MITSUBISHI ELECTRIC
Changes for the Better

for a greener tomorrow **eco** Changes

MELSEC iQ-R Series
iQ Platform-compatible PAC

iF DESIGN AWARD 2015

GOOD DESIGN AWARD 2014

Concise

Bridging the next generation of automation

MELSEC iQ-R series

Revolutionary

iQ Platform

Revolutionary, next-generation controllers building a new era in automation

MELSEC iQ-R series

As the core for next-generation automation environment, realizing an automation controller with added value while reducing TCO*

To succeed in highly competitive markets, it's important to build automation systems that ensure high productivity and consistent product quality. The MELSEC iQ-R Series has been developed from the ground up based on common problems faced by customers and rationalizing them into seven key areas: Productivity, Engineering, Maintenance, Quality, Connectivity, Security and Compatibility. Mitsubishi Electric is taking a three-point approach to solving these problems: **Reducing TCO***, increasing **Reliability** and **Reuse** of existing assets.

As a bridge to the next generation in automation, the MELSEC iQ-R Series is a driving force behind **revolutionary** progress in the future of manufacturing.

*TCO: Total cost of ownership

Productivity

Improve productivity through advanced performance/ functionality

- New high-speed system bus realizing shorter production cycle
- Super-high-accuracy motion control utilizing advanced multiple CPU features
- Inter-modular synchronization resulting in increased processing accuracy
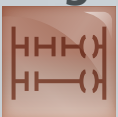
Maintenance

Reduce maintenance costs and downtime utilizing easier maintenance features

- Visualize entire plant data in real-time
- Extensive preventative maintenance functions embedded into modules

Engineering

Reducing development costs through intuitive engineering

- Intuitive engineering environment covering the product development cycle
- Simple point-and-click programming architecture
- Understanding globalization by multiple language support
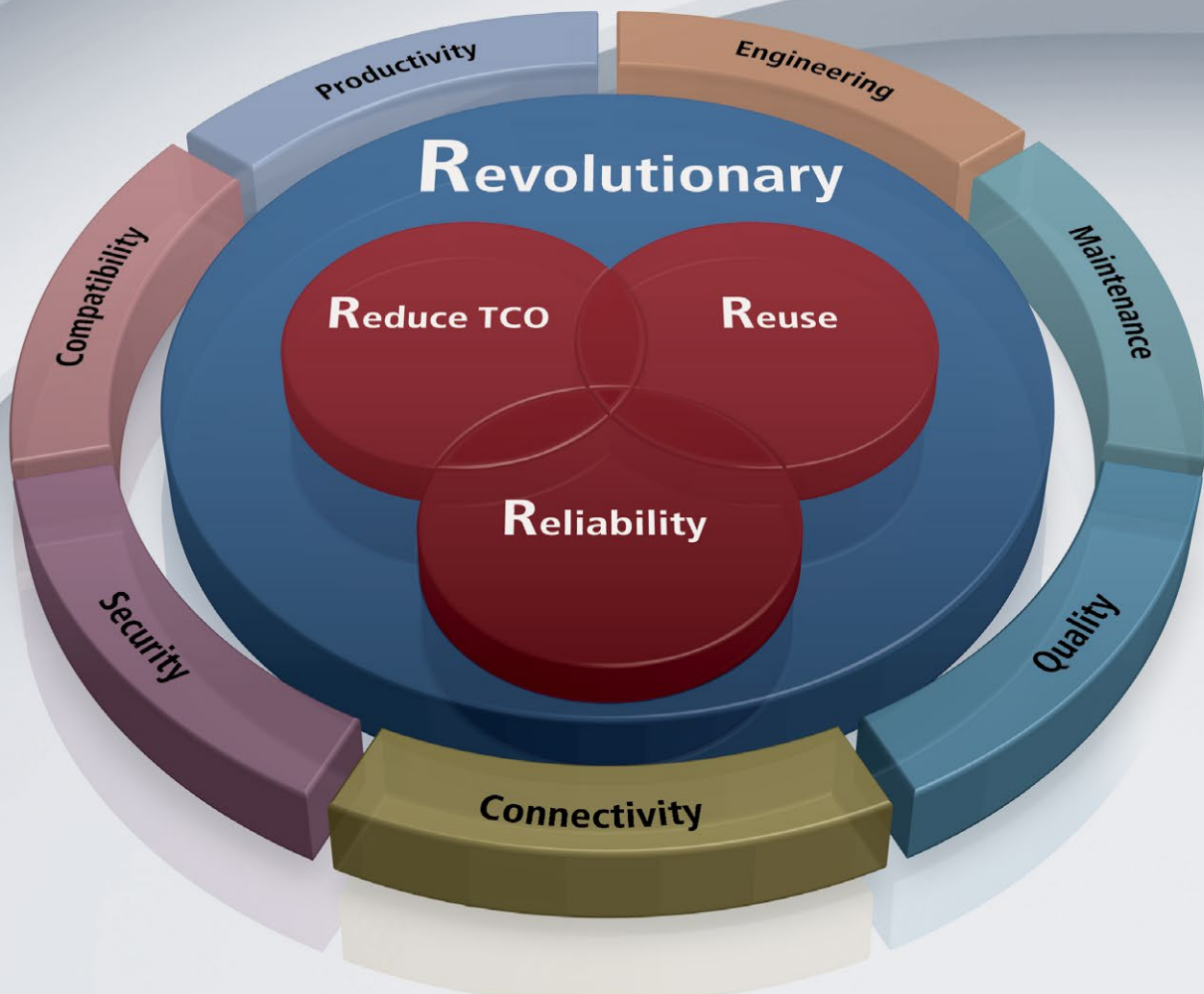
Quality

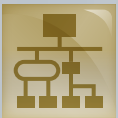**Reliable and trusted MELSEC product quality**

- Robust design ideal for harsh industrial environments
- Improve and maintain actual manufacturing quality
- Conforms to main international standards

Productivity · Engineering · Maintenance · Quality · Connectivity · Security · Compatibility

Revolutionary
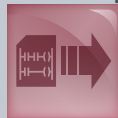
- **R**educe TCO
- **R**euse
- **R**eliability

Connectivity

Seamless network reduces system costs

- Seamless connectivity within all levels of manufacturing
- High-speed and large data bandwidth ideal for large-scale control systems
- Easy connection of third-party components utilizing device library

