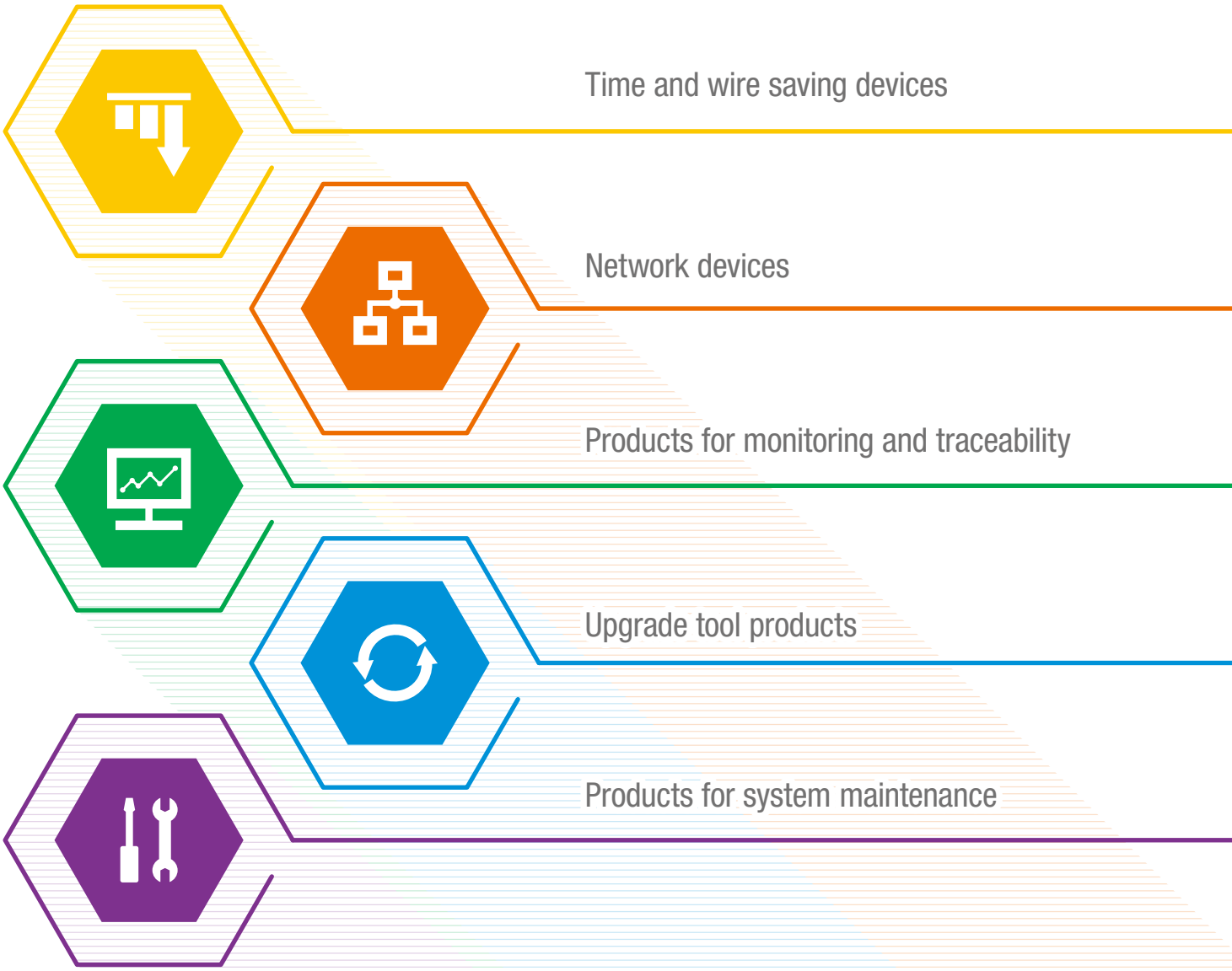
MITSUBISHI ELECTRIC ENGINEERING

FAgoods

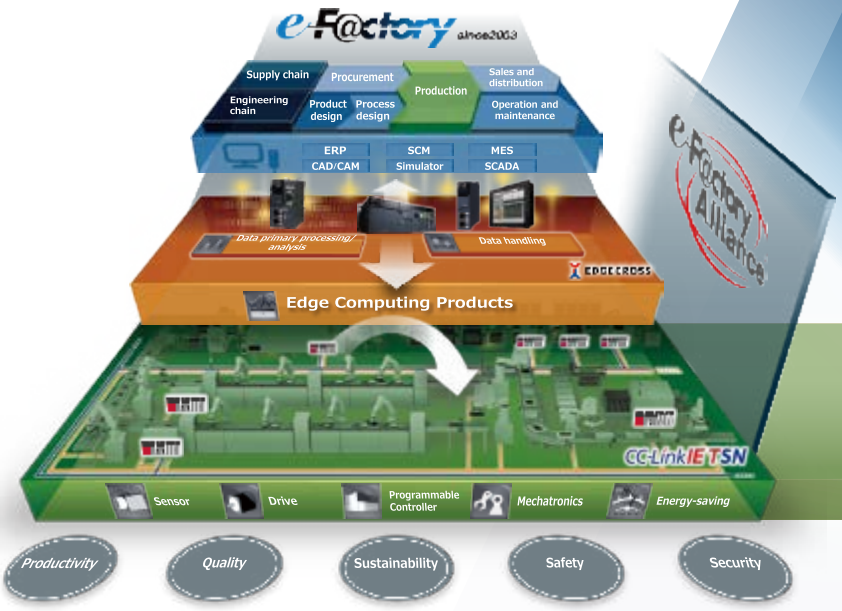
Digest edition

General Catalog



2024-25

MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED



Source: Mitsubishi Electric Corporation

e-F@ctory

Manufacturing can be optimized by analyzing and utilizing the data collected from various devices and equipment connected with IIoT in developing, manufacturing, and logistics processes.
Our high technical capability and quality and technique to link FA devices and IT system will offer solutions for next-generation manufacturing such as mass customization, preventive maintenance, and traceability.

Fields of manufacturing are changing and to be changed

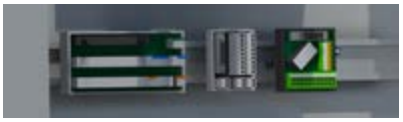
Labor-saving will support future manufacturing as the number of workers is decreasing today.
Our products provide five methods for control panel solutions according to fields of manufacturing.

Five methods for smart factory

Time and wire saving devices

Easy wiring to reduce unnecessary work

Our products help solve the problems of wiring work in the control panel by reducing wiring work for PLCs (programmable controllers), servo systems, HMIs (Human Machine Interfaces), and computerized numerical controllers (CNCs).



Network devices

Introduction of small-scale IIoT to reform production sites

We provide products to use the CC-Link family, SSCNET, or FL-net communication.

Products for monitoring and traceability

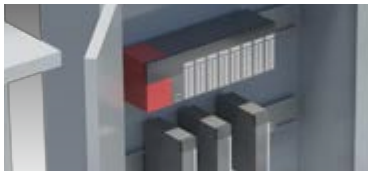
Visualization (monitoring and diagnosis) of production sites

Our products and solutions enable monitoring and diagnosis.

Upgrade tool products

Upgrading system leading to smart factory

Our products help replacement of old programmable controllers and servo devices or gradual replacement of CC-Link with CC-Link IE TSN to achieve smart factory.



Products for system maintenance

Stable operation for productivity improvement

From preventive maintenance to predict troubles at the production site to corrective maintenance to deal with emergencies, our products support the starting line to solve your issues.

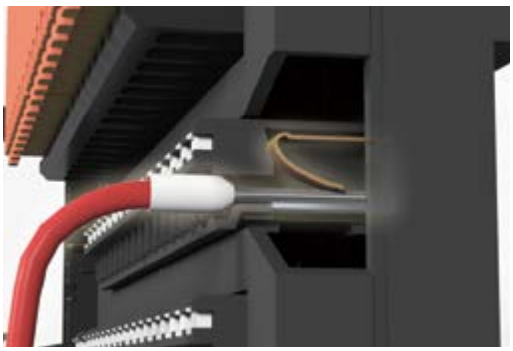
Time and wire saving devices

CHAPTER 01

Easy wiring to reduce unnecessary work

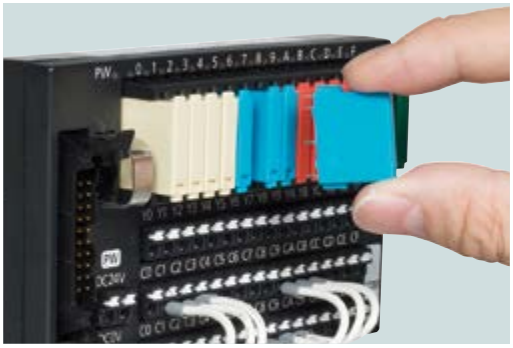
Our products help solve the problems of wiring work in the control panel by reducing wiring work for Mitsubishi Electric programmable controllers, servo systems, HMIs (GOTs), and computerized numerical controllers (CNCs). Our products are also available for non-Mitsubishi PLCs.

Easy push-in connection



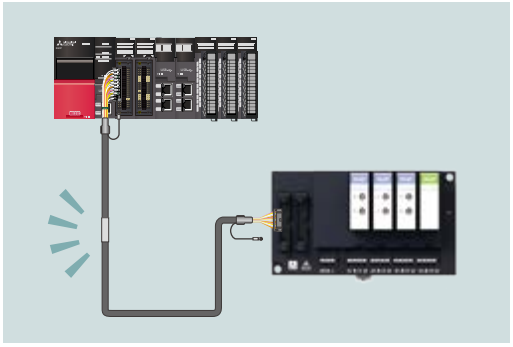
Push-in connection is available for the spring clamp terminal block, reducing cost and time for wiring and maintenance.

Customization of output modules



Cost and time for wiring and initial/ maintenance cost can be reduced by combining output modules on an installation base unit.

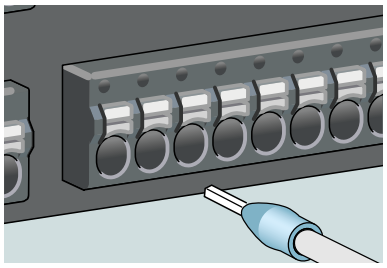
Simple wiring



One-touch connection using a dedicated cable reduces cost and time for wiring.

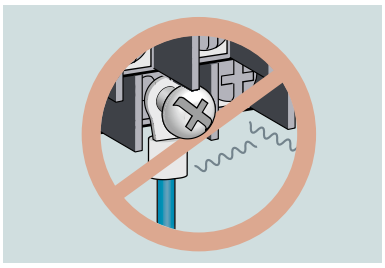
Three merits of no screw connection

Easy wiring



- Significant reduction in cost and time for screw-tightening
- No need for a screwdriver due to push-in connection
- Reduction in cost and time for wire-modification (stranded/solid wire)

Stable connection



No risks arising from screw-loosening due to vibration or long-term use

Less maintenance

No need for retightening work at delivery or inspection of the control panel or devices

Optimum device connection with one programmable controller module

Digital signal converter for input signals		Digital signal converter for output signals		Analog signal converter for input signals		Analog signal converter for output signals	
Spring clamp type (4/8/16-point)	Screw type (16-point)	Spring clamp type (4/8/16-point)	Screw type (16-point)	New Spring clamp type (4/8-channel)	Screw type (4/8-channel)	New Spring clamp type (4/8-channel)	Screw type (4/8-channel)




Devices		Devices	
Input	Switch, limit switch, proximity sensor, etc.	Input	Temperature/humidity/vibration/flow/pressure sensor, laser distance sensor, etc.
Output	Magnetic starter, indication lamp, etc.	Output	Solenoid valve, recorder, etc.

Easy wiring for programmable controller, servo, and HMI with one cable

Cable fabrication

- Check of pin layout (Data must be obtained.)
- Soldering time: approx. 30s per pin (approx. 20 min. for 40 pins)

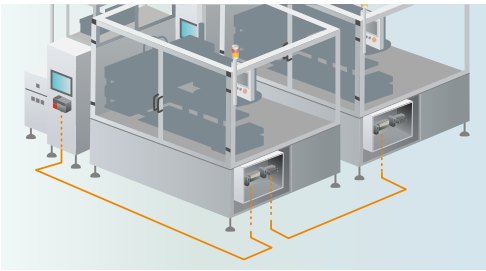
Dedicated cable

- Cable fabrication is not required.
- One-touch connection with a dedicated cable with connectors on both ends
- Dedicated cables can prevent incorrect wiring and eliminate the need for wiring check.

