.[*1] It is possible to select a monitoring screen that is not synchronized with the display of the CNC in operation.
  *1. Note that the screen structure of the 10.4-type display is applied when a 15-type or 19-type display is connected.

• Limit display/setting operation of CNCs
  By setting parameters in a CNC, the availability of displaying and setting using this software can be restricted.

• Connectable CNCs are automatically listed
  Connectable CNCs in a network group are automatically displayed in a list, and the CNCs can be connected by selecting them.

■ **NC Monitor2   Main specifications**

Supported OS	Windows 8.1/Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Languages	English/Japanese
CNC connections	Supported CNCs: M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70 Series
	Connection configuration: Ethernet
	Connectable CNCs: 10 (max.)
Precaution	Please use the Remote Monitor Tool for the C70.

iQ Edgecross MTConnect Data Collector
(Data Collection Software)

M800V | M80V | M800 | M80 | E80 | M700V | M70V | M700 | M70 | E70

● **We want to collect data from machine tools of various manufacturers on the shop floor.**

iQ Edgecross MTConnect Data Collector is here to help!

This software collects data from machines supporting MTConnect, an open communications standard for machine tools.
Collected data can be loaded into Edgecross to be used in Edge applications, etc.
The bundled MTConnect Adapter can be used to connect not only to Edgecross, but also to MTConnect applications.

Industrial PC

EDGECROSS

MTConnect Data Collector

MTConnect Adapter (Mitsubishi Electric)[*1]

MTConnect Adapter (third party)[*1]

Ethernet

NC machine tool (Mitsubishi Electric CNC)

NC machine tool (third-party CNC)
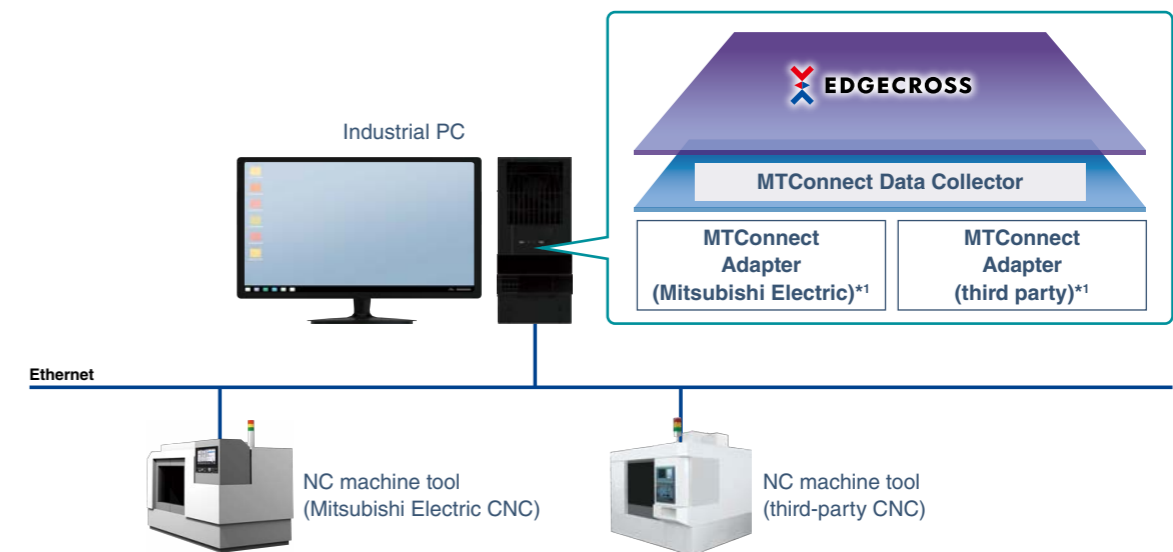
*1. A suitable MTConnect Agent for each adapter is also required.

■ **Main components**

• MTConnect Data Collector
• MTConnect Adapter

■ **iQ Edgecross MTConnect Data Collector   Main specifications (system requirements)**

Hardware	Processor	Intel Atom E3826 1.46 GHz or better
	Memory	8 GB or more
	Disk space	4 GB or more
Software	Supported OS	Windows 10 Pro/Enterprise/IoT Enterprise (64 bit)
	Languages	English/Japanese
	Recommended agent	CppAgent (Ver. 1.3.0.11 or newer) issued by MTConnect Institute
Supported CNCs	Mitsubishi Electric	M800V/M80V/M800/M80/E80/M700V/M70V/M700/M70/E70 Series
	Third party	MTConnect-compatible model

iQ Care Remote4U
Remote Diagnostic Software (Remote Service)

| M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70 |

◀ View the introduction video here.