Compatibility

Extensive compatibility with existing products

- Utilize existing assets while taking advantage of cutting-edge technology
- Compatible with most existing MELSEC-Q Series I/O
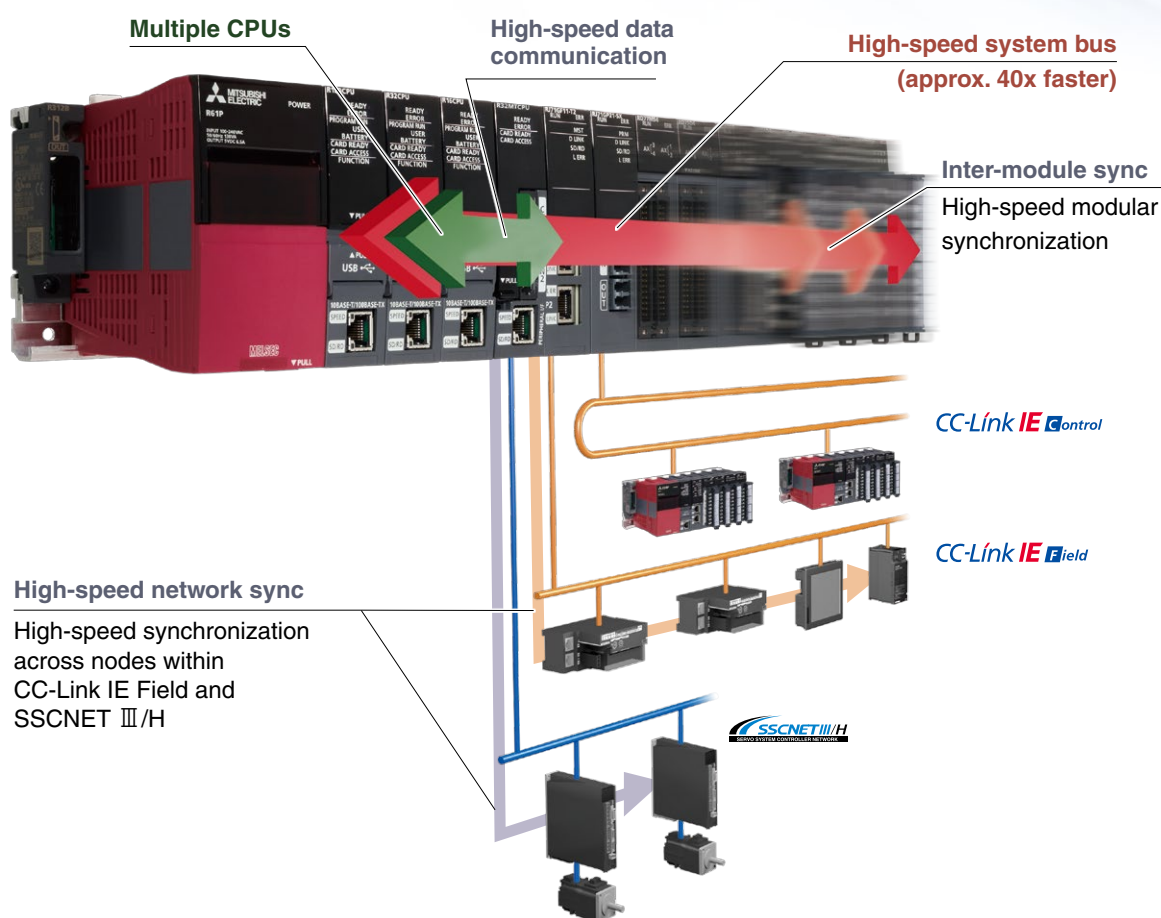
Security

Robust security that can be relied on

- Protect intellectual property
- Unauthorized access protection across distributed control network

⚙ Productivity

Improve productivity through advanced performance/functionality

Integrating high-performance capabilities based on the high-end iQ-R system bus,
high-speed network, and an advanced motion control system;
applications requiring these characteristics can be easily realized using
the MELSEC iQ-R Series as the core of the automation system.

Multiple CPUs

High-speed data communication

High-speed system bus (approx. 40x faster)

Inter-module sync
High-speed modular synchronization

CC-Link **IE** Control

CC-Link **IE** Field

High-speed network sync

High-speed synchronization across nodes within CC-Link IE Field and SSCNET Ⅲ/H

SSCNET Ⅲ/H
SERVO SYSTEM CONTROLLER NETWORK

New high-speed system bus realizes improved production cycle

The newly developed high-speed system bus is 40-times faster compared to existing models, realizing very fast and large-capacity data processing between modules (network, I/O, multi-CPU, etc.), enabling the optimum utilization of MELSEC iQ-R Series performance and functionality.

High-speed system bus
40x faster*1

Multi-CPU system realizes very accurate motion control

By supporting synchronized data communications between the programmable controller CPU and motion CPU via the high-speed system bus, performance is improved by up to four times compared to existing models, easily realizing super-high motion control accuracy.

Synchronized data exchange with motion CPU
4x faster*2

*1: Compared to MELSEC-Q Series.
*2: Compared to Q173DSCPU/Q172DSCPU.

Mitsubishi Electric PAC MELSEC iQ-R
"Productivity" Movie

Inter-modular synchronization realizes increased processing accuracy

More flexible control over performance

Realizing high processing accuracy could not be any simpler when utilizing the inter-modular synchronization feature, which enables precise data synchronization between controller CPUs and various interface modules via the high-speed system bus (backplane). In addition, network level synchronization (both CC-Link IE Field and SSCNET Ⅲ/H) is now possible, realizing deterministic performance by ensuring synchronization between nodes without being influenced by varying network transmission delays.

New controller performance architecture further reduces H/W costs

High-speed processing of structured programs

The processing performance of the controller CPU has been substantially enhanced thanks to the newly designed CPU engine. The memory consumption for program and internal devices used in function block (FB) and structured text (ST) programs have been improved. This results in one CPU being able to do the job that used to require several CPUs in order to achieve the expected performance level and memory capacity.

Built-in database eliminates the need for a PC-based database server

Recipe data and production results data, previously managed using a database server, can now be managed via the database in the programmable controller. Use of dedicated commands for the built-in database makes it easy to search, add and update data on the fly.
Furthermore, the import/export correlation with spreadsheet software is made easier.

Realize high-speed system performance

Approx. **8X** faster than **QCPU***3

Data management realized with built-in database

- Recipe
- Production data

- Realizes high-speed control performance
- Inherits MELSEC-Q Series functions
- Large-capacity memory ideal for large-scale control

- Easy to switch between recipes
- Realize product batch control
- Efficiently switch between systems

LD instruction speed	PC MIX*4 (instructions/μs)	Fixed-cycle interrupt program	ST instruction (IF text, bit condition)	Program capacity
0.98 ns	**419**	**50** μs	**8** ns	**1200K** steps

*3: Based on a typical application example, the system benchmark test measures the CPU scan time, taking into consideration the network refresh time and monitoring processing time with external devices as compared to Universal model QCPU (QnUDEHCPU).
*4: Average number of instructions such as for basic instructions and data processing executed in 1μs (the larger the value, the faster the processing speed).