Approx. **12**s → Reduced by approx. **99**%

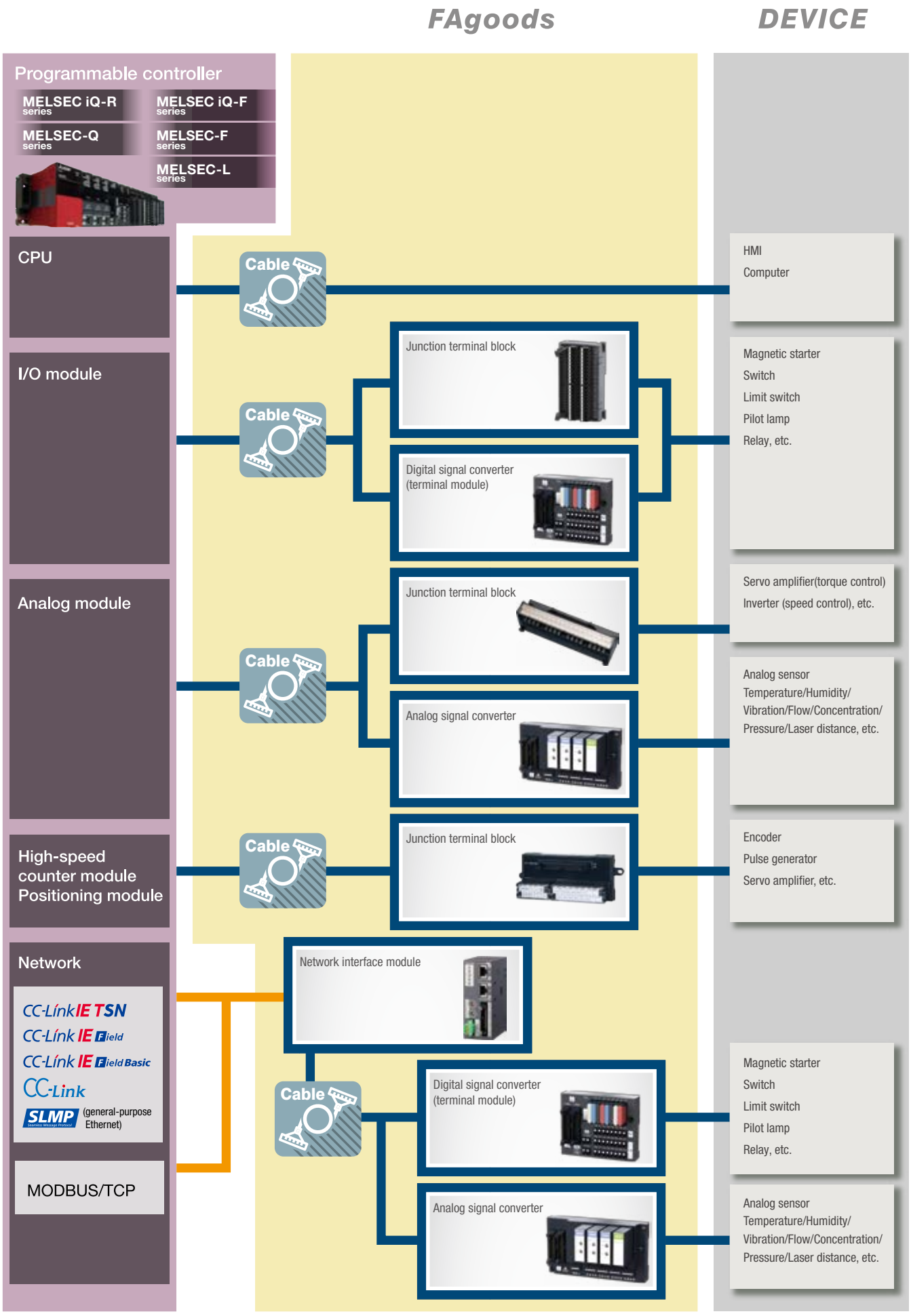
* Result of in-house testing

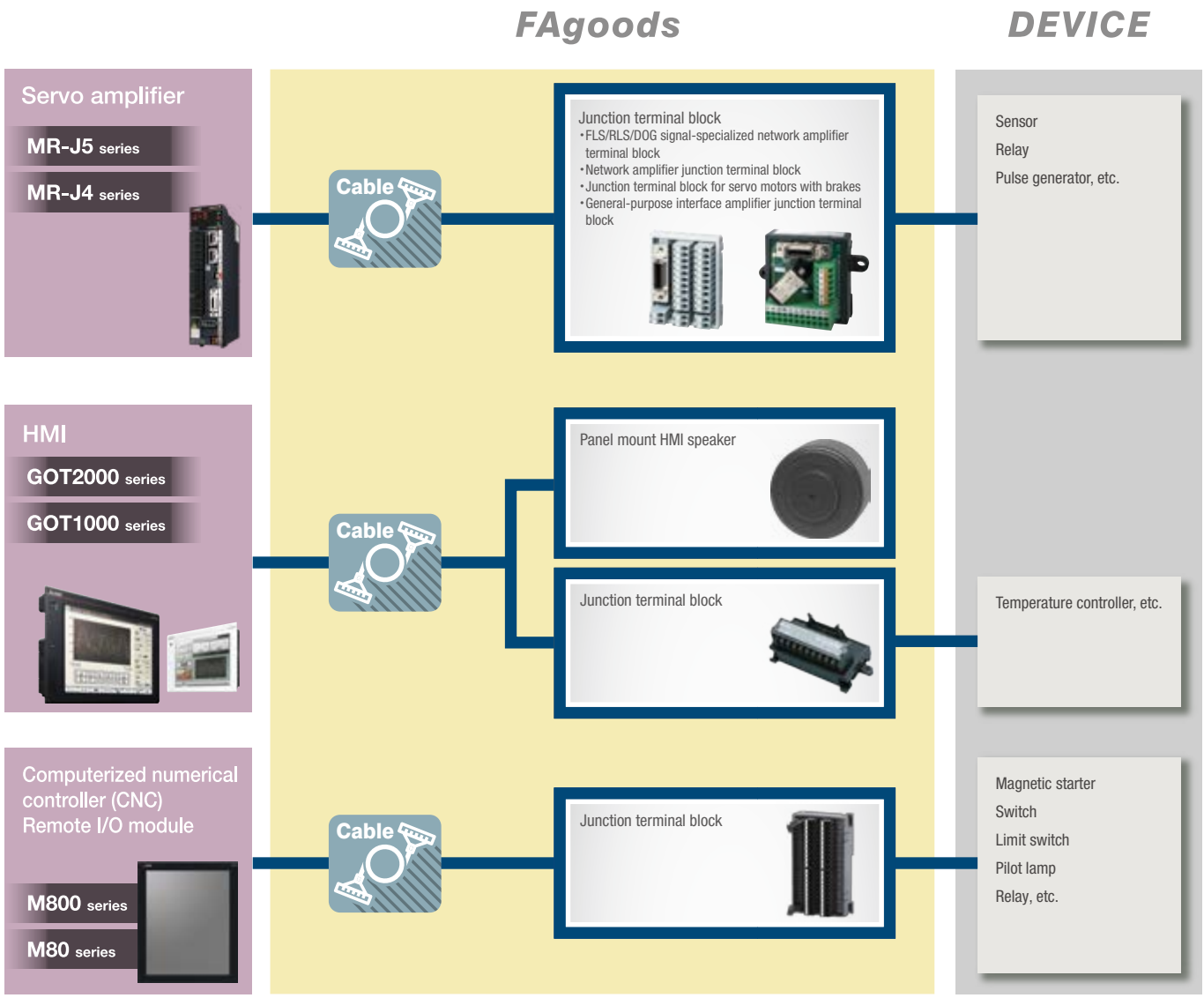
Using dedicated cables reduces cost and time for prior check of pin layout and wiring. Easy wiring leads to control panel solutions.



Network connection makes wiring easier between the control panel and devices.
(For details, refer to pages 18 and 19.)

Configuration diagram




FAgoods
DEVICE
Servo amplifier
MR-J5 series
MR-J4 series
HMI
GOT2000 series
GOT1000 series
Computerized numerical controller (CNC)
Remote I/O module
M800 series
M80 series
Cable
Cable
Cable
Junction terminal block
•FLS/RLS/DOG signal-specialized network amplifier terminal block
•Network amplifier junction terminal block
•Junction terminal block for servo motors with brakes
•General-purpose interface amplifier junction terminal block
Panel mount HMI speaker
Junction terminal block
Junction terminal block
Sensor
Relay
Pulse generator, etc.
Temperature controller, etc.
Magnetic starter
Switch
Limit switch
Pilot lamp
Relay, etc.

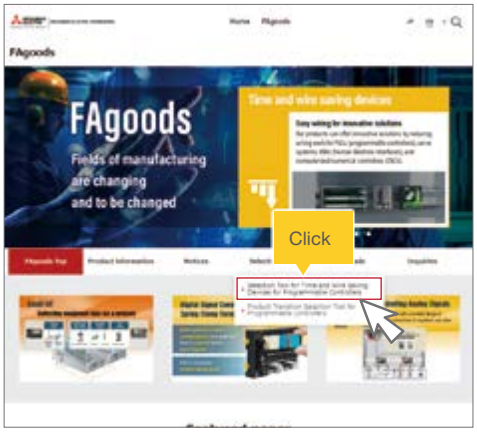
Easy selection

The selection tool on our website helps select the optimum terminal blocks and cables for Mitsubishi Electric programmable controllers and HMIs (GOTs).
The connectable models are displayed by entering/selecting the model name of the programmable controller or HMI (GOT).

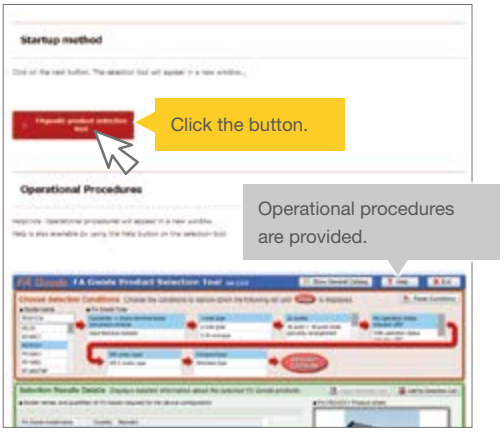
Website www.mitsubishielectricengineering.com/sales/fa/meefan/ > FAgoods product selection tool

From our website (www.mitsubishielectricengineering.com/sales/fa/meefan/)

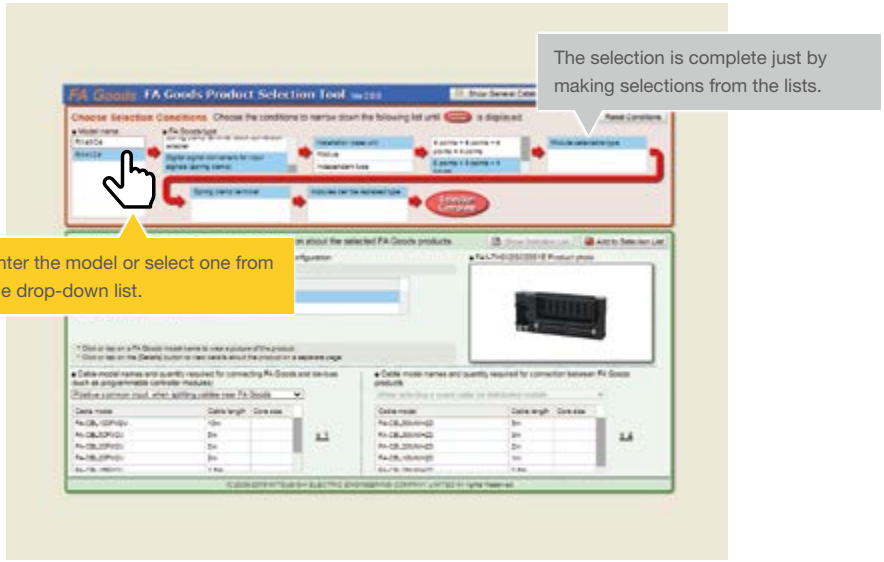
1 Select "Selection Tool for Time and Wire Saving Devices for Programmable Controllers" from the opening page of MEEFAN.



2 Click the [FAgoods product selection tool] button under "Startup method".



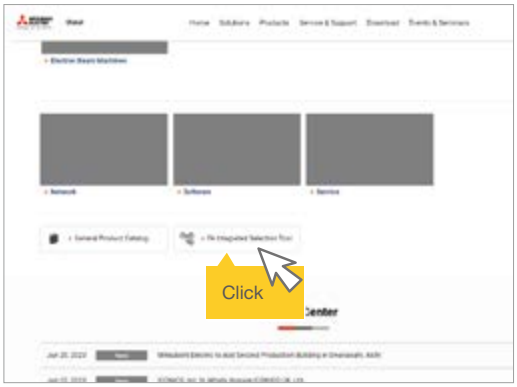
3 The following window appears.
Enter the model name of the MELSEC series module in the "Model name" field. (Alternatively, select the model from the drop-down list.)
In the "FA Goods type" field, select the product and its specifications from the lists. The connectable terminal blocks and connection cables between the programmable controller and the terminal block are also displayed.



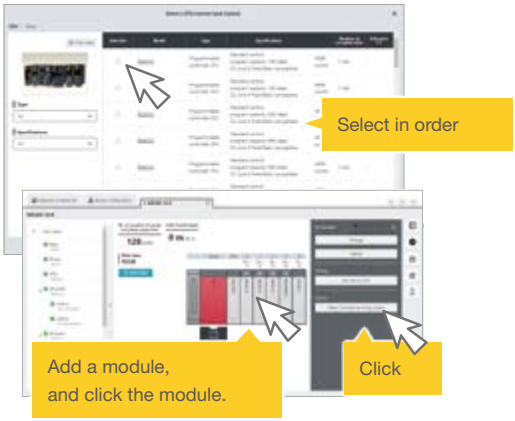
Go to the Mitsubishi Electric FA website. (www.mitsubishielectric.com/fa/)

FA Integrated Selection Tool enables you to select multiple models of modules such as MELSEC series, remote I/Os, AC servos (MELSERVO), and HMIs (GOTs) and select equipment/entire system.

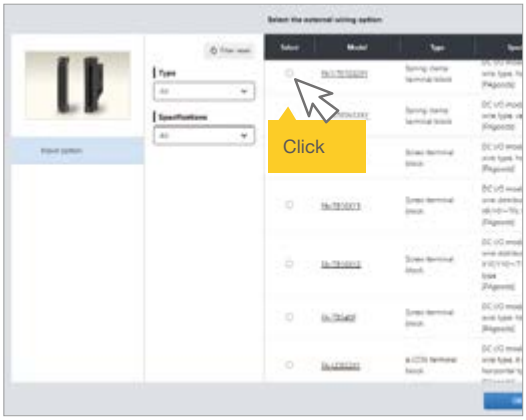
1 Go to the opening page of the Mitsubishi Electric FA website and click the [FA Integrated Selection Tool] button.



2 To select a device, select the MELSEC series, CPU module, base unit, power supply module, and modules in this order.
Click the added module, and click the [Select the external wiring option] button.



3 FAgoods terminal blocks and signal converters corresponding to the programmable controller that you have selected are displayed. Click on the applicable model and cable.



4 Click the "System configuration" icon in the upper right corner of the window to display the system configuration including the programmable controller selected.

Remarks Network interface modules can be selected from the selection of remote I/O devices.

* For information on the selection of modules that can be installed, please check our website (MEEFAN).

Digital signal converter (terminal module)

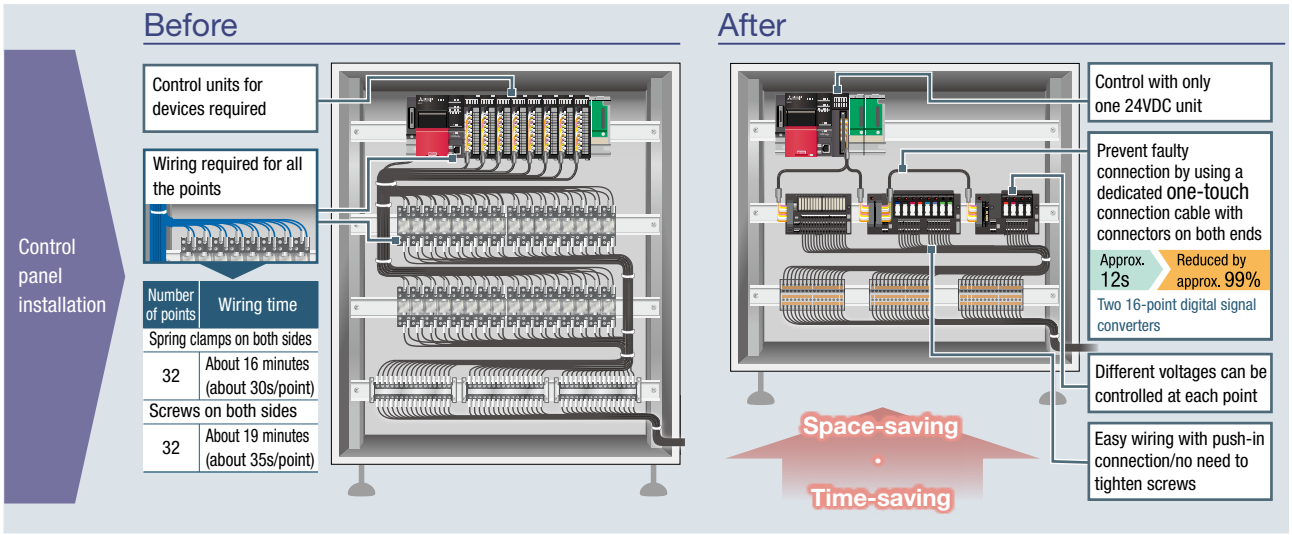
point Selectable connection methods P.12 to 13

FA1-TH4X24RA1L20S1E, etc.