● We want to recover machine tools quickly when a problem occurs.
● We want to monitor machines remotely and visualize their utilization.
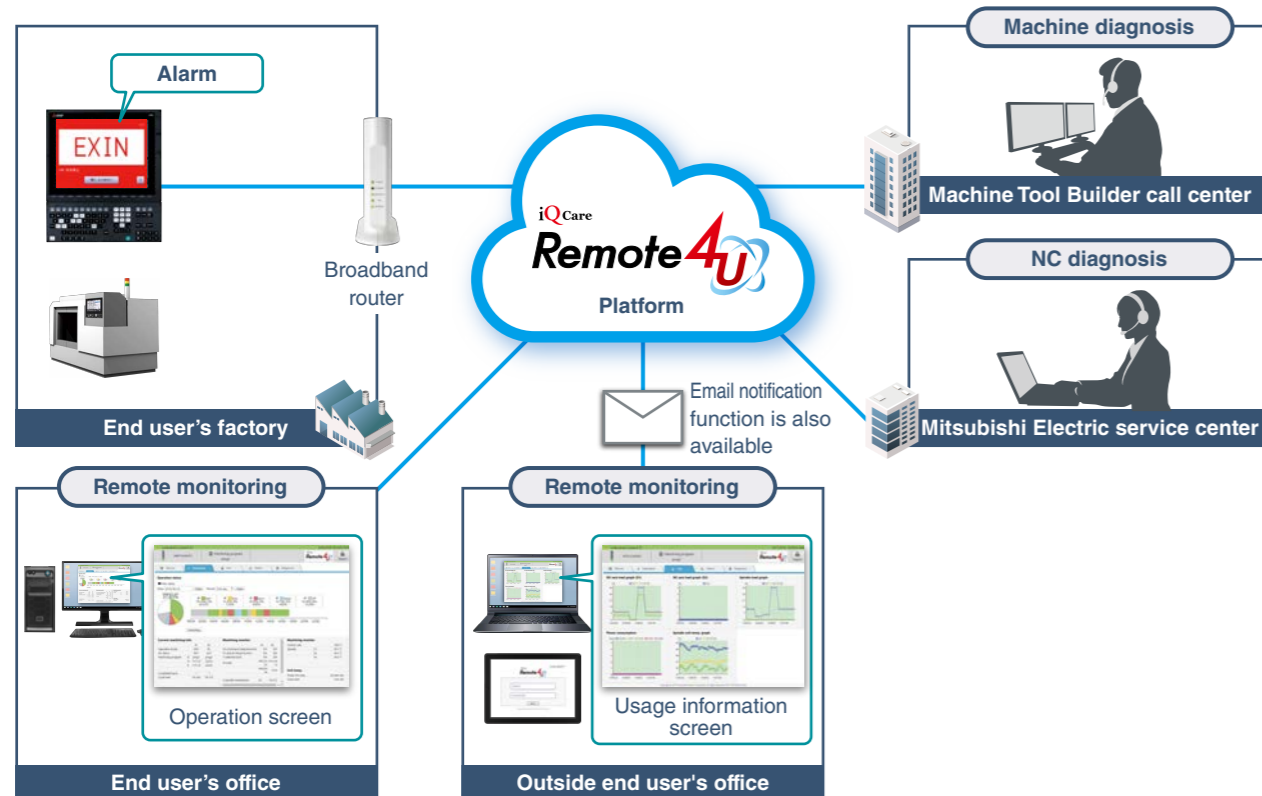
End user

MTB

● We want to set up a service to remotely diagnose user machines.

iQ Care Remote4U is here to help!

Quick implementation of remote service and accumulation of machine operation data using the cloud.
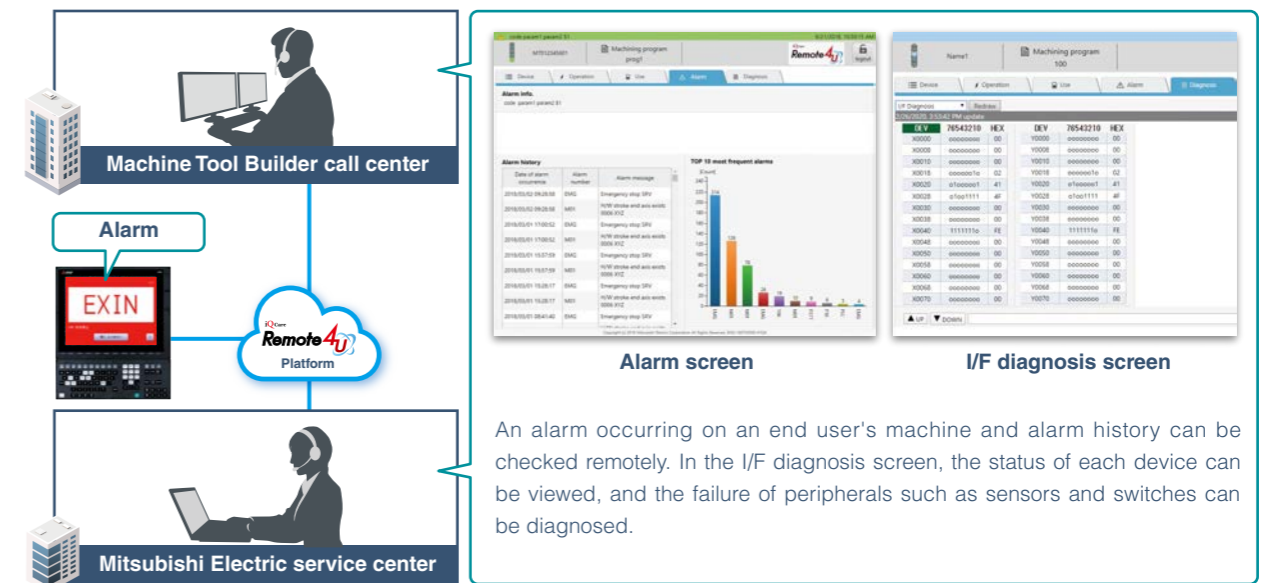