Engineering

Reducing development costs through intuitive engineering

The engineering software is sometimes considered a fundamental part of the control system in addition to the hardware components. The core of the system, it includes various steps of the product life cycle, from the design stage all the way to commissioning and maintenance of the control system. Today, intuitive, easy-to-use software suites are expected as a standard for modern manufacturing needs. GX Works3 is the latest generation of programming and maintenance software offered by Mitsubishi Electric specifically designed for the MELSEC iQ-R Series control system. It includes many new features and technologies to ensure a trouble-free engineering environment solution.

Intuitive engineering software covering the product development cycle

Graphic-based configuration realizing easier programming

Various intuitive features such as graphic-based system configuration and an extensive module library (module label/FB) provided as standard.

Integrated motion-control system configuration

From setting simple motion module parameters and positioning data setup to servo amplifier configuration, everything is packaged into an easy-to-use engineering environment.

Conforms to IEC 61131-3

GX Works3 realizes structured programming such as ladder and ST, making project standardization across multiple users even easier.

Simple point and click programming architecture

System design \ Programming \ Debug/maintenance

Straightforward graphic based system configuration design

- Simply drag and drop from the module list to easily create system configuration
- Directly setup parameters for each module
- Automatically reflect changes in the layout to the module parameters

System design \ **Programming** \ Debug/maintenance

MELSOFT library enables efficient programming through "Module Label/FB"

- Assign convenient label names to internal devices, rather than manually entering a device name every time.
- Simply drag & drop module FBs from the MELSOFT Library directly into the ladder program, making programming even easier.

System design \ Programming \ **Debug/maintenance**

Extensive version control features

- Flexibly register program change (historical) save points
- Easily visualize and confirm program changes

Simple motion setting tool
Easily configure the simple motion module with this convenient integrated tool.
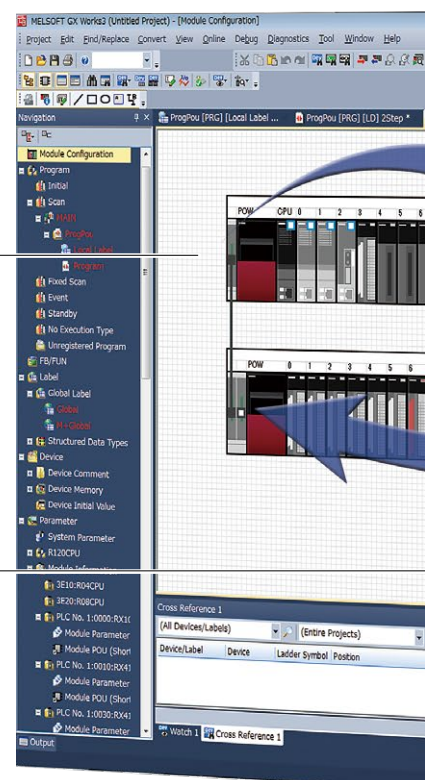
Tab view multiple editors
Conveniently work on multiple editors without having to switch between software screens.

Module configuration
Easily parameterize each module directly from the configuration editor.

Module list
Simply drag & drop modules directly into the module configuration.

Mitsubishi Electric PAC MELSEC iQ-R
"Engineering" Movie

GX Works3

One Software, Many Possibilities

Reduce engineering time by 60%*1

Global realization by multi-language support

To adhere to today's global production needs, GX Works3 supports multi-language features at various levels, from the multiple language software menu system to device comment language switching features.

Module label/FB

Automatically generate module function blocks simply by selecting one and placing it directly into the ladder editor.
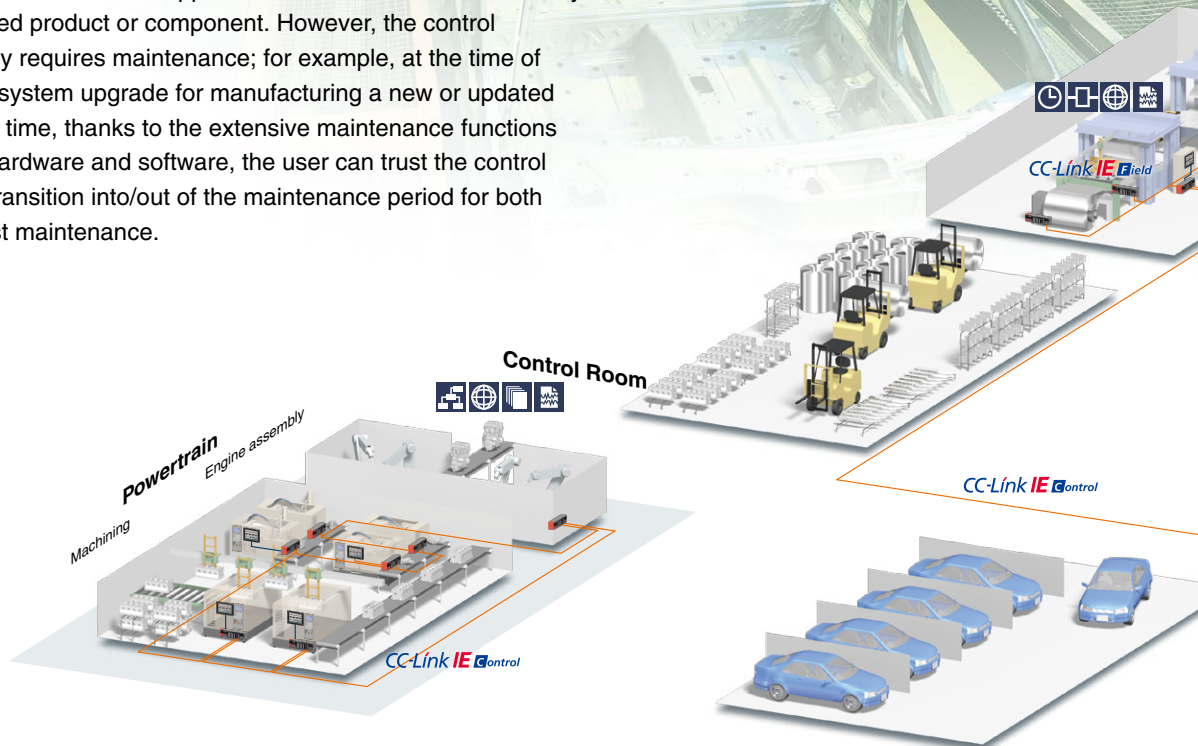
*1 Based on new project test benchmarks between GX Works2 and GX Works3.