Features of the digital signal converter (terminal module)

Digital signals from a programmable controller can be converted to signals suitable for the connected devices such as a magnetic starter (example: from 24VDC signal to 200VAC signal).
One terminal module supports connections with multiple devices with different voltage loads.

System optimization and time, wire saving



One digital signal converter (terminal module) can be used to connect input signals from devices with different voltages. This helps save space in the control panel. Wiring time and maintenance costs can also be reduced thanks to a dedicated cable and spring clamp terminal block.

Dispersed installation near devices

Optimum configuration using applicable combinations of devices

4 points in total	4-point
8 points in total	8-point
	4-point 4-point
12 points in total	8-point 4-point
	4-point 4-point 4-point
16 points in total	16-point
	8-point 8-point
	8-point 4-point 4-point
	4-point 4-point 4-point 4-point

8-point and 4-point installation base units can be combined (max. 16 points).

Module lineup

Appearance	Type		Lineup
	Slim module	Input, output	N/O or N/C contact
		Output	C/O contact Triac Transistor Signal pass-through
	Functional module	Input	Relay isolation: 24VDC relay Photocoupler isolation: 24/48/100VDC, 100/200VAC Dummy

Slim module: Less space is required as the terminal module is also compact.

Functional module: No dedicated tools are required for replacement. An LED is provided on a module.

Analog signal converter

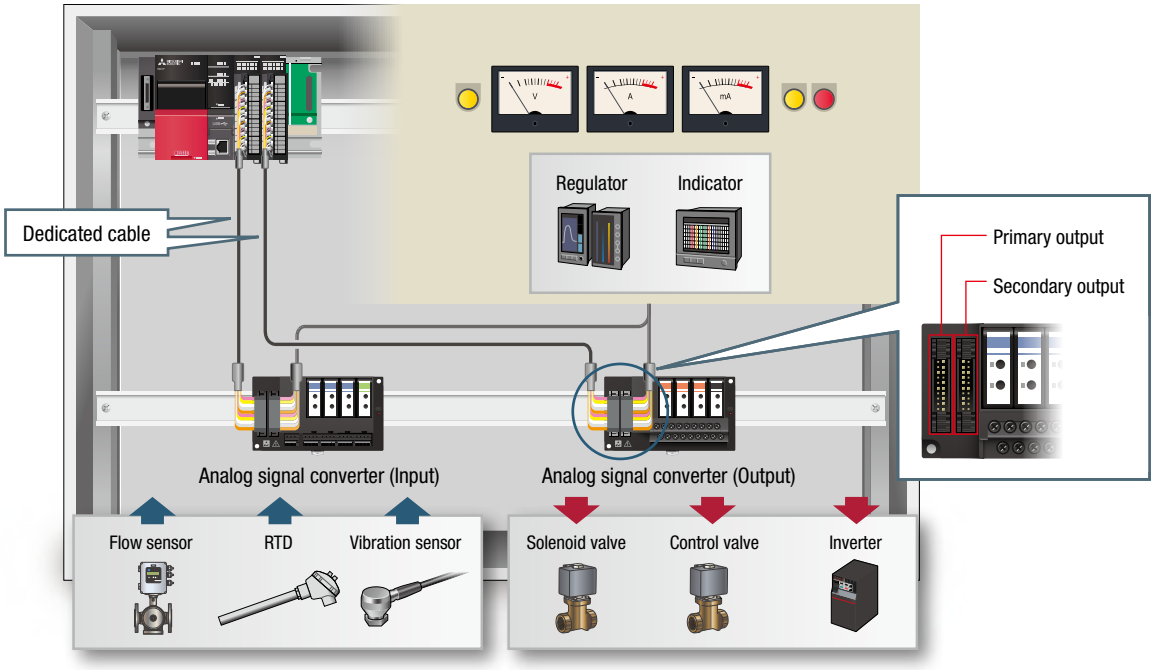
point Selectable connection methods P.12 to 13

FA1-AT1B4X1TE, etc.

Features of the analog signal converter

Analog signals from the connected devices such as sensors can be converted to signals suitable for a programmable controller (example: from a temperature signal to a voltage signal).
Data from sensors can be visualized easily, and small-scale IIoT can be introduced.

Visualization of various analog signals

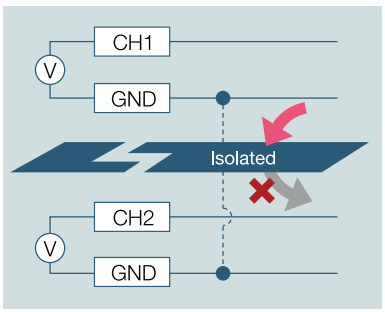


An optimal module can be mounted for each channel, and using the secondary output function enables easy wiring to devices such as regulators. Thus, data of the devices such as sensors can be easily visualized.
In addition, the dedicated cables enable time and wire saving for connection of a programmable controller module.

Individual customization of conversion modules

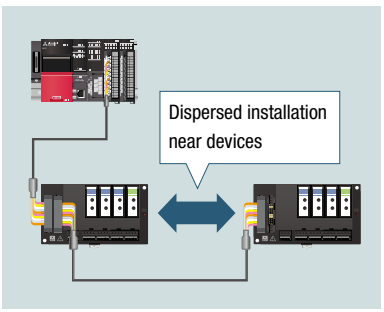
Signal conversion modules can be selected individually for the sensor type. Modules can be easily replaced separately without a screwdriver.

Isolation between channels



Isolation between channels prevents the undesirable current from flowing and improves the noise resistance.

Optimum installation



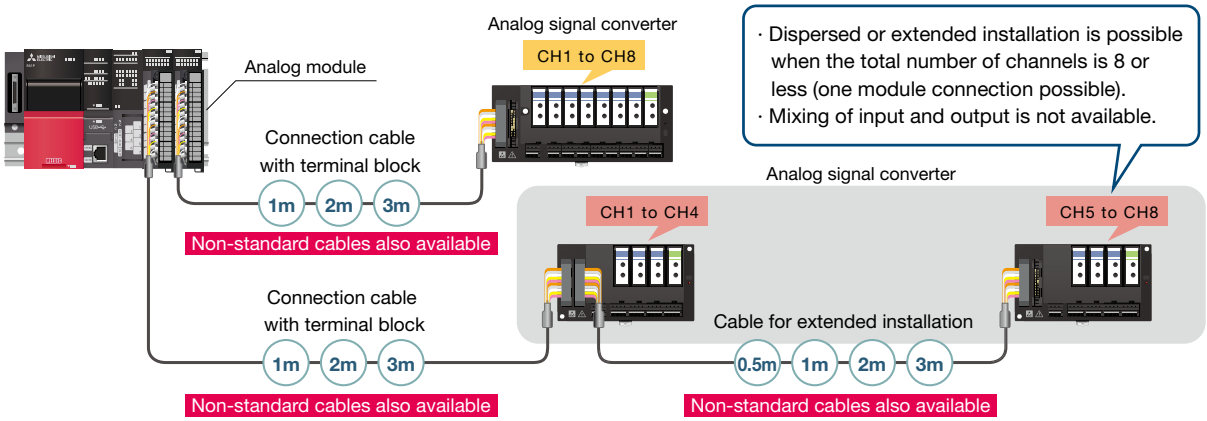
Modules for eight channels can be mounted individually in the signal converters at dispersed sites near devices such as sensors.
The signal converters can be connected using the dedicated cables or via network.

Signal converter connection methods suitable for each system

Selecting the optimal installation method for a wide variety of production sites improves wiring work efficiency, and using the dispersed installation by selecting the number of modules improves maintenance work efficiency.

Direct wiring to a programmable controller

· Dedicated cables can be used to connect the programmable controller system and the signal converters.
Example: Connection of the analog signal converters

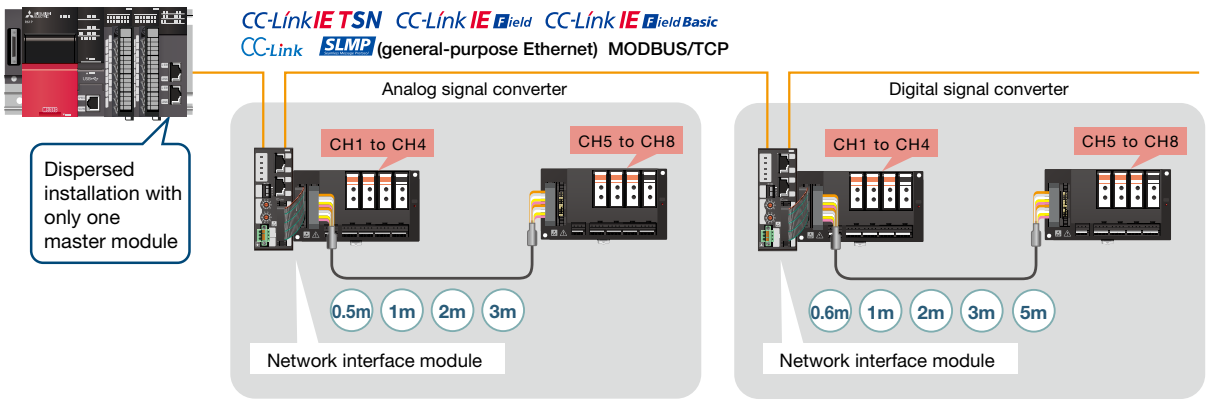


Dispersed installation in the equipment on the industrial network

· With network connection, "installation in the equipment: installation near devices" can be achieved instead of "installation in the control panel".
· Installing the product near devices improves the maintenance efficiency.
· Collecting sensor information wirelessly and monitoring the site remotely.

Connection to CC-Link family networks or MODBUS/TCP

Dispersed installation with CC-Link IE TSN, CC-Link IE Field, CC-Link IE Field Basic, CC-Link, SLMP (general-purpose Ethernet), or MODBUS/TCP is available.
Connecting the signal converter to the network interface module enables dispersed installation.



point Digital signal converter (terminal module) ▶P.10
Analog signal converter ▶P.11

Application examples

Parts production line: Labor saving for collecting information such as temperature, pressure, and flow rate from sensors

Problem

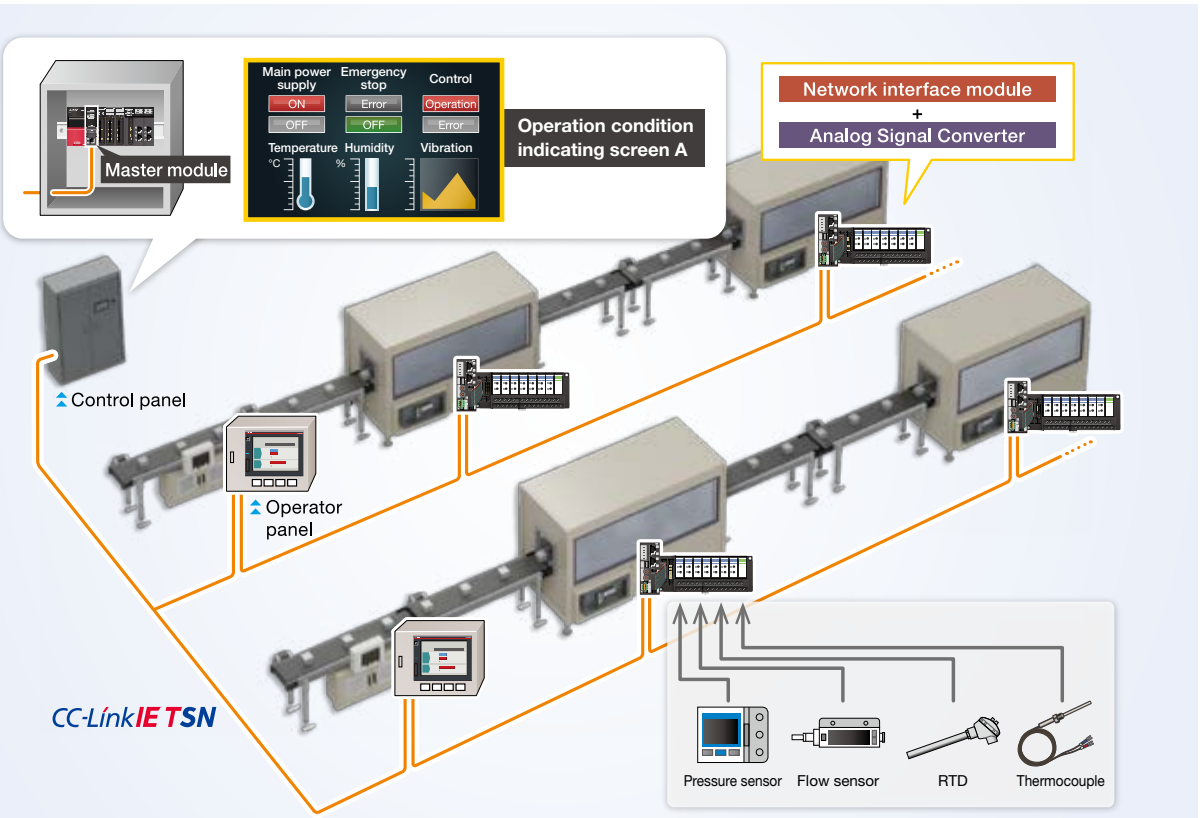
The entire number of sensors were visually inspected several times a day, and the condition of the production line was checked.

What you want to achieve

- Visualizing the sensor information that is being visually inspected, as a part of the visualization of the production line
- Using the sensor information for preventive maintenance by digitizing and storing it into the programmable controller to output an alarm

Point

- Dispersed installation via network connection allows installation of products near sensors, thereby easy maintenance.
- Analog signal converters can be selected individually according to the optimal configuration.
  By having unused points left, even if a sensor is added, it is only needed to install the module in the empty slot.

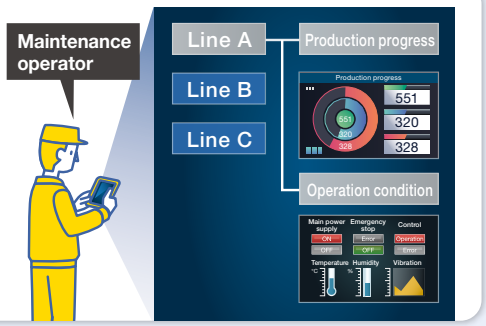


point

Downtime reduction by remote monitoring and quick maintenance

Maintenance operator can identify facility failures on a tablet in real time even during factory patrol.
Finding and dealing with failures as soon as possible can reduce the production line downtime.