Alarm

EXIN

iQ Care Remote4U Platform

Broadband router

Machine diagnosis

Machine Tool Builder call center

NC diagnosis

Mitsubishi Electric service center

Email notification function is also available

End user's factory

Remote monitoring

Remote monitoring

Operation screen

Usage information screen

End user's office

Outside end user's office

■ Features

Function	Main functions	User classification	
		End user	Machine tool builder (MTB)
Devices	Listing device information, specifying detailed display object	○	○
Operation	Graph display of operation rate, machining program name, ONB No.	○	—
Use	Servo axis load graph, spindle load graph, power consumption amount	○	—
Alarm	Current alarm, alarm history, total display	○	○
Diagnosis	S/W configuration, H/W configuration, I/F diagnosis, parameter reference, self diagnosis, key operation history, sampling chart	○	○
Utility	Operation status acquisition, alarm diagnosis*1, email notification settings*1	○	—
	History data acquisition	○	○
	NC file data, online storage*1, auto backup setup*1	○	○*2

*1. This function may be unavailable depending on the license type. Unavailable functions are unavailable to all users.
*2. Online storage and auto backup setup are unavailable.

■ Efficient machine service

The customer's CNC is directly connected to a terminal in the Mitsubishi Electric service center. Machine tool builders can implement their own remote service for machine tools by purchasing the platform license.

Machine Tool Builder call center

Alarm

EXIN

iQ Care Remote4U Platform

Mitsubishi Electric service center

Alarm screen

I/F diagnosis screen

An alarm occurring on an end user's machine and alarm history can be checked remotely. In the I/F diagnosis screen, the status of each device can be viewed, and the failure of peripherals such as sensors and switches can be diagnosed.

■ iQ Care Remote4U   Main specifications

System requirements (laptop/desktop computer)	
OS	Windows 8.1/Windows 10 64 bit
Browser	Microsoft Edge/Google Chrome
System requirements (smartphone and tablet)	
OS	iOS
Browser	Safari
Languages	English/Japanese
Supported CNCs	M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70 Series/DI connection models*1

*1. Refers to the following models, which requires a DI connection with a remote service gateway unit (RGU). (Some functionality is not available.)
   C70, MELDAS 60/60S Series, MELDAS 600 Series, EZMotion-NC E60/E68 Series, MELDAS C6/C64, MELDASMAGIC64, MELDAS 500 Series, MELDAS 50 Series, MELDAS C5, MELDAS 300 Series, MELDAS M3/L3, MELDAS C3/C3S, Mitsubishi Electric EDMs (Electrical Discharge Machines) (Whether Mitsubishi Electric EDMs can be connected depends on the machine specifications. Contact a Mitsubishi Electric distributor.)
*2. For specification details including countries where the service is available, contact a Mitsubishi Electric distributor.

NC Machine Tool Optimizer (Pro/Lite)
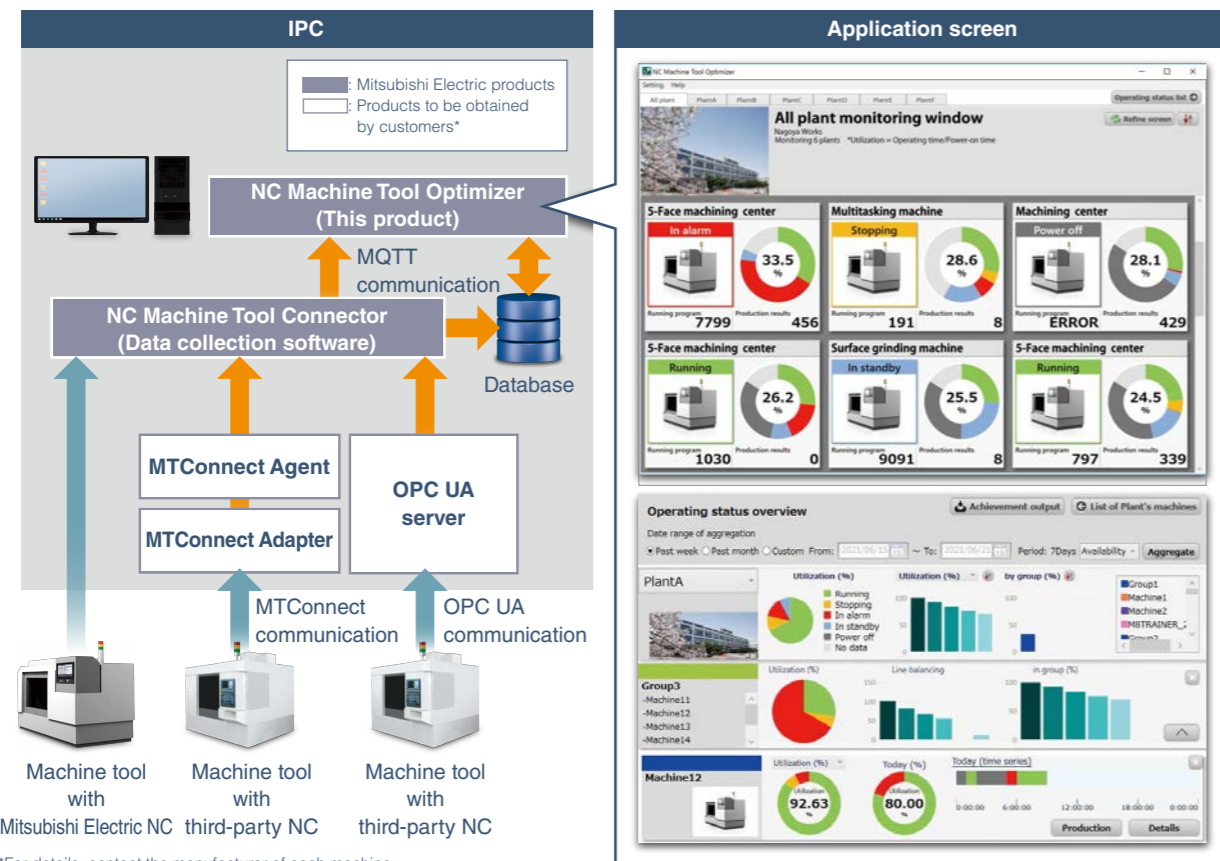## Operation Monitoring Software