Maintenance

## Reduce maintenance costs and downtime utilizing easier maintenance features

A manufacturing plant is seldom stopped or taken offline and continuously produces the desired product or component. However, the control system occasionally requires maintenance; for example, at the time of a faulty product or system upgrade for manufacturing a new or updated component. At that time, thanks to the extensive maintenance functions embedded in the hardware and software, the user can trust the control system to handle transition into/out of the maintenance period for both preventive and post maintenance.

CC-Link **IE** **F**ield

Control Room

Powertrain
Engine assembly
Machining

CC-Link **IE** **C**ontrol

CC-Link **IE** **C**ontrol

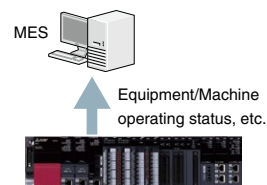### Preventive maintenance — CPU module

Visualize manufacturing data in real-time

- Monitor live manufacturing process data across the plant
- Very easy setup using the dedicated GX LogViewer monitoring tool

Real-time monitor
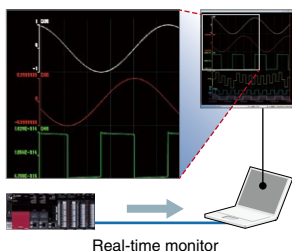
Preventive maintenance — MES interface module

Direct access to enterprise level

- Registers device values directly into database
- Visible shop floor data enables actions before event occurs

MES

Equipment/Machine operating status, etc.

Preventive maintenance — Output module

Prevent system downtime with relay monitoring

- Monitors relay switching amount
- Check relay condition from GOT (HMI)
- Plan module maintenance prior to malfunction of relay

Error occurrence	Error location	Specific I/O	Error information
Dec 12 13:10:30	Main Base	0010	Y04 Relay ON Upper limit exceeded
Dec 12 13:20:30	Main Base	0010	Y05 Relay ON Upper limit exceeded

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Corrective maintenance — CPU module

Memory dump enables confirmation of operation problems

- Saves block of device data when error occurs
- Root cause analysis by confirming data on device monitor screen

Memory dump results
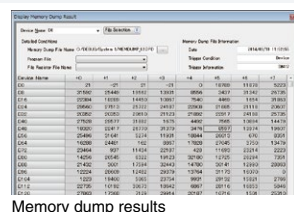
Mitsubishi Electric PAC MELSEC iQ-R
"Maintenance" Movie

Control Room

Body Shop

Press Shop

Paint Shop

E-Coat (electro-deposition)

Painting

Ethernet

Curing

Assembly

Andon

Engine installation

Exterior

Interior

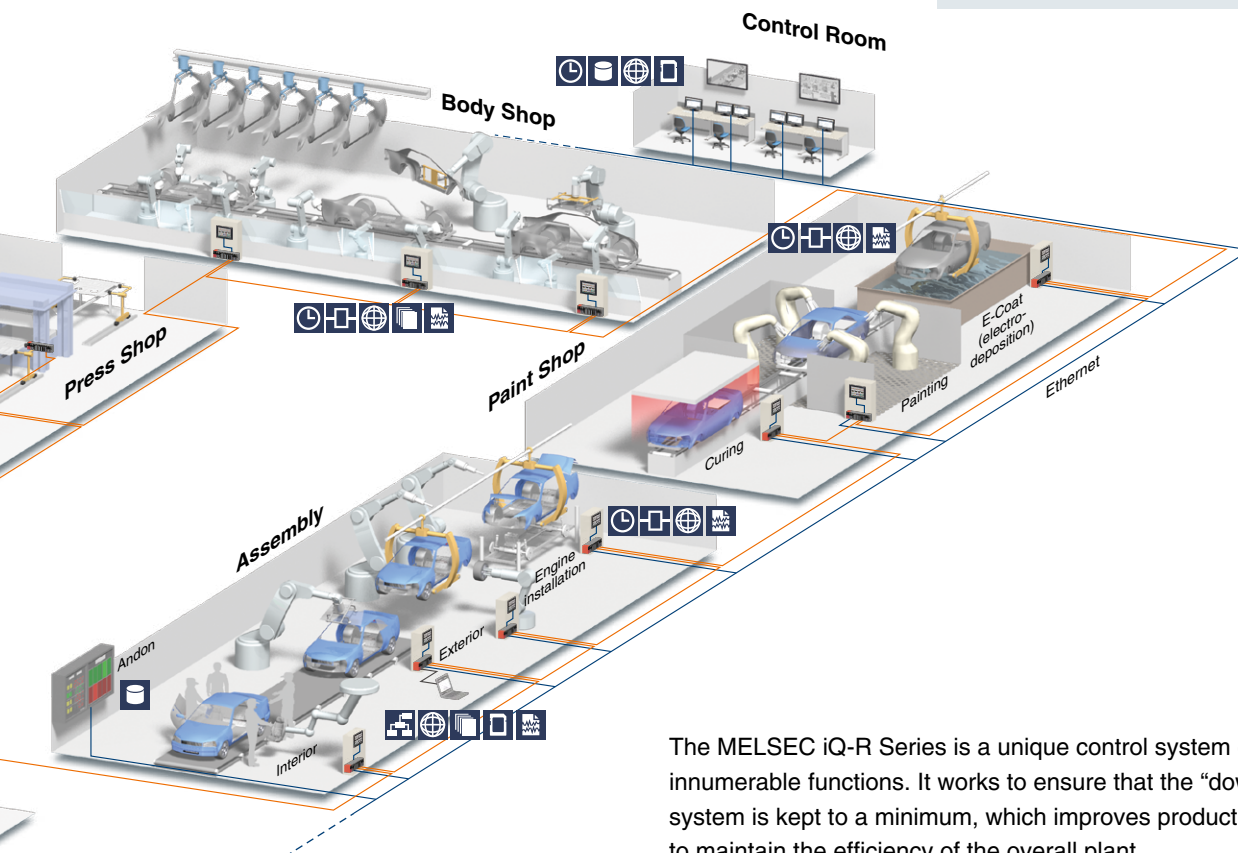The MELSEC iQ-R Series is a unique control system equipped with innumerable functions. It works to ensure that the "down-time" of the system is kept to a minimum, which improves productivity and helps to maintain the efficiency of the overall plant.