* The "GOT Mobile" function for HMIs (GOTs) manufactured by Mitsubishi Electric is used.



Junction terminal block (spring clamp terminal type)

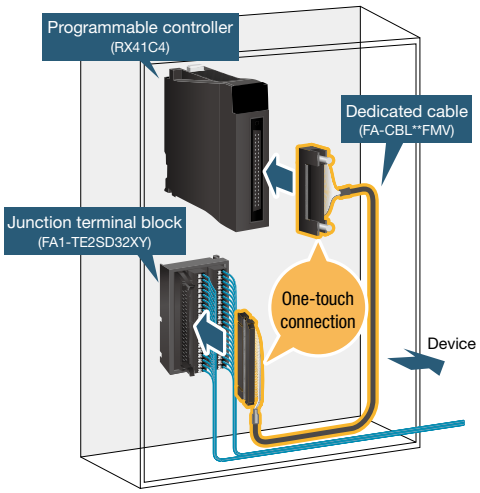
FA1-TE2SD32XY, etc.

Features of the spring clamp type

The spring clamp terminal block does not require screws.
Wires can be directly pushed into the conductive terminals without using a screwdriver.

Less cost and time for wiring by using a dedicated cable

Dedicated cables with connectors supporting each connected device are available.
Using a dedicated cable reduces wiring time required for each point.



Using a dedicated cable easily reduces wiring time.

	No. of points	Wiring time
Spring clamps on both sides	32	About 16* minutes (about 30s/point)
Screws on both sides	32	About 19* minutes (about 35s/point)

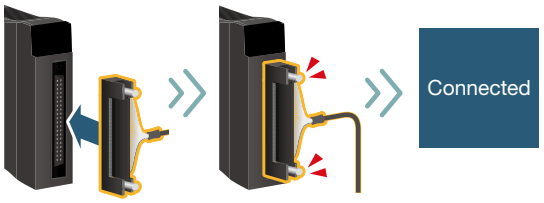
Wiring time: Approx. 12s* / Reduced by approx. 99%

* Result of in-house testing

Wiring image (when a 32-point module is used)

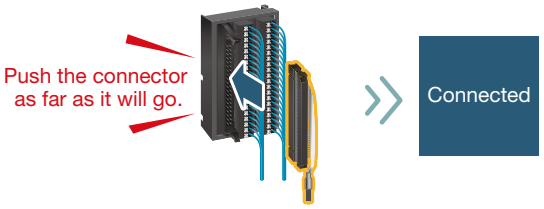
Connecting to the programmable controller side (FCN connector)

1) Insert the connector. 2) Fix two locations.



Connecting to the terminal block side (MIL connector)

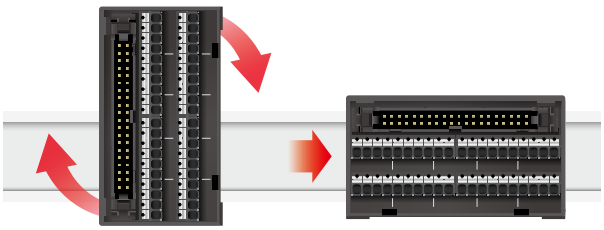
1) Insert the connector.



Effective use of space in the control panel

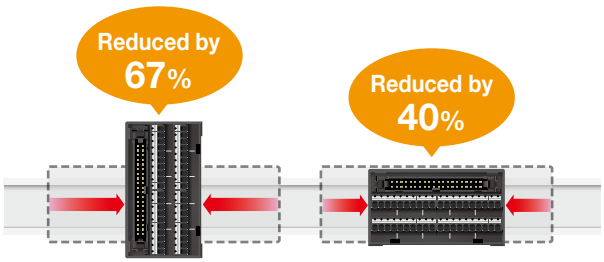
To use dead space in the control panel, the junction terminal block can be installed in both vertical and horizontal positions.
Space above and below the DIN rail, which can often be dead space, is effectively used by installing the junction terminal block in the vertical position.

One junction terminal block offers vertical and horizontal installation positions



It needed to select a junction terminal block in accordance with the installation position, but now one junction terminal block supports the both installation positions (vertical and horizontal positions).
Model: FA1-TE2SD40P, FA1-TE2SD32XY

Effective use of dead space in the control panel



The installation width is reduced by approx. 67% (vertical type) and approx. 40% (horizontal type) comparing to our screw terminal block (7mm pitch).
Model: FA1-TE2SD40P, FA1-TE2SD32XY

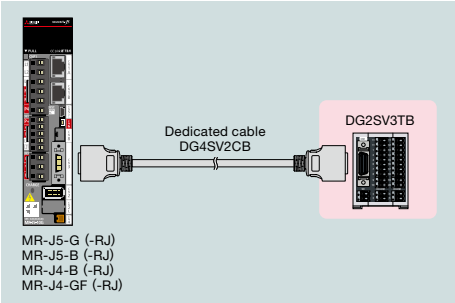
Network amplifier junction terminal block

DG2SV3TB

Features of the network amplifier junction terminal block

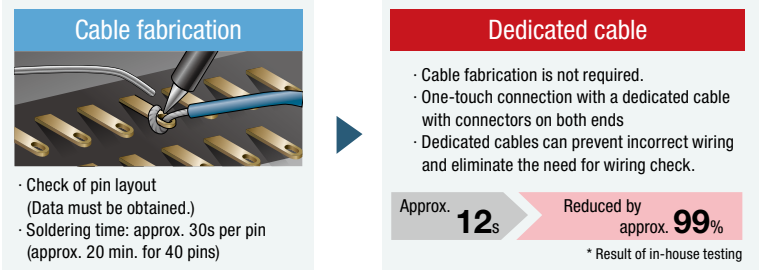
The network amplifier junction terminal block is used to relay the signals between the MR-J5-G, MR-J4-B, or MR-J4-GF and the external devices. When using multiple axes, transition wiring for interface power supplies is available 6A maximum.

Less wiring



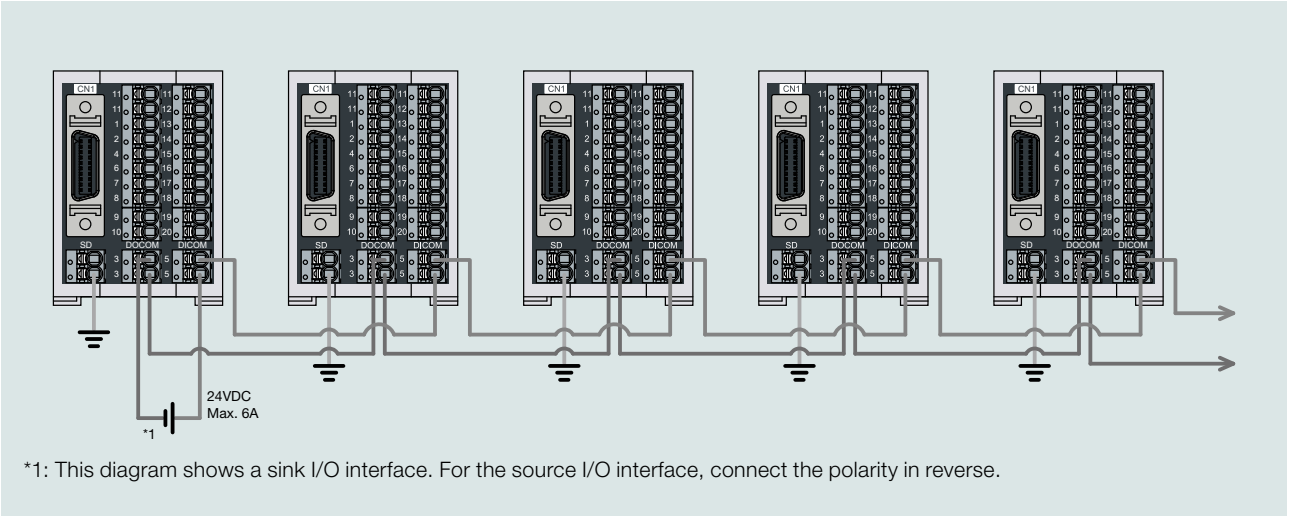
- Easy and reliable wiring connection with a servo amplifier using a dedicated cable
- No need for a screwdriver due to push-in connection

Dedicated cable for easy wiring, cost and time savings, and reliable quality



Using dedicated cables reduces cost and time for prior check of pin layout and wiring.
Easy wiring leads to control panel solutions.

Branch wiring for digital interface power supply



*1: This diagram shows a sink I/O interface. For the source I/O interface, connect the polarity in reverse.

Up to 6A of servo amplifier digital interface power supply is possible to be branched.
Target servo amplifier: MR-J5-G(-RJ), MR-J4-B(-RJ), MR-J4-GF(-RJ)

Network devices

CHAPTER 02

Introduction of small-scale IIoT to reform production sites

We provide products to be connected to industrial networks, which are necessary to rapidly-advancing introduction of IIoT in factories.
We support introduction of IIoT in factories by providing methods to use networks to visualize data and images and to link devices and machines, and providing contracted development of network devices.

Introduction of small-scale IIoT

Data from sensors and switches can be visualized by connecting digital signal converters (terminal modules) and analog signal converters to CC-Link family networks.

Connecting CC-Link devices to CC-Link IE TSN

Controlling CC-Link devices on the CC-Link IE TSN side: The lineup for CC-Link IE TSN is complemented.
Gradually replacing CC-Link with CC-Link IE TSN: The existing devices, wiring, and data can be utilized.

Traceability


RFID interface module

Using RF tags can associate data of history management with the related data and visualize the production operating ratio. Suitable devices can be selected from the extensive product lineup for the system.

Easy control of hydraulic pressure with SSCNETIII/H

SSCNET-compatible hydraulic control unit

A hydraulic cylinder, which is not compatible with SSCNETIII/H, can be connected to SSCNETIII/H. Interpolation control and advanced control are also available.

Open network connection

FL-net interface module

FL-net(OPCN-2) system can be configured using MELSEC iQ-R series.

Visualization of production sites using camera monitoring

Network camera interface module

Using this product with an HMI (GOT) enables checking images recorded by cameras, controlling camera shooting directions, or recording images when a downtime occurs.

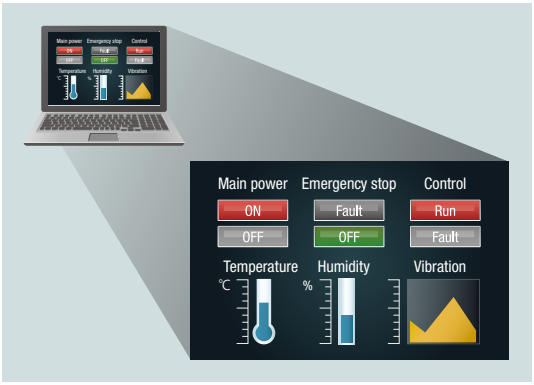
Network interface module

FA3-AT1C8X, etc.

Features of the network interface modules

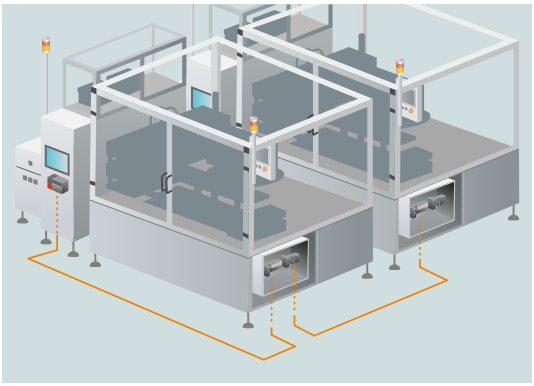
The interface module for signal converter easily connects analog signal converters and digital signal converters (terminal modules) to CC-Link family networks. Data is collected from devices, enabling small-scale IIoT.

Central control of data by small-scale IIoT



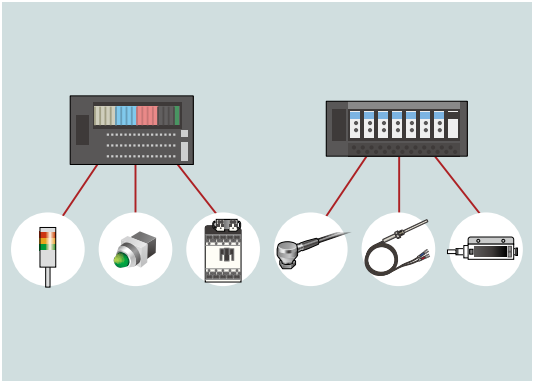
An analog signal converter connected to network digitalizes analog signals from devices such as flow/temperature sensors. Collected sensor data can be used to monitor the on-site operating conditions.

Saving cost and time for wiring in control panel and system



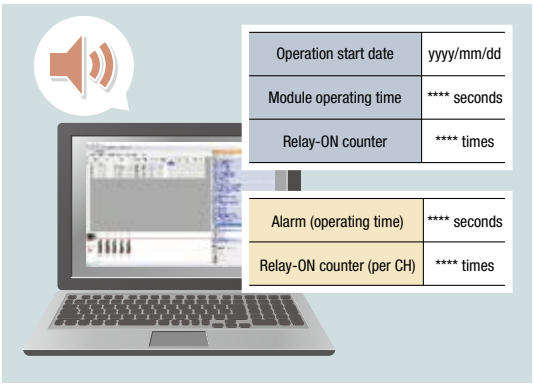
Devices can be easily installed at dispersed sites with network cables. Less wiring distances between devices reduce cost and time for wiring and cable routing.

Customization of output/conversion modules



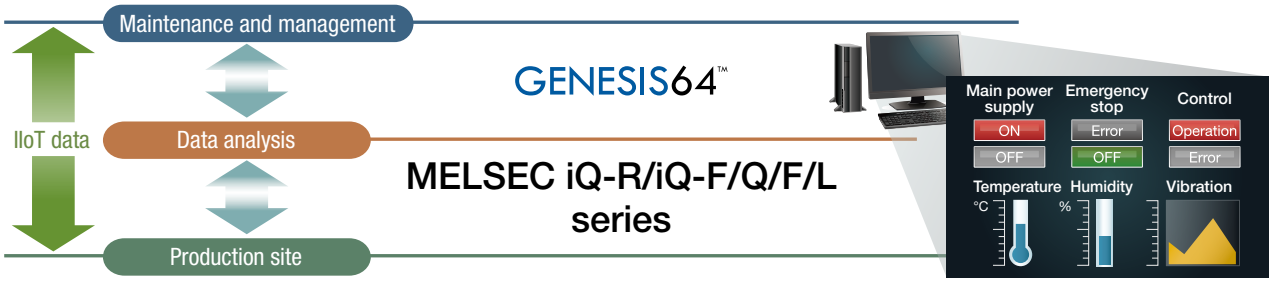
A digital signal converter (terminal module) and an analog signal converter can be customized according to application, as output modules and signal conversion modules can be combined separately.