- ● We want to monitor the operation of controllers of various manufacturers and models in our factory, all in one place.
- ● We want to analyze the operation of our equipment and visualize their utilization.

NC Machine Tool Optimizer is here to help!

Machine tools of a wide variety of manufacturers are supported.
Not only Mitsubishi Electric CNCs, but third-party CNCs and MTConnect-enabled controllers can also be connected.


IPC

: Mitsubishi Electric products
: Products to be obtained by customers*

NC Machine Tool Optimizer (This product)

MQTT communication

NC Machine Tool Connector (Data collection software)

Database

MTConnect Agent

MTConnect Adapter

OPC UA server

MTConnect communication

OPC UA communication

Machine tool with Mitsubishi Electric NC

Machine tool with third-party NC

Machine tool with third-party NC

*For details, contact the manufacturer of each machine.

Application screen

■ Features

Feature	Description
Plant machine overview	Displays the current day's utilization, operating time, percentage of completion and the current operating status of each plant and each machine in the plant
Operating status overview	Displays a summary of operations for a specific period by plant, group and machine
Operating details display	Displays the rate of operating statuses, the daily trend and the time series chart over a specific period to support analysis of machine stop causes
Production results	Displays the production results, the actual vs plan production, and the trend forecast for a planned period
Plant performance output	Displays the summaries of actual production and operation over a specific period, and exports them into CSV files

■ Operation details window

Displays the breakdown of downtime causes over a specific period
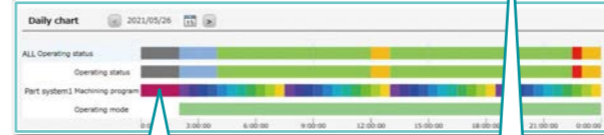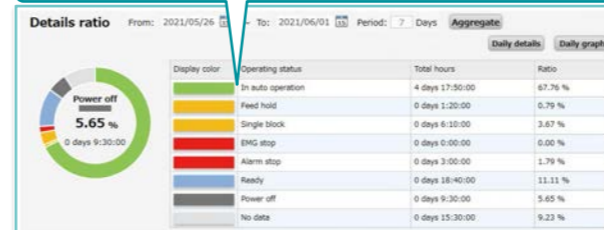
Displays the daily operating status trend by part system over a specific period

Displays the daily change in the ratios of downtime causes and utilization trend

■ Production results window

Displays the actual production (quantity, percent complete, average cycle time, etc.) over a specific period by program

Actual and forecast
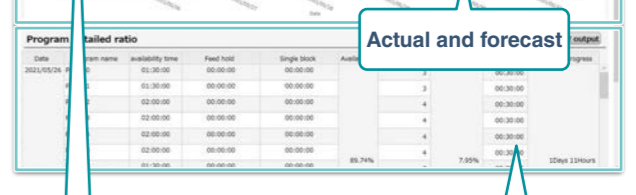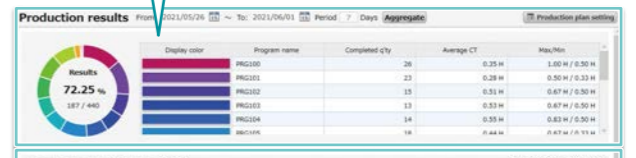
Displays the daily change in the accumulated number of parts produced over a specific period

Displays details by day

■ NC Machine Tool Optimizer (Pro/Lite)　Main specifications

Item			Pro version	Lite version
Maximum number of devices that can be connected			30*1	10*1
Connection specifications	CNC	Mitsubishi Electric	M800V/M80V/M800/M80/E80/M700V/M70V/M700/M70/E70 Series, etc.*2	
		Third party	MTConnect-compatible model	
Communication specifications	MTConnect	Supported version	MTConnect Ver. 1.3.1	
		Agent (reference)	CppAgent (Ver. 1.3.0.17 or newer) issued by MTConnect Institute*3	
	MQTT	Supported version	Protocol Ver. 3.1.1	
		Broker	Eclipse Mosquitto 1.3.5	
	Database		PostgreSQL Ver. 10.18/SQL99	
Languages			English/Japanese/Simplified Chinese/Traditional Chinese/Korean	