Corrective maintenance CPU module

Efficient diagnostics with extensive event logging

- Logging of program change events, errors and when the power is turned off
- Event logging displayed in list form
- Quickly detect problems due to operating mistakes by multiple users

Event log list

Corrective maintenance GX Works3

Multi-language software improves global support

- Comment/label names can be registered in multiple languages
- Easy to switch between languages
- No need for multiple programs to satisfy regional requirements

Japanese → English

Switch between device comment languages
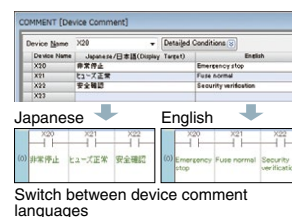
Corrective maintenance GX Works3

Quickly find network errors

- Visualize error location from network system image
- Easy network error corrective measures

CC-Link IE Control Network
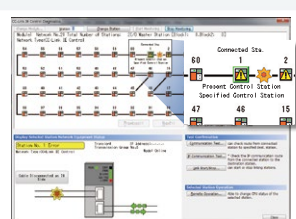
Corrective maintenance GX Works3

Simple troubleshooting, even for novice users

- Start diagnostics screen on GX Works3 just by connecting via USB
- Display detailed error information and corrective procedures

USB

Automatically start diagnostics

![Quality icon] # Quality
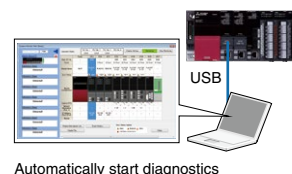
Reliable and trusted
MELSEC product quality

The MELSEC iQ-R Series is based on two fundamental aspects of quality.
"Quality of product"
"Quality for application"
These two characteristics are part of the main principle behind the MELSEC iQ-R Series. This new control system includes various features designed-in to provide a solution that not only improves the overall manufacturing productivity, but also maintains a high level of industrial quality that is ideal for the harsh and rugged environments that it is subjected to on a daily basis.

Electromagnetic compatibility (EMC) testing room (simulated test)

Earth rail

Robust design ideal for harsh industrial environments

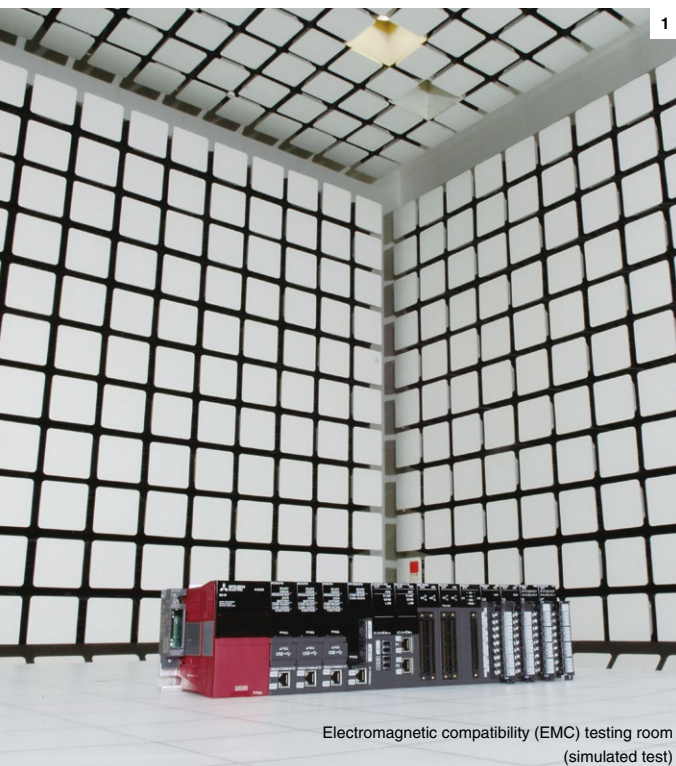Synonymous with the Mitsubishi Electric name, the MELSEC iQ-R Series is designed with high quality and reliability, which is a prerequisite for industrial applications. In addition, the overall aesthetics and usability enable easier maintenance that customers routinely expect.

Classification according to IEC 60721-3-3 Class 3C2

For protection against aggressive atmosphere and gases, products with a conformal coating (IEC 60721-3-3 Class 3C2) are available on request*1

*1: Please contact your local Mitsubishi Electric office or repre-sentative for further details.

1. Conforms to stringent quality evaluations and tests that are based on robust industrial environments including EMC, LSI, temperature, vibration and HALT tests.
2. High manufacturing quality control through QR code based quality management system.
3. The front face has a wide and open design with an easy-to-use front cover.
4. The base rack design includes a dedicated earth rail to prevent noise interference in low power supply conditions and a robust structure that enables easy installation without extensive damage to bus connectors.

Mitsubishi Electric PAC MELSEC iQ-R
"Quality" Movie

Conforms to main international quality standards

The MELSEC iQ-R Series conforms to most of the main international standards that realizes applications requiring multiple global locations.

CE   cULus   KC

Synchronized processing

Interrupt program

Network transmission cycle (link scan)

Output module

Positioning module

5 6

7
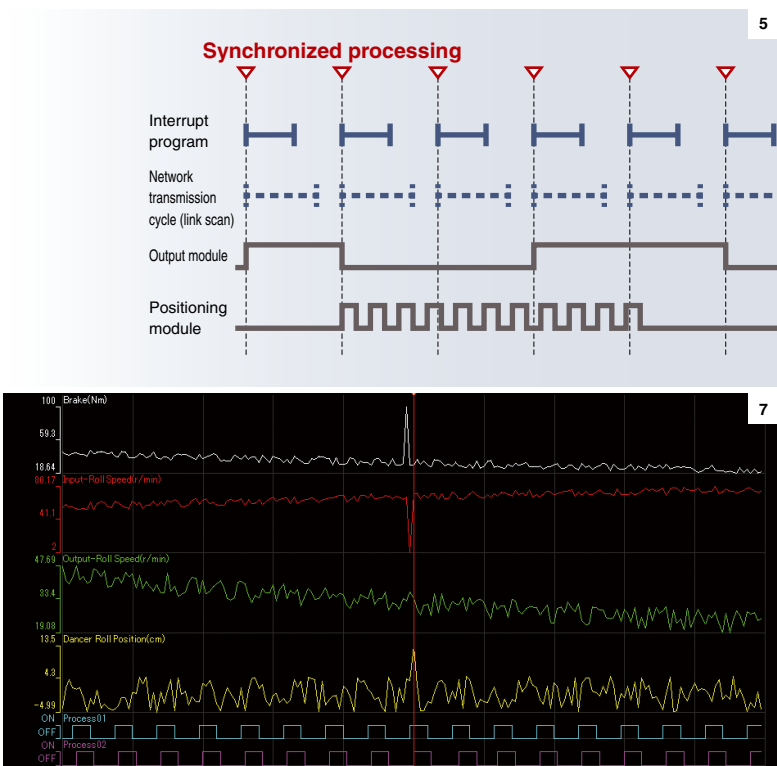
· Parts inventory
· Production data
· Operations log
· Inspection record
· Quality data

Improve and maintain actual manufacturing quality

Maintains product quality during manufacturing

With inter-module synchronization, it is now possible to precisely synchronize interrupt programs with the network communications cycle (link scan).
Any variations in data transmission response time (network transmission delay time) between the controller and other devices on the network are eliminated, realizing high integrity between manufacturing processes that are dependent on each other, ensuring high performance and processing.