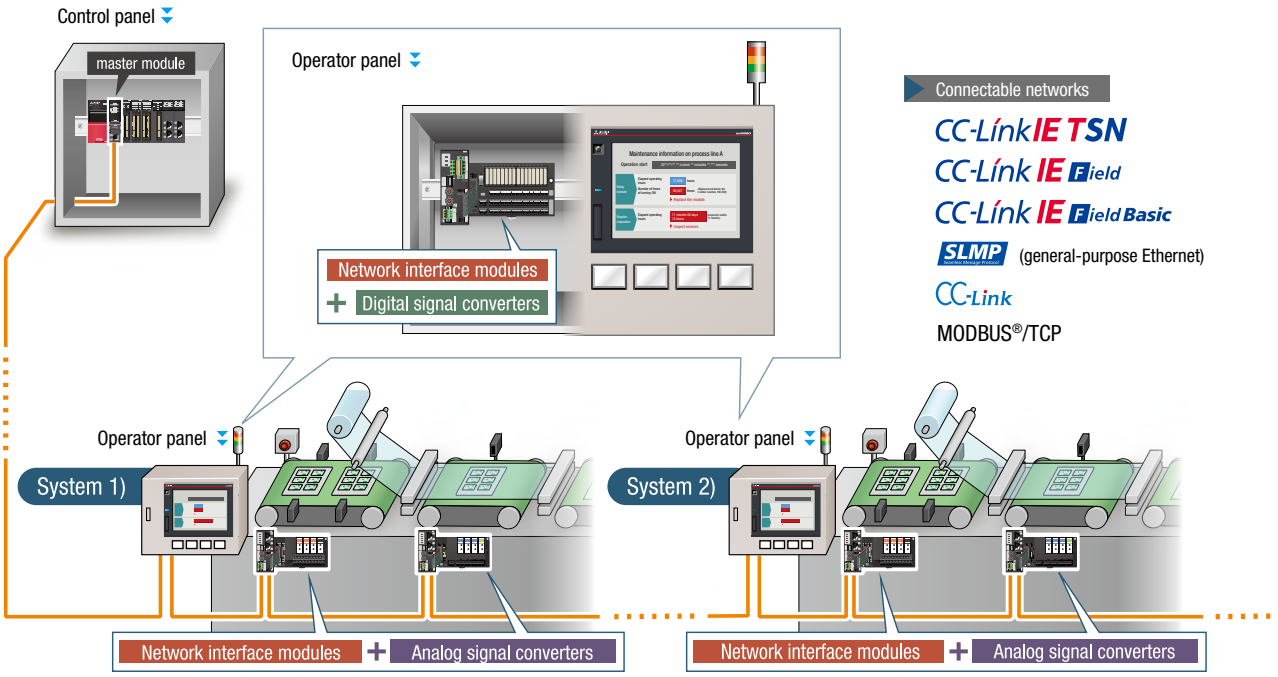
Supporting prediction maintenance



Temperature fluctuation and system operating conditions can be logged along the time axis. Prediction based on the logged data streamlines maintenance.

point Introduction examples ▶P.13





Slim control panel

One master module enables cable routing to devices and collects data from sensors.

Simple wiring

Devices and remote panels can be easily connected to the control panel with network cables.

Easy installation and inspection

Additional installation and inspection of devices can be performed independently from other systems, reducing working time and downtime.

Related products

			Supported network		
			CC-Link IE TSN CC-Link IE Field CC-Link IE Field Basic SLMP (general-purpose Ethernet) Modbus TCP/IP	CC-Link IE TSN CC-Link IE Field CC-Link IE Field Basic SLMP (general-purpose Ethernet)	CC-Link
Digital signal converter (terminal module)	Input (sink/source)	Connection cable included	FA3-TH1M16XC-01C	FA3-TH1T16XC-01C	FA3-TH1C16XC-01C
		Connection cable not included	FA3-TH1M16XC	FA3-TH1T16XC	FA3-TH1C16XC
	Output (sink)	Connection cable included	FA3-TH1M16Y-01C	FA3-TH1T16Y-01C	FA3-TH1C16Y-01C
		Connection cable not included	FA3-TH1M16Y	FA3-TH1T16Y	FA3-TH1C16Y
	Output (source)	Connection cable included	FA3-TH1M16YE-01C	FA3-TH1T16YE-01C	FA3-TH1C16YE-01C
		Connection cable not included	FA3-TH1M16YE	FA3-TH1T16YE	FA3-TH1C16YE
Analog signal converter	Input	Connection cable included	FA3-AT1M8X-01C	FA3-AT1T8X-01C	FA3-AT1C8X-01C
		Connection cable not included	FA3-AT1M8X	FA3-AT1T8X	FA3-AT1C8X
	Output	Connection cable included	FA3-AT1M8Y-01C	FA3-AT1T8Y-01C	FA3-AT1C8Y-01C
		Connection cable not included	FA3-AT1M8Y	FA3-AT1T8Y	FA3-AT1C8Y

SSCNET-compatible hydraulic control unit

DG2AF3N, etc.

Features of the SSCNET-compatible hydraulic control unit

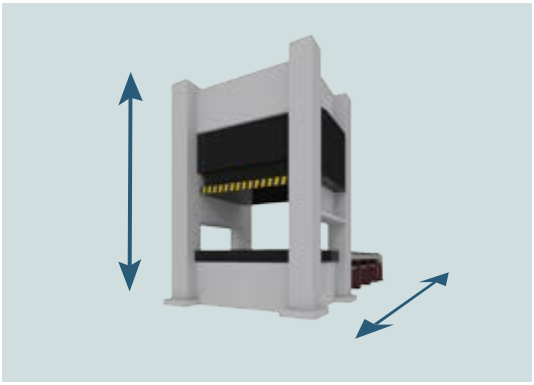
Positioning control or pressure control for hydraulic cylinder can be performed when the SSCNET-compatible hydraulic control unit is connected with a Motion controller or Simple Motion module through SSCNET III/H, Mitsubishi Electric servo system network.

Connectable models

Connectable products	
Motion controller	Q173DSCPU
	Q172DSCPU
	Q170MSCPU(-S1)
Simple Motion module	RD77MS□
	QD77MS□
	LD77MS□

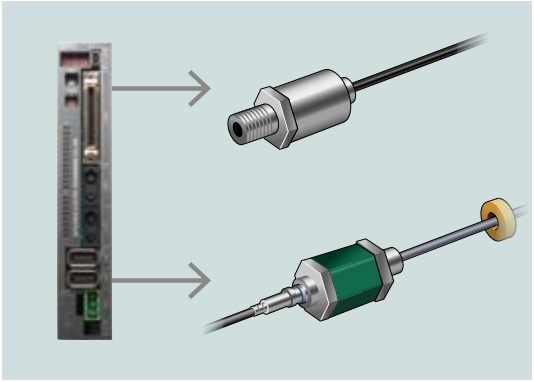
For details on the connectable Motion controller operating systems and Simple Motion modules, refer to our website.

Hybrid drive



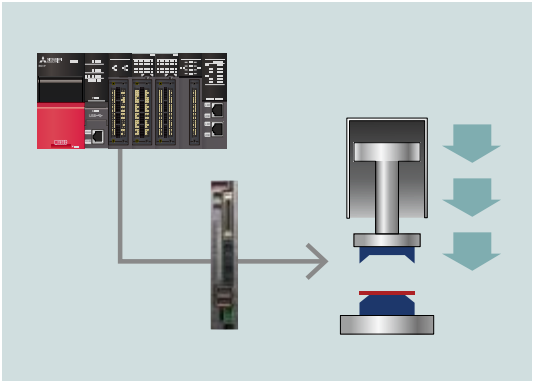
Interpolation control and synchronous control are available when a hydraulic cylinder and a servo motor are used.

Compatible position sensors



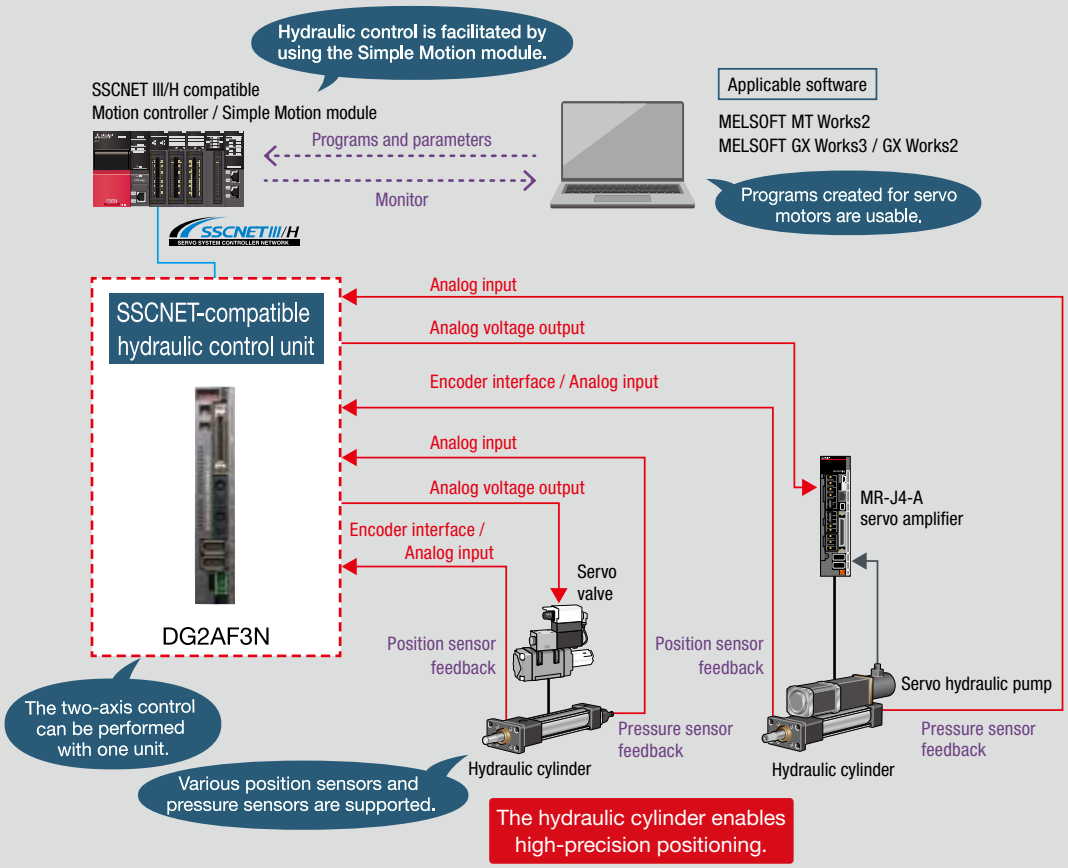
An analog input module (16-bit), a pulse encoder (A/B-phase), a Mitsubishi Electric serial encoder, and an SSI encoder can be used as a position sensor.

Pressure control without A/D converter module



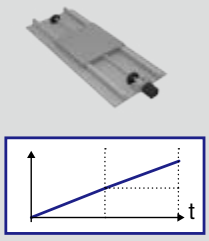
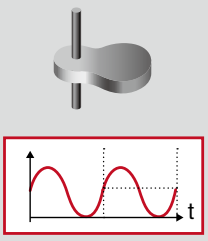
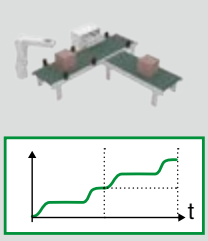
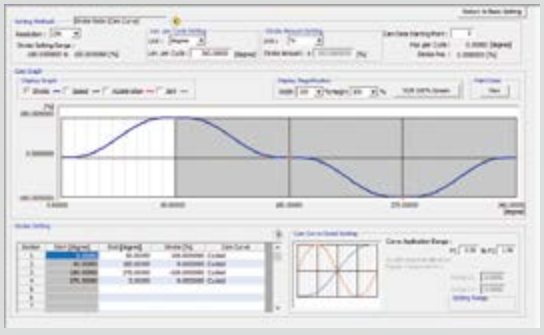
Pressure control is available with a Motion controller and a Simple Motion module.

System configuration example



In addition to the interpolation control, the advanced synchronous control are also available. Synchronous operation can be easily performed by parameter settings.

Linear motion	Reciprocating motion	Feed motion
Ball screw	Reciprocating cam	Belt conveyor

Related products

Item	Model	Specifications
SSCNET-compatible hydraulic control unit	DG2AF3N	Voltage analog input
	DG2AF3N-P01	Current analog input
Junction terminal block	DG2SV1TB	Our general-purpose interface amplifier junction terminal block (sink/source shared type, full signal) is available.
Connection cable for junction terminal block	DG4AF3CB05	Length: 0.5m
	DG4AF3CB10	Length: 1m

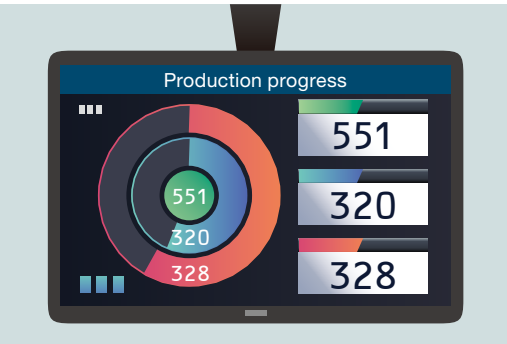
Products for monitoring and traceability

CHAPTER 03

Visualization (monitoring and diagnosis) of production sites

The idea of smart factory is leading to a new era of manufacturing, in which data and information can be shared between production sites and offices.
Our products enable visualization (monitoring and diagnosis) and sharing of various data and information, including the operating condition of each process, current state of production sites, and data from sensors.