■ NC Machine Tool Optimizer (Pro/Lite)　Main specifications (system requirements)

Processor	Intel Core-i3 2 cores or better, 64-bit architecture
Memory	8 GB or more
Disk space	300 GB or more is recommended
External interface	RJ-45 (Communication standard: Ethernet)
Display resolution	XGA (1024×768) or higher
OS	The 64-bit version of the following OS is supported. Windows 10 Pro/Windows 10 Enterprise/Windows 10 IoT Enterprise
Libraries	.NET Framework 4.5

*1. The number of devices per license of this product. Note, however, that there are the following limitations: up to 20 devices for the API for Mitsubishi Electric CNC, and up to 20 for MTConnect (the number is limited depending on the Adapter/Agent used).
*2. For the C80/C70 Series and M600/M60 Series or earlier models, additional hardware is required.
*3. Any MTConnect-compatible agent, not limited to Cpp agent, can be used for connection.
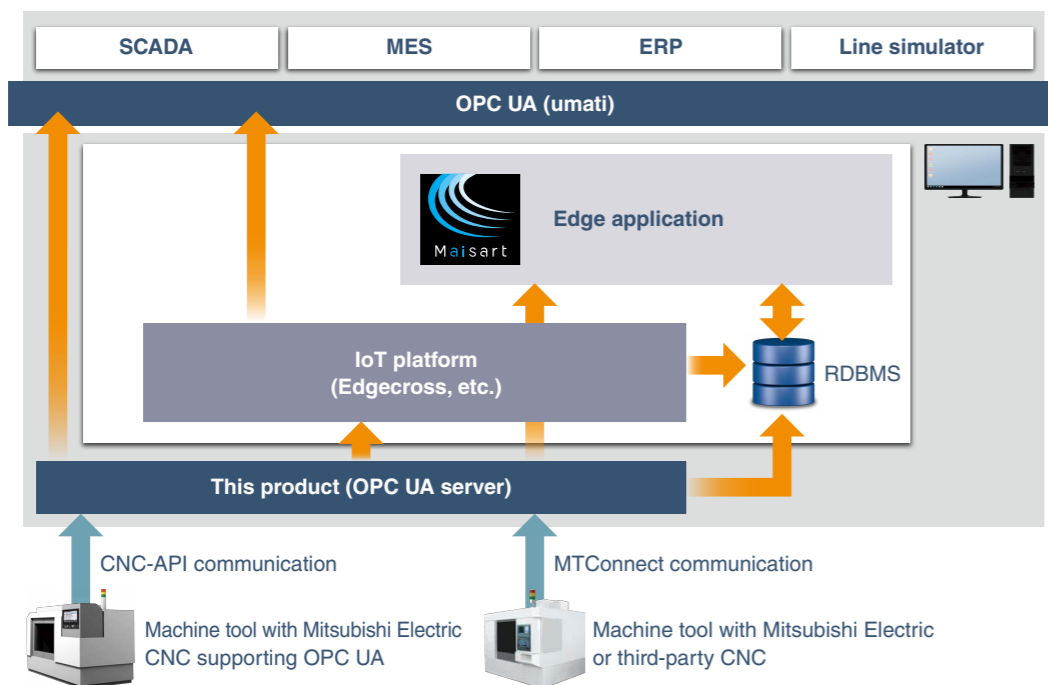
NC Machine Tool Connector
(Data Collection Software Supporting OPC UA Communication)

● We want to collect data from machine tools via OPC UA.

NC Machine Tool Connector is here to help!

This data collection software supports OPC UA, an international industrial interoperability standard.
This software (OPC UA server) collects data from Mitsubishi Electric CNC and other CNC supporting MTConnect communication and provides the data to operation monitoring software (OPC UA client).

| SCADA | MES | ERP | Line simulator |

OPC UA (umati)

Edge application

Maisart

IoT platform (Edgecross, etc.)

RDBMS

This product (OPC UA server)

CNC-API communication

MTConnect communication

Machine tool with Mitsubishi Electric CNC supporting OPC UA

Machine tool with Mitsubishi Electric or third-party CNC

■ NC Machine Tool Connector   Main specifications (system requirements)

Hardware	Processor	Intel Core-i5 with 2 cores or better, 64-bit architecture
	Memory	8 GB or more
	Disk space	64 GB or more
Software	Supported OS	Windows10 Pro/Enterprise/IoT Enterprise (64 bit)
	Languages	English/Japanese
	Libraries	.NET Framework4.5 or newer Microsoft Visual C++2015 Redistributable Package x64/x86 Microsoft Visual C++2010 Redistributable Package xx86 (only for Windows10 Pro spec)
Supported CNCs	Mitsubishi Electric	M800V/M80V/M800/M80/E80/M700V/M70V/M700/M70/E70 Series, etc.[*1]
	Third party	MTConnect-compatible model

*1. For the C80/C70 Series and M600/M60 Series or earlier models, additional hardware is required.

FCSB1224W000
(Mitsubishi Electric CNC Communication Software)

M800V | M80V | M800 | M80 | E80 | C80 | M700V | M70V | M700 | M70 | E70 | C70

● We want to develop data collection and monitoring applications.

FCSB1224W000 is here to help!