Realizes traceability through data logging

Simple settings enable the collection of production data needed for traceability. Furthermore, collected data can be analyzed easily using a dedicated viewer. Analyzing various data on production processes provides an indicator for quality improvements and manufacturing cost reductions, thereby supporting optimization of the production system.
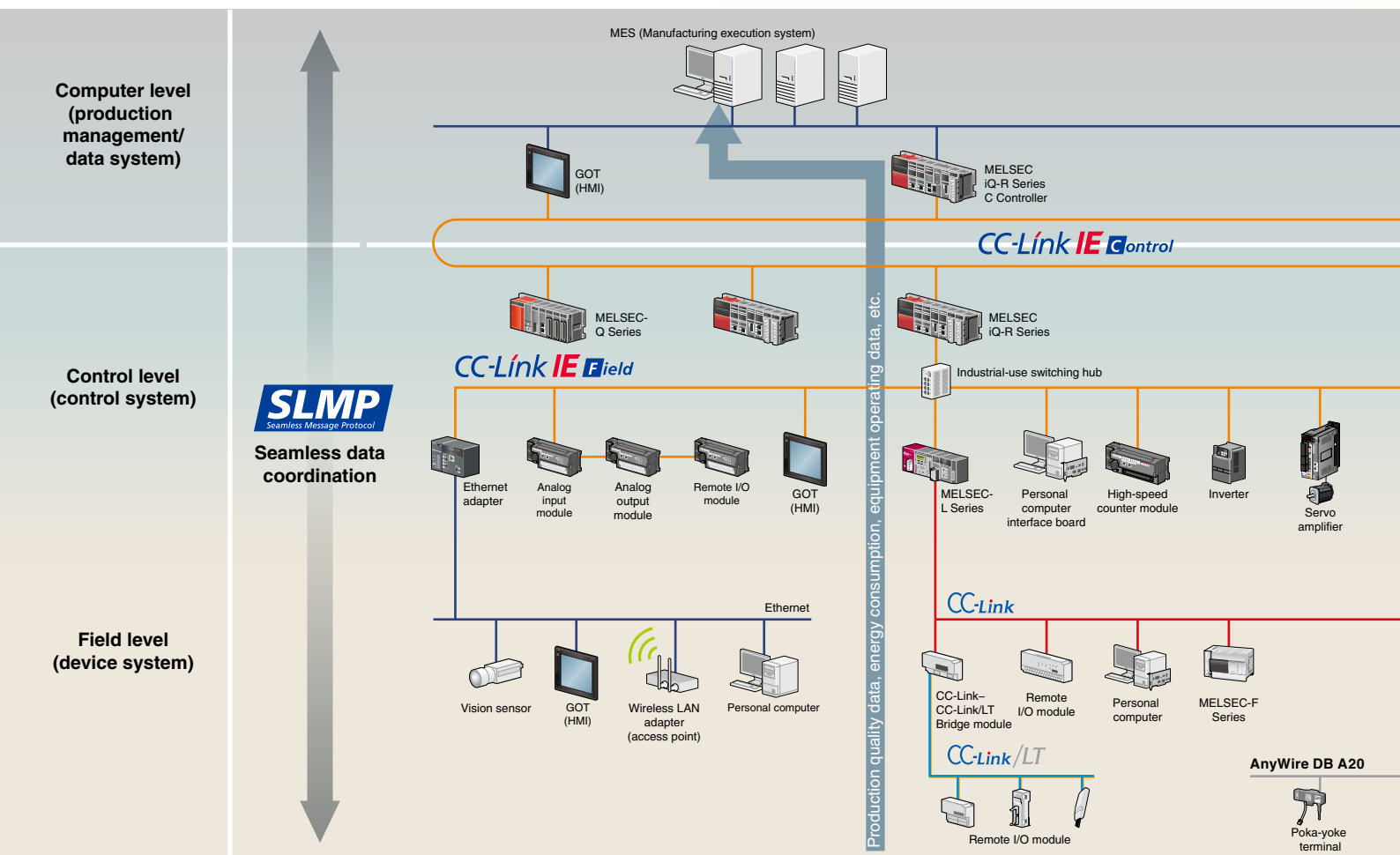
5. Graph showing the signal synchronization between several modules.
6. Data required for traceability is collected on the SD memory card.
7. Collected data is analyzed using a dedicated viewer.

Connectivity

Seamless network reduces system costs

The MELSEC iQ-R Series is part of a family of products all interconnected across various levels of automation. Based on the seamless message protocol (SLMP[1]), data flows transparently between the sensor level and the management level across multiple industry-standard automation networks. CC-Link IE, Asia's No. 1 industrial network, realizes fast gigabit data transmission speeds, further optimizing the manufacturing cycle. In addition, the SSCNET Ⅲ/H high-speed motion control network further enhance the factory-wide connectivity solution. In parallel to this, production data is visible from the shop floor directly into MES database servers via the MES interface.

MES (Manufacturing execution system)

Computer level (production management/data system)

GOT (HMI)

MELSEC iQ-R Series C Controller

CC-Link IE Control

Control level (control system)

SLMP Seamless Message Protocol

Seamless data coordination

MELSEC-Q Series

MELSEC iQ-R Series

CC-Link IE Field

Industrial-use switching hub

Ethernet adapter — Analog input module — Analog output module — Remote I/O module — GOT (HMI)

MELSEC-L Series — Personal computer interface board — High-speed counter module — Inverter — Servo amplifier

Field level (device system)

Ethernet

Vision sensor — GOT (HMI) — Wireless LAN adapter (access point) — Personal computer

CC-Link

CC-Link–CC-Link/LT Bridge module — Remote I/O module — Personal computer — MELSEC-F Series

CC-Link/LT

Remote I/O module

AnyWire DB A20

Poka-yoke terminal

Production quality data, energy consumption, equipment operating data, etc.

Seamless connectivity within all levels of manufacturing

Utilizing SLMP[1], it is possible to access production management systems, programmable controllers and other devices seamlessly using the same method without having to worry about network hierarchies or boundaries. Monitoring machines and collecting data can be performed easily from virtually anywhere on the network.