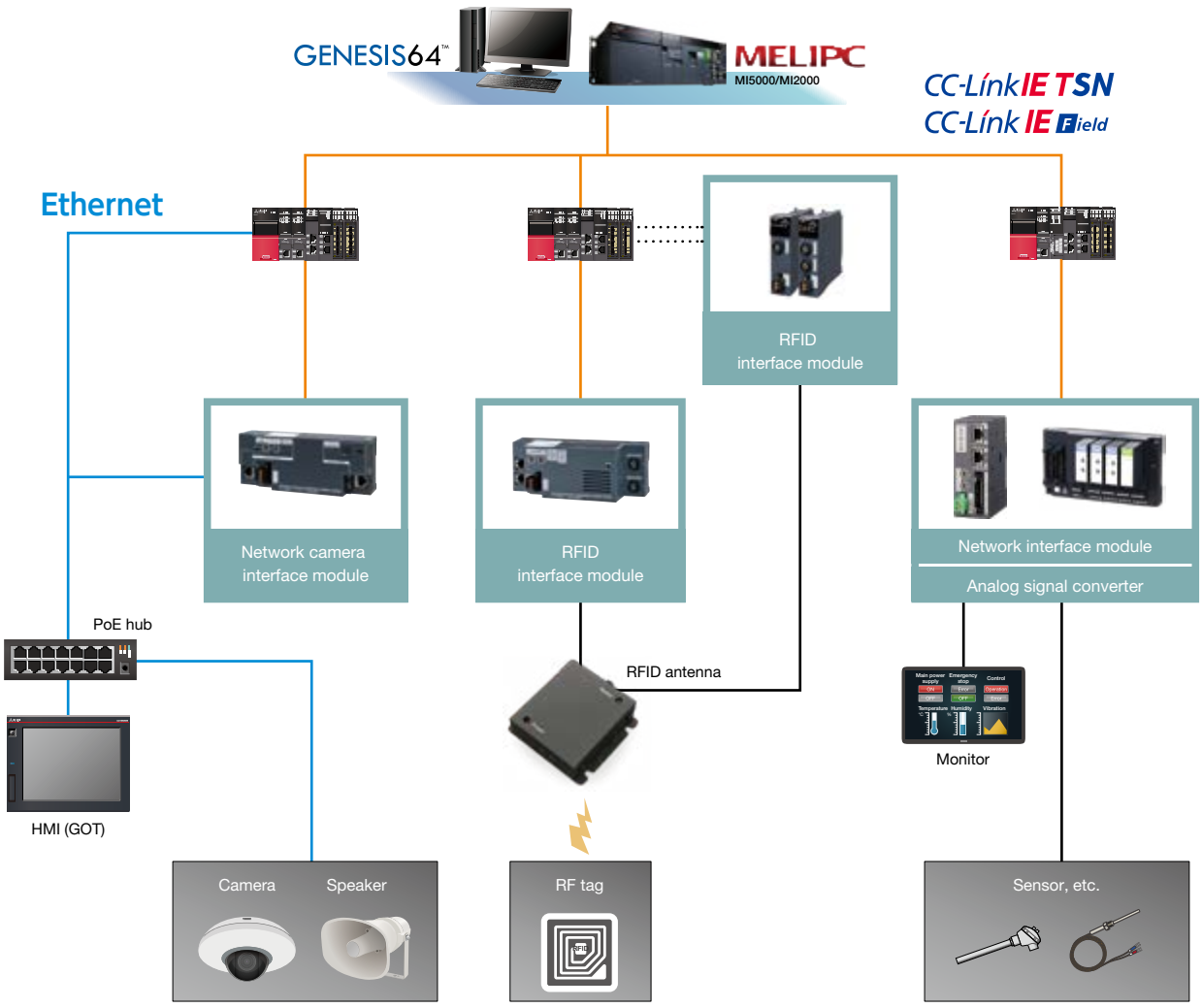
Monitoring and diagnosis



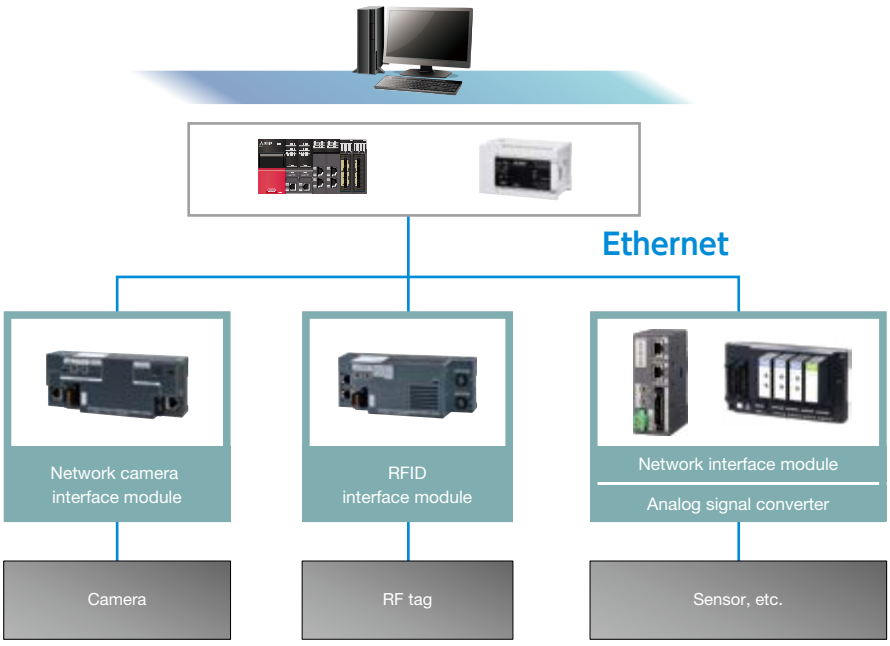
- "Writing commands for the production process" and "Reading data of the working process" using RF tags can be controlled together.
- Data is collected from sensors such as temperature sensors and flow sensors.

Cooperation with cameras enables display of images of the production site and a quick resolution of a downtime.

Factory



Building



Network camera interface module

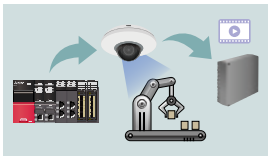
ECLEF-NV1G-04, etc.

Features of the Network camera interface module

The network camera interface module used with an HMI (GOT) enables checking images recorded by cameras, controlling camera shooting directions, or recording images when a downtime occurs.
This product can control network devices other than network cameras by using the Hypertext Transfer Protocol (Common Gateway Interface).

Displaying images

An operator can change camera shooting directions while checking images on the screen of the HMI (GOT).

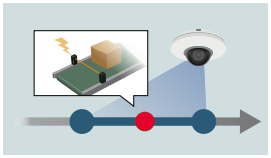


Sending commands for recording

Commands to start or stop recording can be sent.

Switching between cameras

The monitored image can be switched to images recorded by other cameras.



Monitoring for trouble analysis

When a trouble occurs, the production status before and after the trouble occurrence can be recorded and used for the trouble analysis.

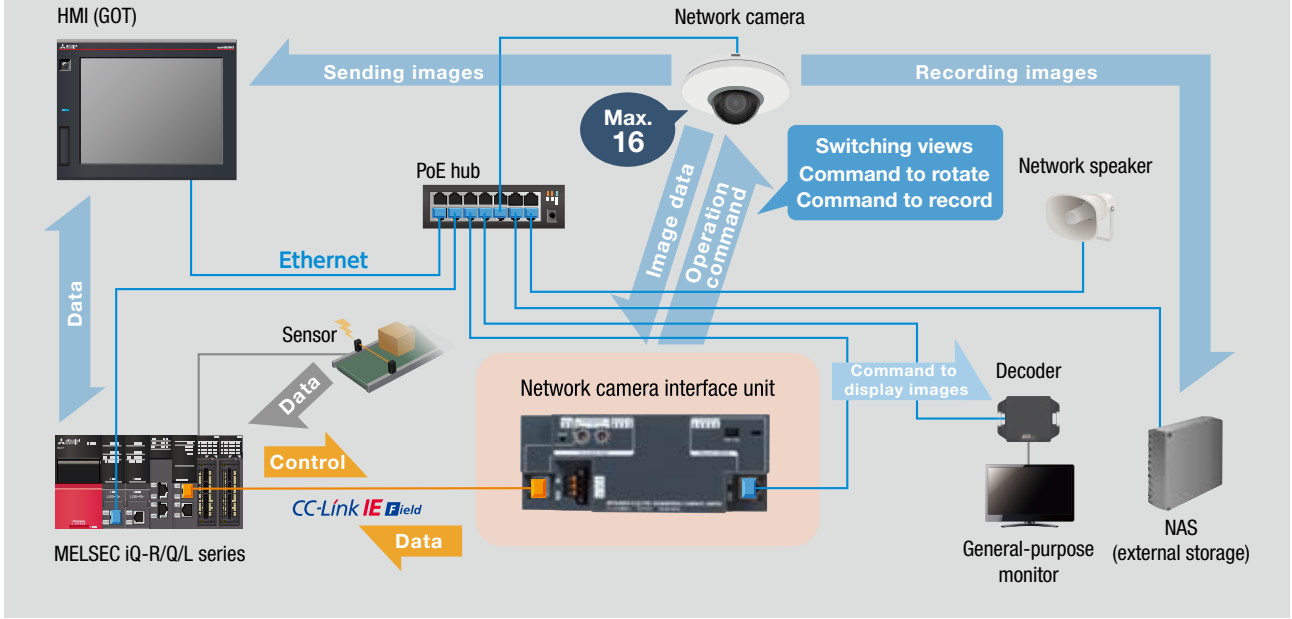
Large-scale split screen display

Images can be displayed on a split screen on the HMI (GOT) or a general-purpose monitor.

Voice messages via a speaker

Error messages or the like are given by voice using a network speaker.

System configuration example



Application example Temperature monitoring system

- The absolute temperature is obtained at a specified point within the shooting range. (The obtained temperature can be used as numerical value data.)
- Up to six temperature measuring ranges are set within the shooting range.
- The maximum temperature, minimum temperature, and average temperature are obtained for each temperature measuring range. (The obtained temperatures can be used as numerical value data).
- The MELSEC iQ-R/Q/L series can be notified of the alarms that the specified temperature or temperature change rate (°C/second) is exceeded.

■ Configuration example

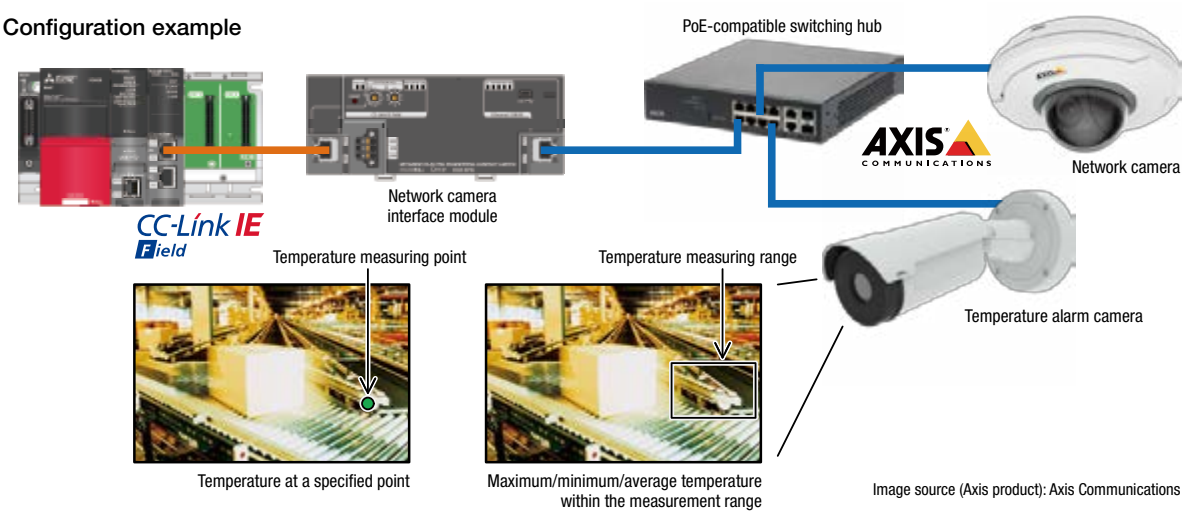


Image source (Axis product): Axis Communications

Application example General-purpose monitor display without a computer

- By using a network decoder, network camera images can be displayed on a general-purpose monitor without a computer.
- Up to 16 network cameras can be freely set for display.
- The display position and size can be freely set for each live image.

■ Configuration example

- The images displayed on the monitor can be changed by triggering signals that can be handled by the programmable controller, such as sensor input.
- A detection function (such as motion detection) equipped in the network camera can also be used as a trigger.

Image source (Axis product): Axis Communications

Upgrade tool products

CHAPTER 04

Upgrading system leading to smart factory

As operation in production lines must be stable, devices in the system should be replaced as required.
During replacement, a production line is stopped, resulting in production stop.
Replacement should be performed in as short time as possible.
Our products can minimize production line downtime.

To achieve sustainability

Our upgrade tool products require only a minimum of changes. The existing wiring and terminal blocks can be reused instead of being discarded, reducing the amount of plastic used.

e-F@ctory

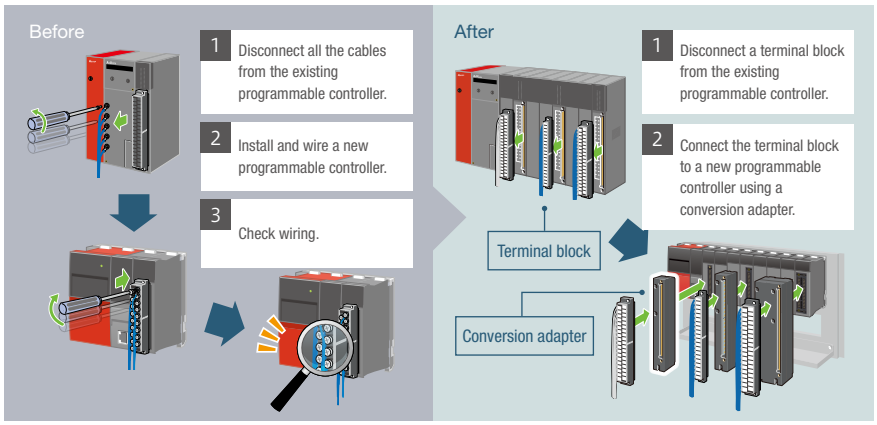
IIoT greatly affects industries in the world.
Manufacturing needs to be optimized by introducing IIoT throughout factories to survive the fierce competition.
Programmable controllers, which enable such optimization, can be easily replaced in short time.
Easy system upgrading will contribute to your first step to next-generation manufacturing.

Preventive maintenance

Programmable controllers and servo system contribute to manufacturing.
When devices are used for a long period of time, production line downtime at a failure may be prolonged due to supply stop of spare parts or other reasons.
The existing devices can be replaced separately to make downtime shorter.

Easy replacement with the newest programmable controller

The existing programmable controller can be replaced easily by using upgrade tool products. Wiring with conversion adapters requires only two steps to disconnect the existing programmable controller and install a new programmable controller.
Disconnecting and wiring all the cables, modifying cables, and checking wiring are not required.
Therefore, the wiring work time can be reduced significantly.