This software provides a host of API functions that facilitate the development of Windows applications that connect and communicate with a Mitsubishi Electric CNC.
Its interface is common across all Mitsubishi Electric CNC models for high development efficiency.

▮ Example of application   Development language: VC++/VB

Data collection/ monitoring	Operation monitoring
Display/operation panel function	Program creation/edit
Production control	CAD/CAM

PC

Mitsubishi Electric CNC Communication Software (FCSB1224W000)

Windows OS

Ethernet

Mitsubishi Electric CNC | Mitsubishi Electric CNC | Mitsubishi Electric CNC
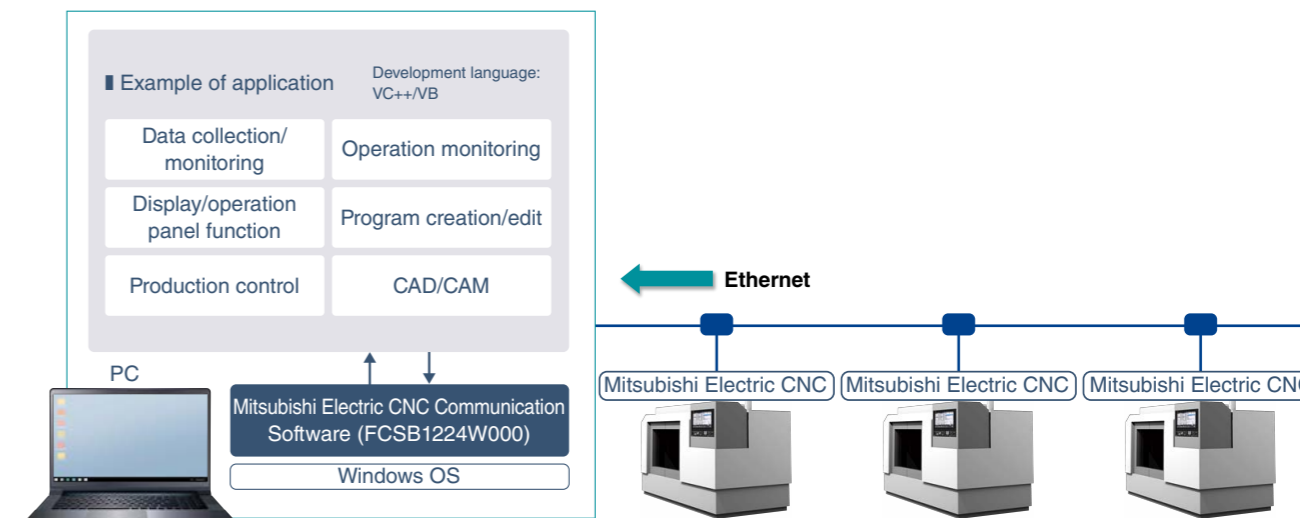
■ Main features

• Read/write machining programs
• Upload/download files
• Acquire coordinate values, alarm/diagnosis information

• Read/write NC data such as tools and variables
• Read/write device information

■ FCSB1224W000 (Mitsubishi Electric CNC Communication Software)   Main specifications

Supported OS	Windows 10
	Supports 32- and 64-bit OS (WOW64 available for 64-bit)
Development language	Microsoft Visual C#/Microsoft Visual C++/Microsoft Visual Basic
Supported CNCs	M800V/M80V/M800/M80/E80/C80/M700V/M70V/M700/M70/E70/C70 Series
	*Available features vary depending on the model (For details, refer to the Reference Manual)

CNC-related Product Lineup

Numerical Controllers

M800VW

Premium CNC with separated control unit and display for expandability and flexibility

M800VS

High-grade CNC well suited to high-speed high-accuracy machining and multi-axis multi-part system control

M80VW

Standard CNC with separated control unit and display for expandability and flexibility

M80V

Standard CNC that ensures high productivity and easy operability

C80

iQ Platform compatible CNC C80 Series incorporating Mitsubishi Electric's state-of-the-art technologies