*1: Seamless Message Protocol (SLMP): A simple client–server common protocol that enables communication between Ethernet products and CC-Link IE-compatible machines.

High-speed and large bandwidth ideal for large-scale control systems

The Ethernet-based open network CC-Link IE is an industry-leading 1 Gbps high-speed, large-capacity network. The division of 1 Gbps broadband into uses for distributed control and field data communications secures the reliability of control communications and realizes real-time data collection, which can be difficult with standard Ethernet.

Optimal network proposals for each level

CC-Link IE Control

CC-Link IE Control is a high-reliability distributed control network designed to handle very large data communications (128K word) over a high-speed (1 Gbps) dual-loop optical cable topology.

CC-Link IE Field

CC-Link IE Field is a versatile gigabit Ethernet-based network integrating controller, I/O control, safety control, and motion control in a flexible wiring topology supporting star, ring, and line configurations.

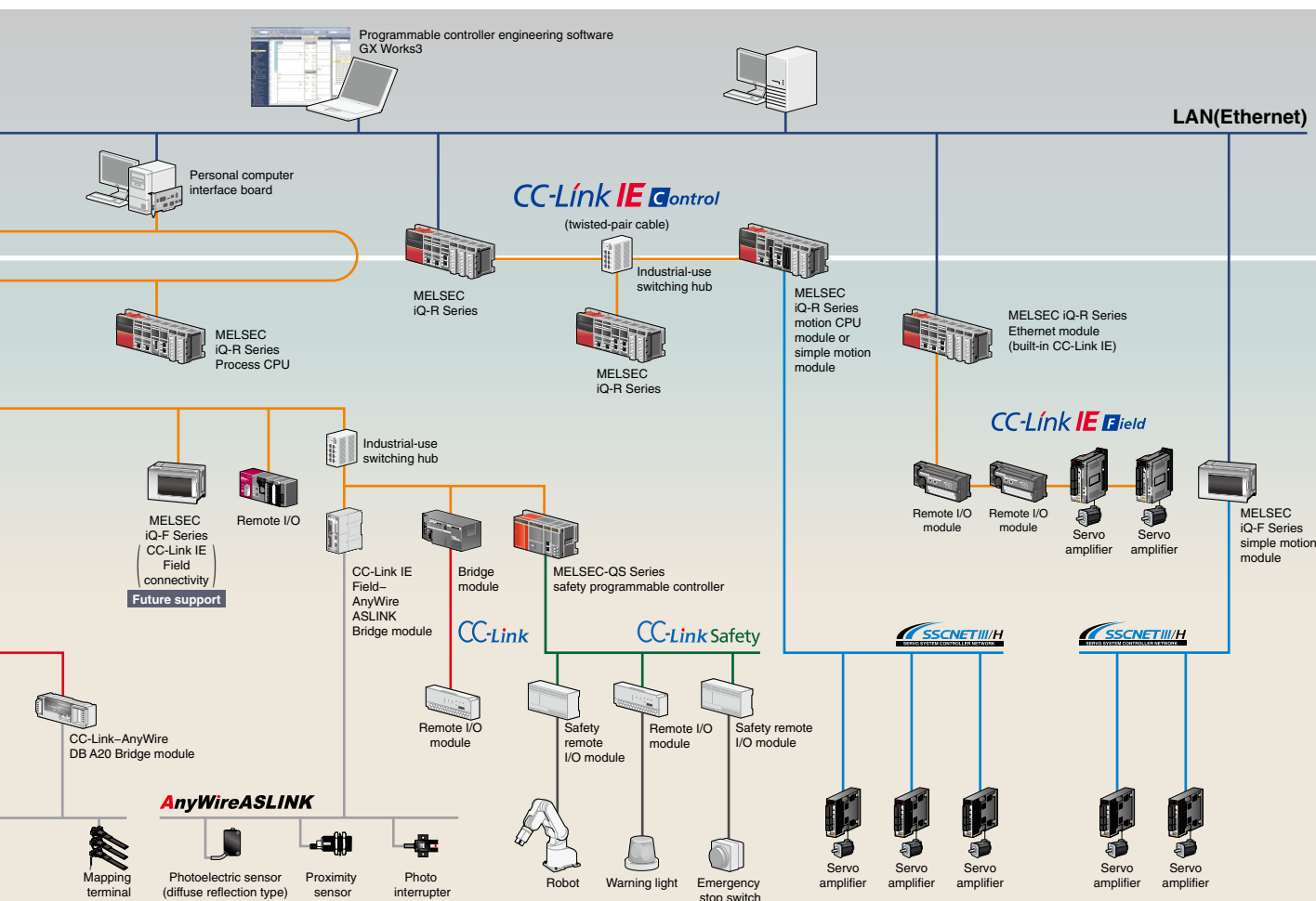### CC-Link   CC-Link Safety   CC-Link/LT

CC-Link is a high-speed and highly reliable deterministic I/O control network that realizes reduced wiring while offering multi-vendor compatible products. This open field network is a global standard, originating from Japan and Asia. In addition, CC-Link Safety, is a dedicated fail-safe network that is used as a safety risk management solution. CC-Link/LT is a sensor-level network that is ideal for compact and complicated wiring installations.

AnyWire

AnyWire is a sensor level distributed control network that is designed to reduce installation costs by utilizing general-purpose wiring and robot cables.

SSCNET III/H

SSCNET III/H is a dedicated high-speed, high-performance, highly reliable servo system control network that offers flexible long-distance wiring capabilities based on optical-fiber cable topology.

Programmable controller engineering software GX Works3

LAN(Ethernet)

Personal computer interface board

CC-Link IE Control

(twisted-pair cable)

Industrial-use switching hub

MELSEC iQ-R Series

MELSEC iQ-R Series Process CPU

MELSEC iQ-R Series

MELSEC iQ-R Series motion CPU module or simple motion module

MELSEC iQ-R Series Ethernet module (built-in CC-Link IE)

CC-Link IE Field

MELSEC iQ-F Series CC-Link IE Field connectivity
Future support

Remote I/O

Industrial-use switching hub

CC-Link IE Field–AnyWire ASLINK Bridge module

Bridge module

MELSEC-QS Series safety programmable controller

Remote I/O module

Remote I/O module

Servo amplifier

Servo amplifier

MELSEC iQ-F Series simple motion module

CC-Link–AnyWire DB A20 Bridge module

CC-Link

CC-Link Safety

SSCNET III/H

SSCNET III/H

AnyWireASLINK

Remote I/O module

Safety remote I/O module

Remote I/O module

Safety remote I/O module

Mapping terminal

Photoelectric sensor (diffuse reflection type)

Proximity sensor

Photo interrupter

Robot

Warning light

Emergency stop switch

Servo amplifier

Servo amplifier

Servo amplifier

Servo amplifier

Servo amplifier

Simple connection to external devices using MELSOFT library

Utilizing the GX Works3 Predefined Protocol support function, simply select the protocol to be used and the data to transmit/receive to communicate easily with external devices such as vision sensors and temperature controllers. Engineering time can be substantially reduced as it is no longer necessary to create separate communications programs.