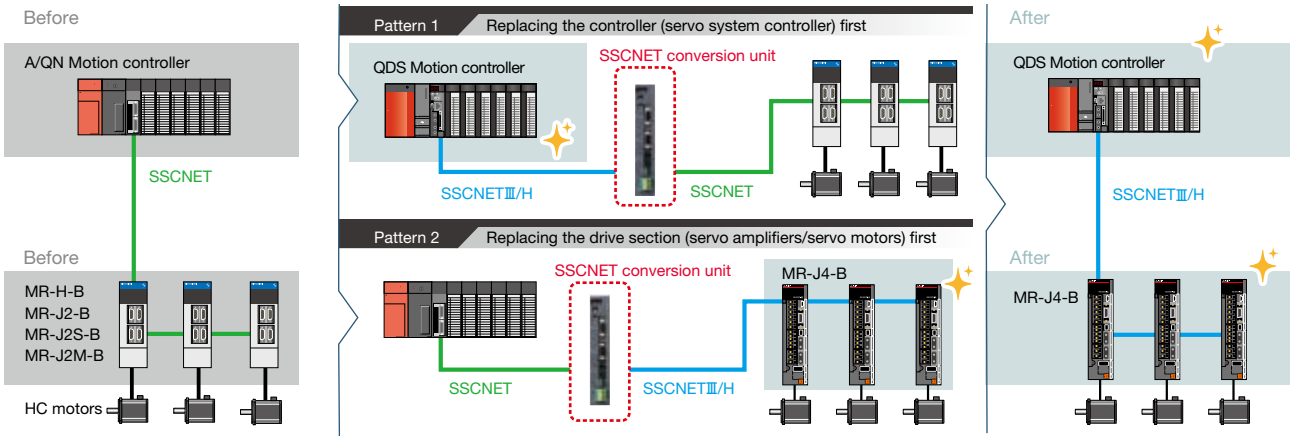
Replaceable combinations

Existing programmable controller	Replacing programmable controller
Mitsubishi Electric MELSEC-A/AnS series	MELSEC iQ-R series
	MELSEC-Q series
	MELSEC-L series
PLCs manufactured by OMRON*, YASKAWA, SHARP, or other manufacturers	MELSEC iQ-R series
	MELSEC-Q series

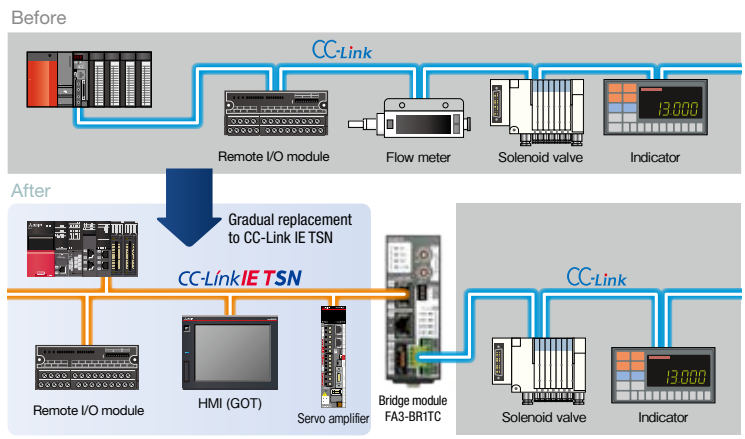
* Program converter is available for replacing OMRON's PLCs.

Replacing devices in servo system separately

The servo system controller (Motion controller or Simple Motion module) and servo amplifiers/motors can be replaced separately by using the SSCNET conversion unit.
Machine downtime is less than that when all devices are replaced all at once, and the cost can be divided.



Gradual replacement to CC-Link IE TSN *coming soon*



Although replacement to CC-Link IE TSN is planned to achieve an advanced smart factory, some required devices are not in the lineup.

- For the devices that are not in the CC-Link IE TSN lineup, the existing CC-Link devices can be used.
- Reusing devices reduces the amount of plastic used.
- Operation data of the existing system can be utilized in the new system.
- Before starting up the new system, operation can be verified using Mitsubishi Electric Gemini.

Easy selection

The selection tool on our website helps replace Mitsubishi Electric programmable controllers.
New modules and the upgrade tool products are displayed by selecting the model names of the existing MELSEC series modules.

www.mitsubishielectricengineering.com/sales/fa/meefan/

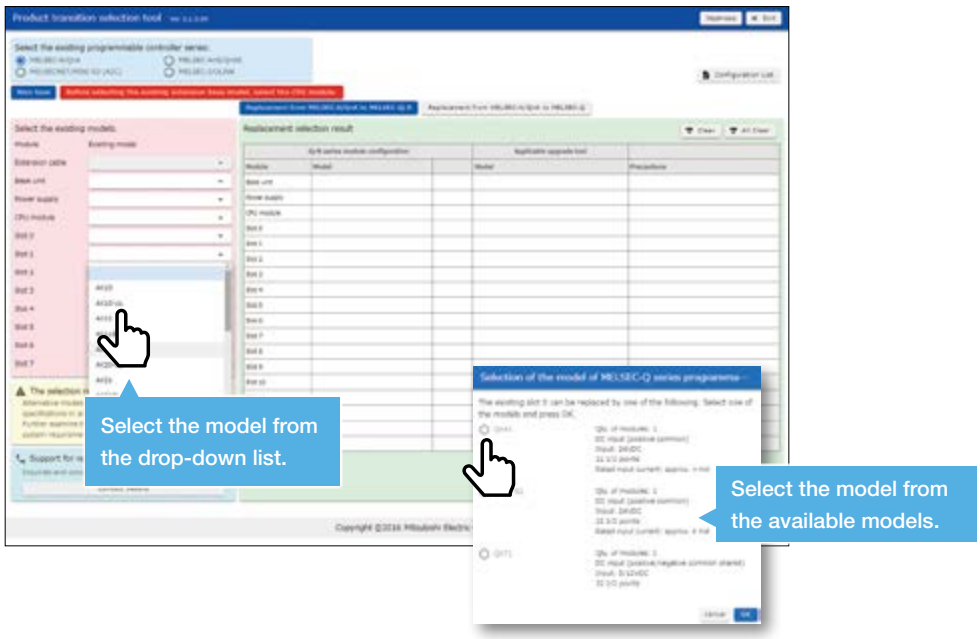
From our website
(www.mitsubishielectricengineering.com/sales/fa/meefan/)

1 Click "Tool for Programmable Controller upgrade (Upgrade Tool)".

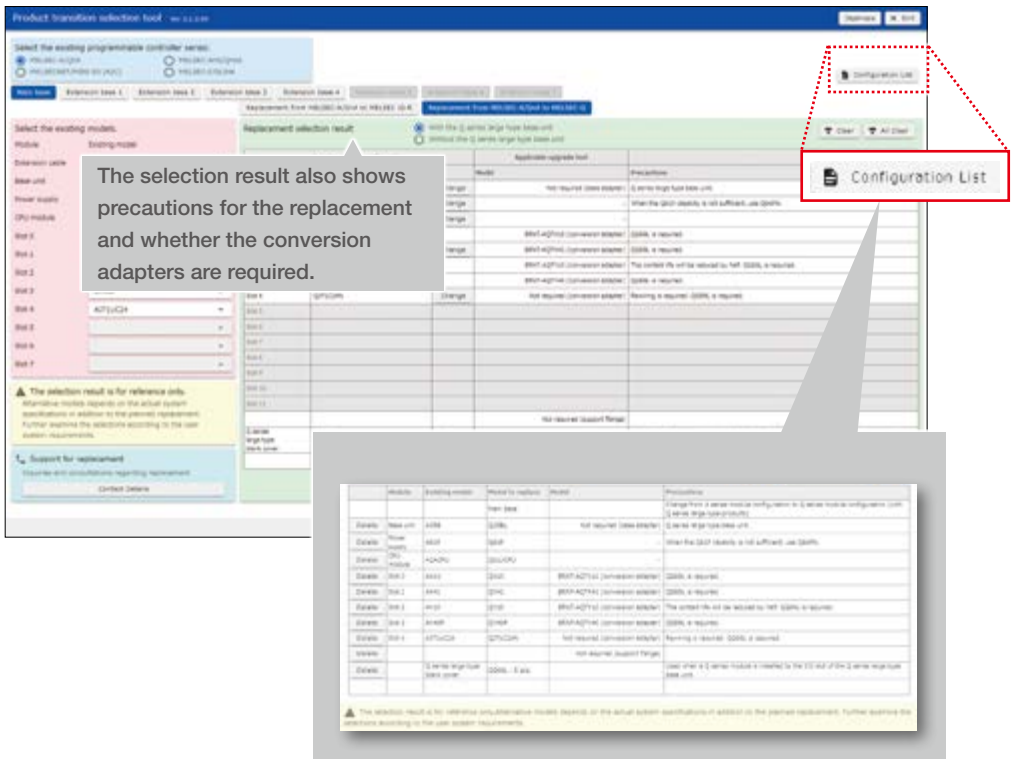
2 Click the [Product transition selection tool] button.

The product transition selection tool starts.

3 On the left of the window, select the model names of the existing MELSEC series modules from the drop-down lists.



4 After the existing modules are selected as required, new MELSEC series modules and the conversion adapters are displayed.



Products for system maintenance

CHAPTER 05

Stable operation for productivity improvement

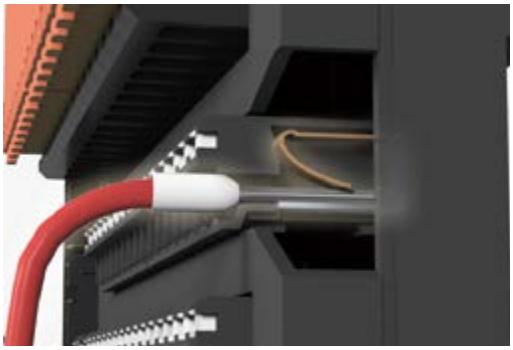
Product line downtime sometimes occurs unexpectedly.
Taking measures contributes to safe operation.

Voice alerts

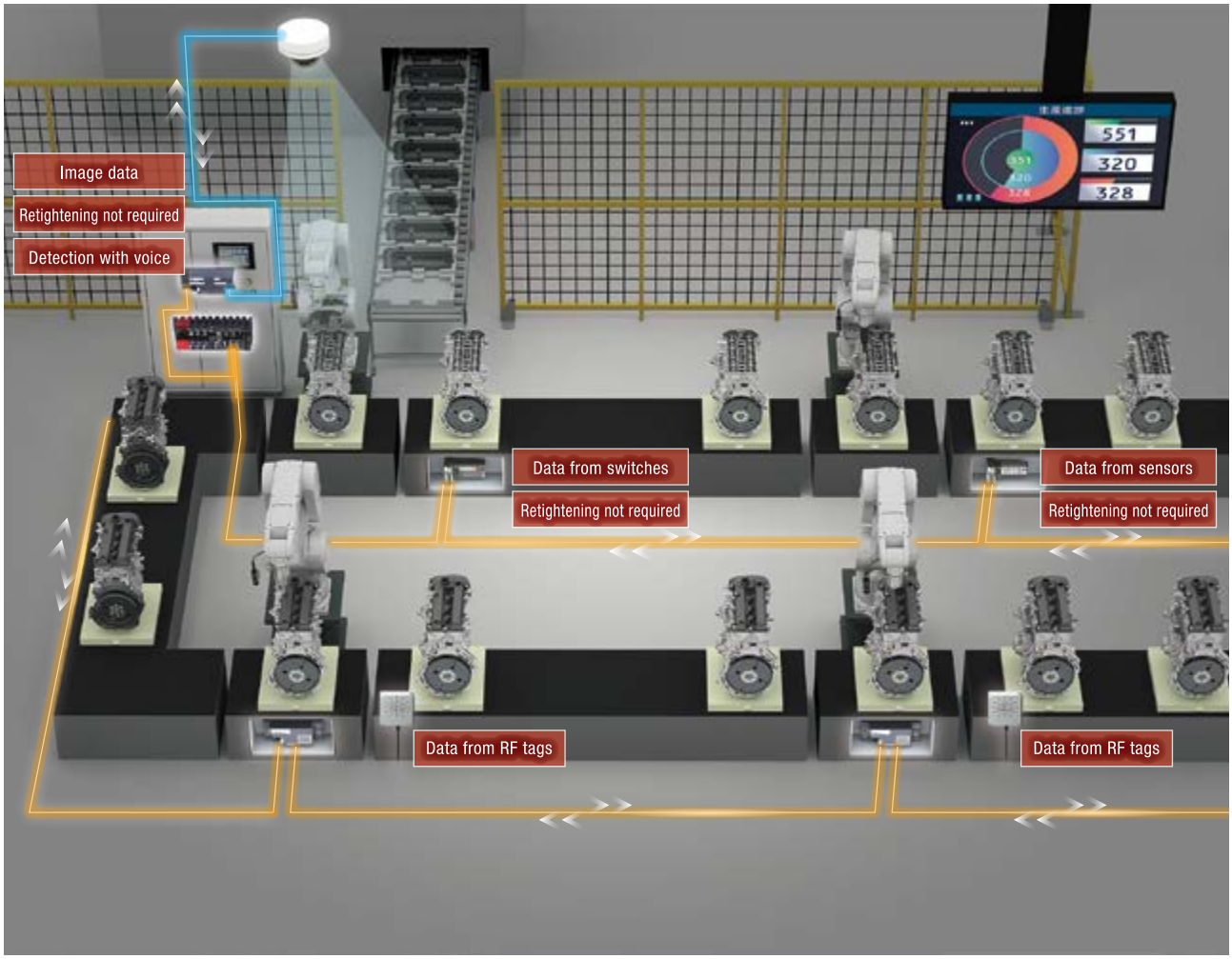

Panel mount HMI speaker

Voice alerts are given so that an operator away from the system can notice the alerts. Voice volume and language can be selected according to the operating environment.

No need for periodic screw retightening



Spring clamp junction terminal block, which does not require screws, eliminates risk of screw-loosening due to vibration. Therefore, screw tightening during maintenance is not required, reducing work load of workers.



Preventive maintenance by managing the number of uses


RFID interface module

Managing the number of uses of the life-expired parts by RFID and replacing the parts before the production line stops can reduce the risk of production line downtime.

Visualization of production sites using camera monitoring


Network camera interface module

Using this product with an HMI (GOT) enables checking images recorded by cameras, controlling camera shooting directions, or recording images when a downtime occurs.