E80

Simple CNC E80 Series offering easy operability and high cost performance

Drive Units/Servo Motors/Spindle Motors

MDS-E/EH

High-performance servo/ spindle drive units

MDS-EM/EMH

Multi-hybrid drive units

MDS-EJ/EJH

All-in-one compact drive units

Servo motors

HG Series medium inertia, high-accuracy, high-speed motors

LM-F Series linear servo motors

TM-RB Series direct-drive servo motors

Spindle motors

SJ-D Series high-performance spindle motors

SJ-DG Series high-output, high-torque spindle motors

SJ-DL Series low-inertia, high-speed spindle motors
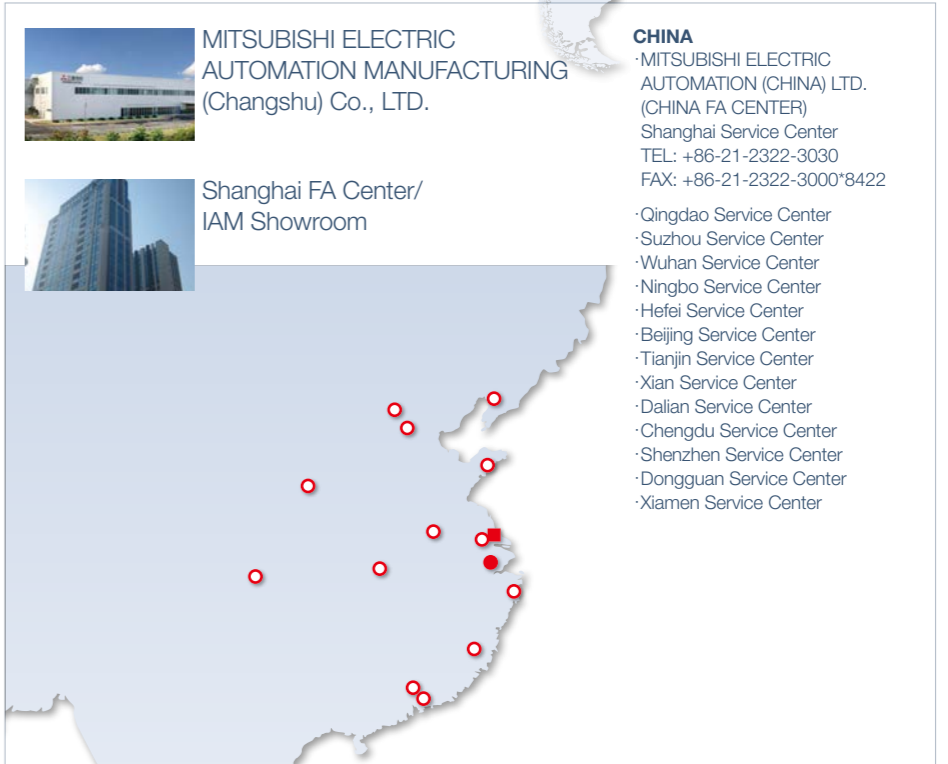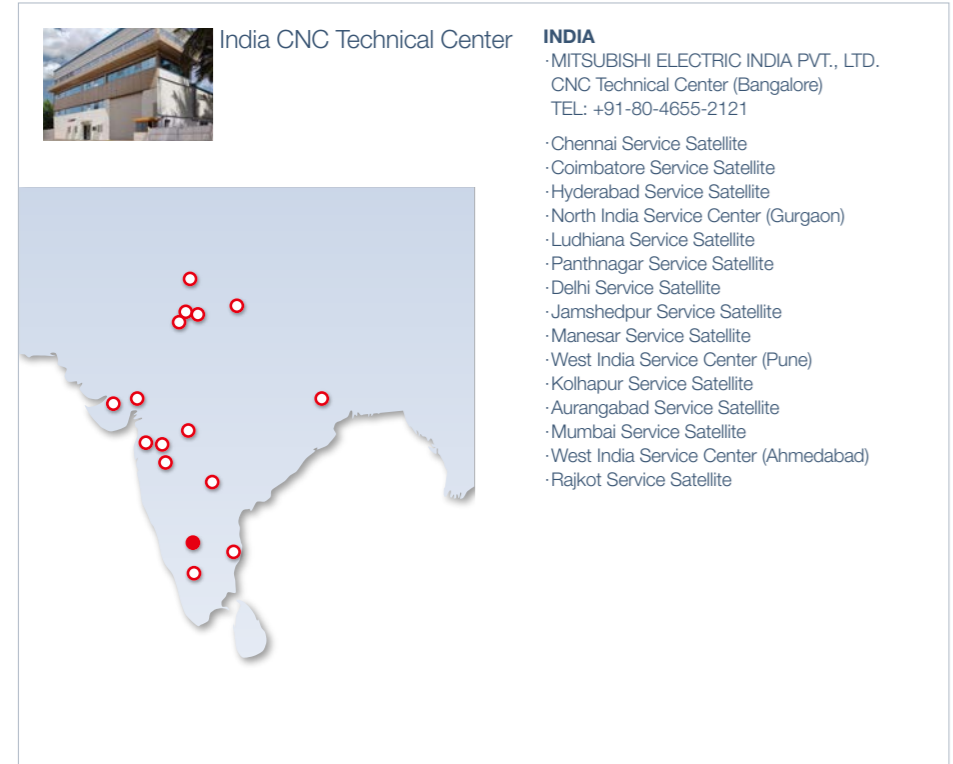
SJ-BG Series built-in spindle motors

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WARRANTY

Please confirm the following product warranty details before using MITSUBISHI ELECTRIC CNC.

1.Warranty Period and Coverage

Should any fault or defect (hereafter called "failure") for which we are liable occur in this product during the warranty period, repair services shall be provided at no cost through the distributor from which the product was purchased or through a Mitsubishi Electric service provider. Note, however, that this does not apply if the customer was informed prior to purchasing the product that the product is not covered under warranty. Also note that we are not responsible for any on-site readjustment and/or trial run that may be required after a defective unit is replaced.

[Warranty Term]

The term of warranty for this product shall be twenty-four (24) months from the date of delivery of the product to the end user, provided the product purchased from Mitsubishi Electric or a distributor in Japan is installed in Japan (but in no event longer than thirty (30) months, including distribution time after shipment from Mitsubishi Electric or a distributor).

Note that, in the case where the product purchased from Mitsubishi Electric or a distributor in or outside Japan is exported and installed in any country other than where it was purchased, please refer to "2. Service in Overseas Countries" below.

[Limitations]

(1) The machine tool builder is requested to conduct an initial failure diagnosis, as a general rule. The diagnosis may also be carried out by Mitsubishi Electric or our service provider for a fee at the machine tool builder's request.

(2) This warranty applies only when the conditions, method, environment, etc., of use are in compliance with the terms, conditions and instructions that are set forth in the instruction manual, user's manual, and the caution label affixed to the product, etc.

(3) Even during the term of warranty, repair costs will be charged to the customer in the following cases:

(a) a failure caused by improper storage or handling, carelessness or negligence, etc., or a failure caused by a problem with the customer's hardware or software

(b) a failure caused by any alteration, etc., to the product made by the customer without Mitsubishi Electric's approval

(c) a failure which could have been avoided if the customer's equipment in which this product is incorporated had been equipped with a safety device required by applicable laws or has any function or structure considered indispensable in the light of industrial common sense

(d) a failure which could have been avoided if consumable parts designated in the instruction manual, etc. had been duly maintained and replaced

(e) any replacement of consumable parts (including the battery, relay and fuse)

(f) a failure caused by external factors such as inevitable accidents, including without limitation fire and abnormal fluctuation of voltage, and acts of God, including without limitation earthquakes, lightning, and natural disasters

(g) a failure which could not have been foreseen under technologies available at the time of shipment of this product from Mitsubishi Electric

(h) any other failures which are not attributable to Mitsubishi Electric or which the customer acknowledges are not attributable to Mitsubishi Electric

2.Service in Overseas Countries

If the customer installs a product purchased from Mitsubishi Electric in a machine or equipment and exports it to any country other than where it was purchased, the customer may sign a paid warranty contract with our local FA center.

This applies in the case where the product purchased from us in or outside Japan is exported and installed in any country other than where it was purchased.

For details please contact the distributor from which the product was purchased.

3.Exclusion of Responsibility for Compensation against Loss of Opportunity, Secondary Loss, etc.

Regardless of the gratis warranty term, Mitsubishi Electric shall not be liable for compensation for:

(1) Damage arising from any cause found not to be the responsibility of Mitsubishi Electric.

(2) Lost opportunity or lost profit incurred by the user due to a failure of a Mitsubishi Electric product.

(3) Special damage or secondary damage, whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi Electric products.

(4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

4.Changes in Product Specifications

Specifications shown in our catalogs, manuals or technical documents are subject to change without notice.

5.Product Application

(1) For use of this product, applications should be those that will not result in a serious damage even if a failure or malfunction occurs in the product, and a backup or fail-safe function should operate on an external system when any failure or malfunction occurs to the product.

(2) Mitsubishi Electric CNC is designed and manufactured solely for applications to machine tools for industrial purposes. Do not use this product in applications other than those specified above, especially those which have substantial influence on public interest or which are expected to have significant influence on human lives or properties.

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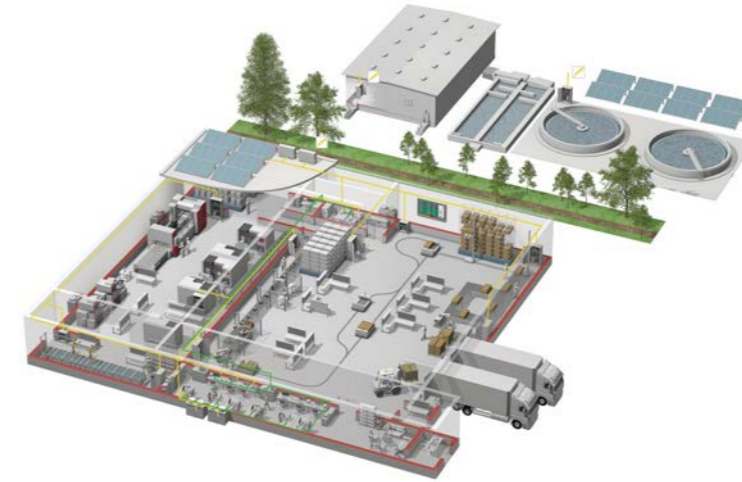
Mitsubishi Electric offers a wide range of automation equipment from PLCs and HMIs to CNC and EDM machines.

A NAME TO TRUST

Since its beginnings in 1870, some 45 companies use the Mitsubishi name, covering a spectrum of finance, commerce and industry.

The Mitsubishi brand name is recognized around the world as a symbol of premium quality.

Mitsubishi Electric Corporation, established in 1921, is active in space development, transportation, semi-conductors, energy systems, communications and information processing, audio visual equipment and home electronics, building and energy management and automation systems, and has 183 factories, laboratories and offices worldwide in over 140 countries.

This is why you can rely on Mitsubishi Electric automation solution - because we know first hand about the need for reliable, efficient, easy-to-use automation and control in our own factories.

As one of the world's leading companies with a global turnover of over 4 trillion Yen (over $40 billion), employing over 146,000 people, Mitsubishi Electric has the resource and the commitment to deliver the ultimate in service and support as well as the best products.

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Edge Computing Products

Numerical Control (NC)

Collaborative and Industrial Robots

Processing machines: EDM, Lasers

* Not all products are available in all countries.

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User support videos will be available, including how to backup/restore data and replace batteries as well as introduction to our products and technologies.

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Visit our page for information about exhibitions, products, technologies, and FAQ.

⚠ **Safety Warning**

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

MITSUBISHI ELECTRIC CORPORATION