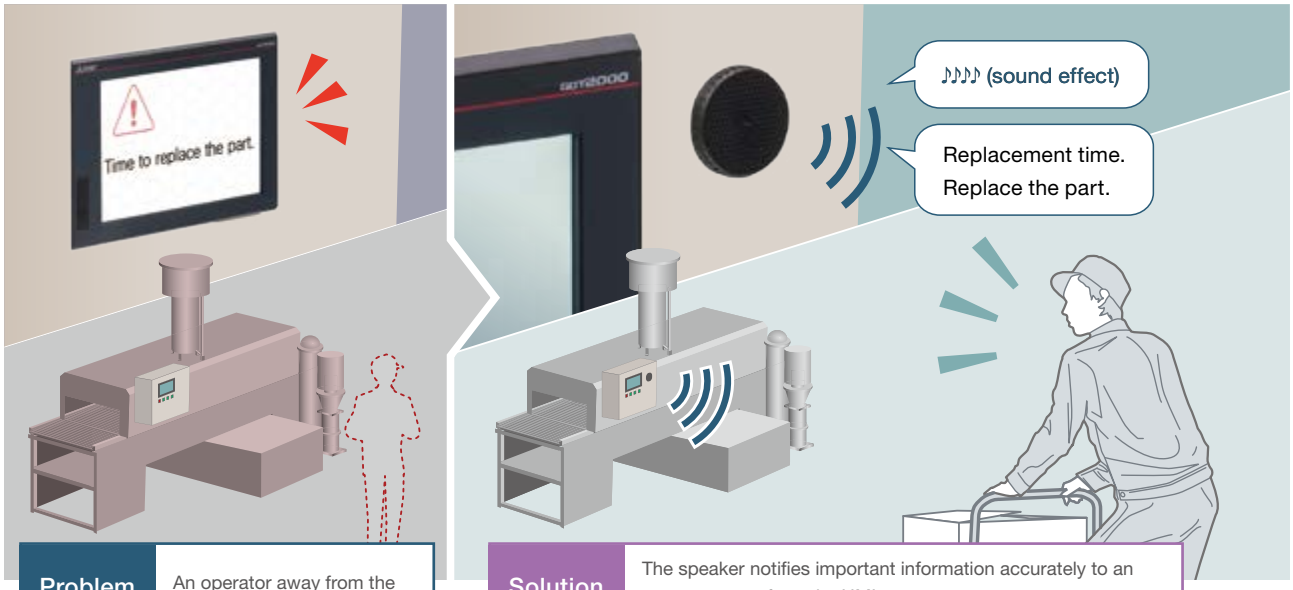
For details, refer to page 26.

Panel mount HMI speaker

FA1-GT0S04W

Features of the HMI speaker

Important information in production sites can be accurately notified to an operator by using the sound output function of the HMI speaker.



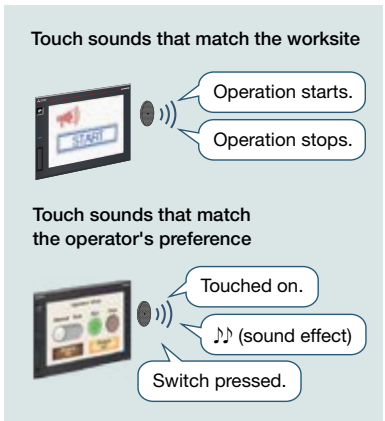
Problem

An operator away from the HMI may not notice information on the display.

Solution

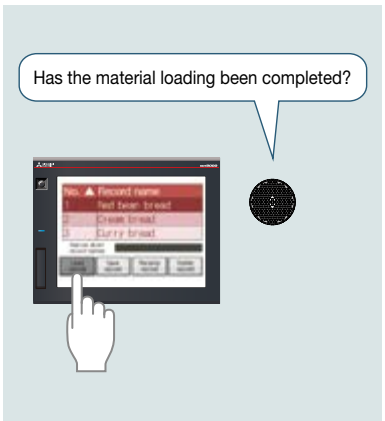
The speaker notifies important information accurately to an operator away from the HMI.
Maintenance/work efficiency will be improved.
(Sounds can be output in screen saver mode.)

Various touch sounds



Touch sounds can be changed depending on the worksite and operator's preference.

Incorrect operation prevention



When a touch switch is pressed, the next operation and precautions are voiced, which prevents incorrect operation.

Voice guidance

The announcement in multiple languages in order is available at a worksite where the operators speak in different languages.

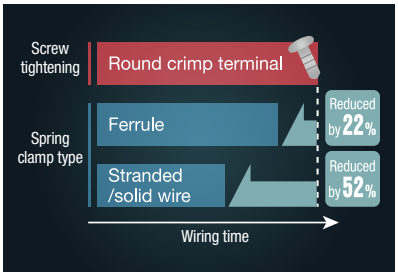
Spring clamp terminal block

FA1-TESV32XY, etc.

Features of the spring clamp terminal block

The spring clamp terminal block does not require screws.
Wires can be easily pushed into the conductive terminals without using a screwdriver.

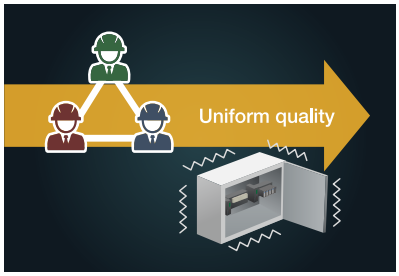
Easy wiring



Wiring time can be significantly reduced by push-in connection.

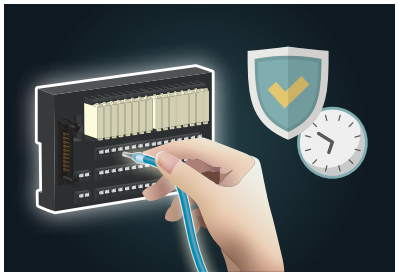
* Calculated by comparing the time taken by non-experts with two years of experience (Data sourced from Japan Switchboard & control system Industries Association)

Stable connection



Screws are vibration resistant. Uniform quality is guaranteed for wiring since no special skills are required.

Less maintenance

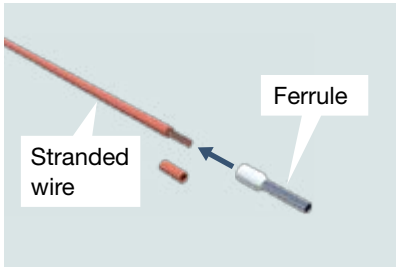


Screw tightening during maintenance is not required, reducing work load of workers. Rewiring work is also facilitated by push-in connection.

Wiring of the spring clamp terminal block

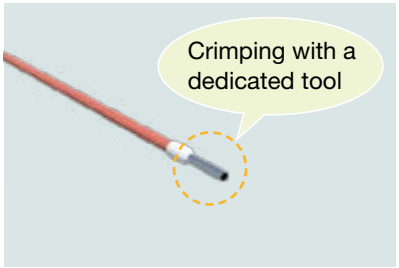
When using ferrule terminals

Step.1



Strip the stranded wire sheath, and then insert the ferrule solderless terminal.

Step.2



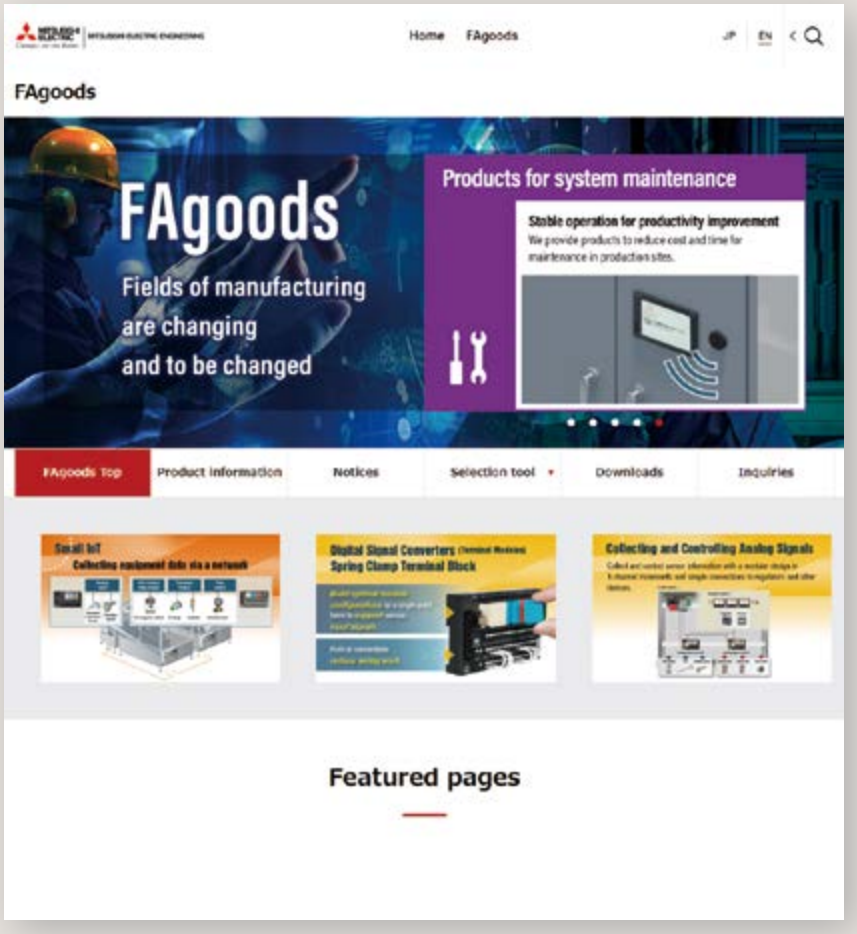
Crimp the terminal with a dedicated tool.

Step.3

Wiring is completed by simply inserting the ferrule solderless terminal into a conductive terminal without using a screwdriver.

MEEFAN (FAgoods)

MEEFAN is the information web portal on which product information and technical information of our FAgoods products are provided and catalogs can be downloaded.
Selection tool which helps select the products from a wide lineup is also provided.



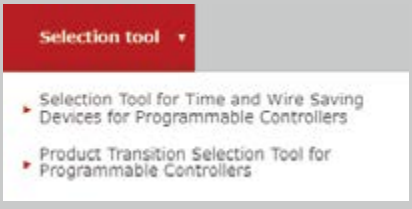
Home page of MEEFAN

Our products are introduced at the top of the homepage.
As FA related products, for example, information on solutions to issues with devices and situations are provided.

Access

www.mitsubishielectricengineering.com/sales/fa/meefan/

contents



Selection Tool for Time and Wire Saving Devices for Programmable Controllers

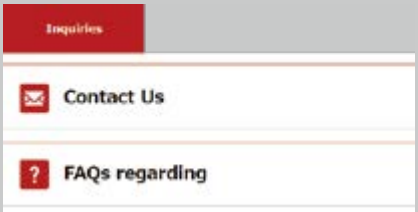
The connectable models are displayed by entering/selecting the model name of the programmable controller or HMI without login.

P.8 to 9

Product Transition Selection Tool for Programmable Controllers

Required products are displayed by selecting the model name of the existing programmable controller without login.

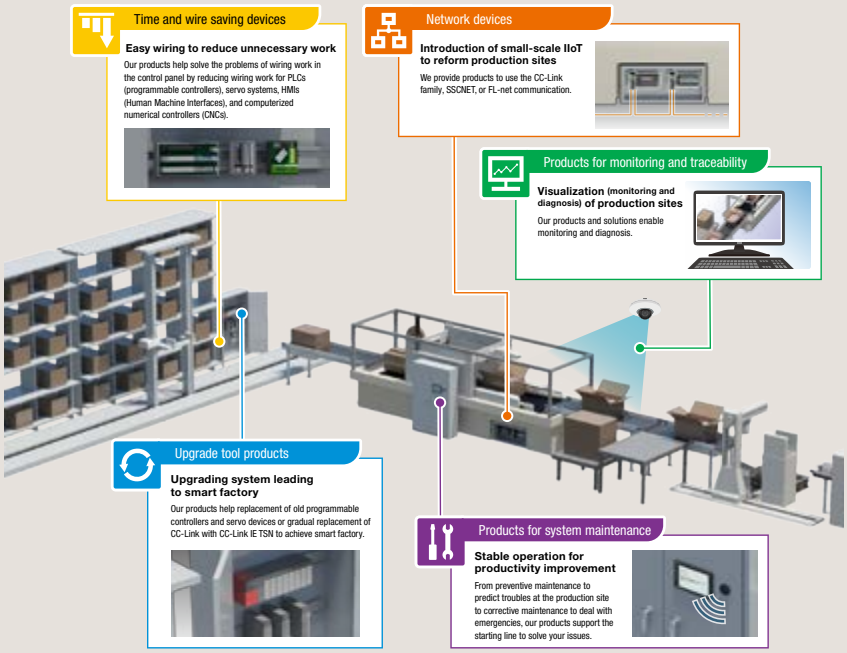
P.28 to 29



Inquiries

You can contact us for inquiries about "Product purchase", "Products and services", and "Technical contents".
Frequently asked questions are found in FAQs regarding.

Five methods for smart factory

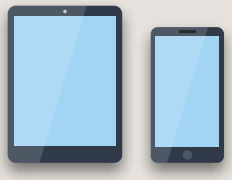


Five categories

Products are categorized into five groups. You can select a category and access product pages.
Product pages are also accessed from the model name search or the product list.

Personal computer

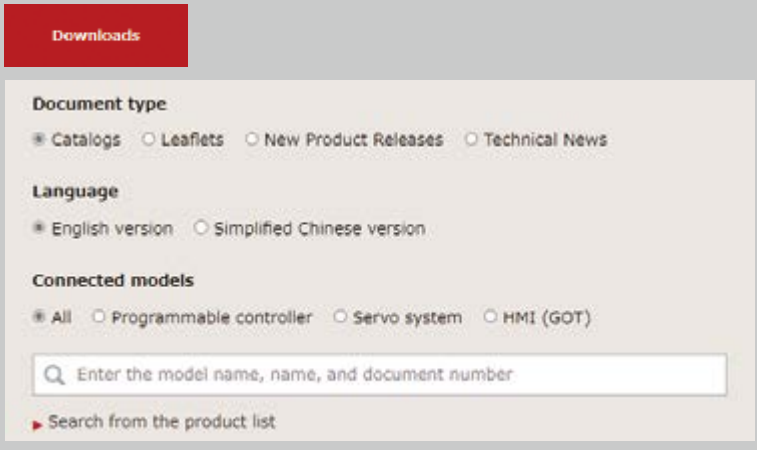
Tablet



Display suitable for device

The website display size is automatically adjusted in accordance with the device such as a personal computer and a tablet including a smartphone.

contents



Downloads

The search can be narrowed down by selecting the document type, language, and connected models.
The search by entering a keyword is also available.

Related products

Leaflets

Network interface module

Digital signal converter

Analog signal converter

Spring clamp junction terminal block for Mitsubishi Electric AC servo system

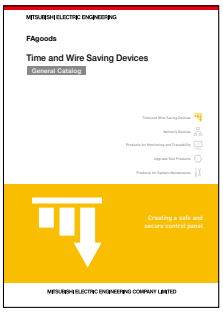
SSCNET-compatible hydraulic control unit

Junction Terminal Block Spring Clamp Terminal Type

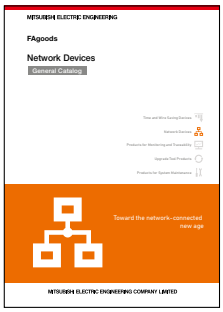
Catalogs

Digest edition

Time and wire saving devices



Network devices



Upgrade tool products

MITSUBISHI ELECTRIC ENGINEERING COMPANY LIMITED

NAGOYA ENGINEERING OFFICE | 1-9, Daiko-Minami, 1-Chome, Higashi-ku, Nagoya, Aichi 461-0047 Japan

www.mitsubishielectricengineering.com/sales/fa/meefan/ ►

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For safe use

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric Engineering.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

MEIC198E･209B

Published in March 2024
Specifications are subject to change without notice.