CC-Link IE Control (twisted-pair cable)

Utilizing a system architecture that has no constraints and enables one to choose freely such as star/line/ring topologies, adding and removing equipment is easier. Moreover, compatibility with standard twisted-pair cabling means that wiring costs can be reduced.

Connect to two different types of networks with the same module

Ethernet and CC-Link IE network communications can be realized with the same network module. Since multiple network types can use one module, equipment costs can be further reduced.

🔒 Security

Robust security that can be relied on

As technology becomes more complex and the distribution of manufacturing systems more global, the protection of intellectual property is even more significant. When shipping a finished product overseas, the last thing an OEM needs to consider is unauthorized copying or changing of the original project data. In addition to this, unauthorized access to the control system can have very serious implications to the control system and the end user, which can compromise the overall safety of the plant.

The MELSEC iQ-R Series has a number of embedded features that help to maintain these requirements, such as hardware and software keys to protect intellectual property, and multi-level user access password hierarchy to protect the project at the design stage.

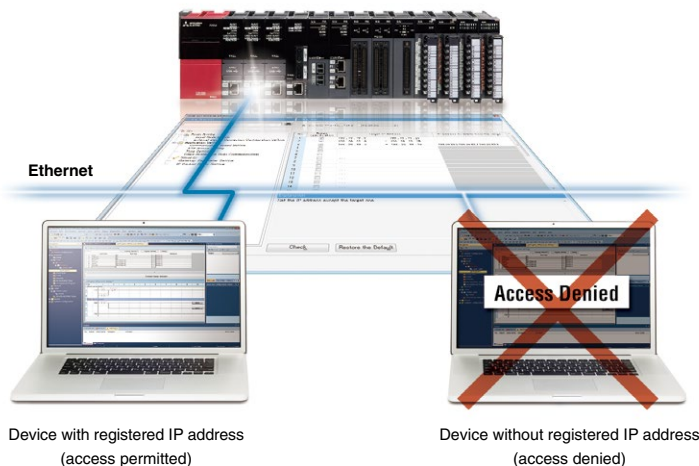**Mitsubishi Electric PAC MELSEC iQ-R "Security" Movie**

Powerful security features protecting intellectual property

Security key authentication protecting project data

The security key authentication prevents programs from being opened on personal computers where the security key has not been registered. Furthermore, because programs cannot be executed by CPU modules where the security key has not been registered, the integrity of customer technologies and other intellectual property is not compromised. The security key can also be registered on an extended SRAM cassette. Therefore, when replacing the CPU module, there is no need to re-register the security key, making replacement very simple.

Extended SRAM cassette
with registered
security key

Prevent unauthorized access across the network

Ethernet

Device with registered IP address
(access permitted)

Device without registered IP address
(access denied)

The IP filter can be used to register the IP addresses of devices permitted to access the CPU module. As a result, access from non-registered devices can be blocked, thereby lowering the risk of program hacking and unauthorized access by a third party.
Another feature is a remote password function for password-based security. Passwords of up to 32 characters can be set to prevent unauthorized access to the CPU module via networks such as Ethernet.

Compatibility

Extensive compatibility
with existing products

Whenever introducing a new system or technology into an existing manufacturing plant or control system, utilization of existing assets as much as feasibly possible is a mandatory requirement with today's manufacturing needs. The MELSEC iQ-R Series addresses these subtle but substantial needs with various system hardware support and engineering project compatibility to achieve an easy path to higher technology and improved performance capabilities.

Mitsubishi Electric PAC MELSEC iQ-R
"Compatibility" Movie

## Utilize existing MELSEC-Q Series assets

Current programs can be fully utilized

A simply conversion process*1 is all it takes to enable the use of MELSEC-Q Series programs with the MELSEC iQ-R Series. Customers can effectively use the program assets they have accumulated, thereby reducing the overall engineering time.

*1: For detailed information about converting to GX Works3 programs, please refer to the "GX Works3 Operating Manual".
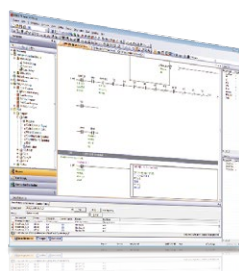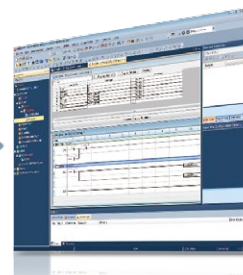
MELSEC Q series   MELSEC iQ-R series

Variety of compatible modules

By utilizing the dedicated extension base, most MELSEC-Q Series modules*2 can be re-used. This makes it possible to introduce the high-performance MELSEC iQ-R Series while controlling the cost of supplementary equipment.

*2: For further details, please refer to the "MELSEC iQ-R Module Configuration Manual".

Possible to divert external device wiring

The MELSEC iQ-R Series I/O module, analog module, and counter module pin layouts and connectors are the same as those of the MELSEC-Q Series. Accordingly, existing external device wiring (connectors, terminal blocks) can be diverted without changes and wiring costs can be reduced.

iQ Platform for maximum return on investment

Minimize TCO, Seamless integration, Maximize productivity, Transparent communications: these are common items that highlight the benefits of the iQ Platform. Enhanced further with the arrival of the new iQ-R Series Programmable Automation Controller (PAC), reducing costs and improving productivity can be realized even easier.

The iQ Platform minimizes TCO at all phases of the automation life cycle by improving development times, enhancing productivity, reducing maintenance costs, and making information more easily accessible. Seamless integration is the core part of the iQ Platform, having a highly intelligent controller platform that caters to different aspects of control all on the same base rack, and maximizing productivity by taking advantage of the high-speed iQ-R system bus, which further reduces operation cycle times. Transparent communications are achieved by supporting the industry-leading gigabit Ethernet-based open network, CC-Link IE. Seamless data flow is realized no matter what point on the network, ensuring the free flow of production data across the manufacturing site.

Taking these aspects and applying the new iQ-R Series controller into the mix, the iQ Platform raises processing capabilities to the next level for future intelligent manufacturing plants.

e-F@ctory

ERP (Enterprise resource planning)

MES (Manufacturing execution system)

Transparent connectivity

ERP

MES

Automation Controller

Integrated Network

Integrated Engineering

iQ Platform
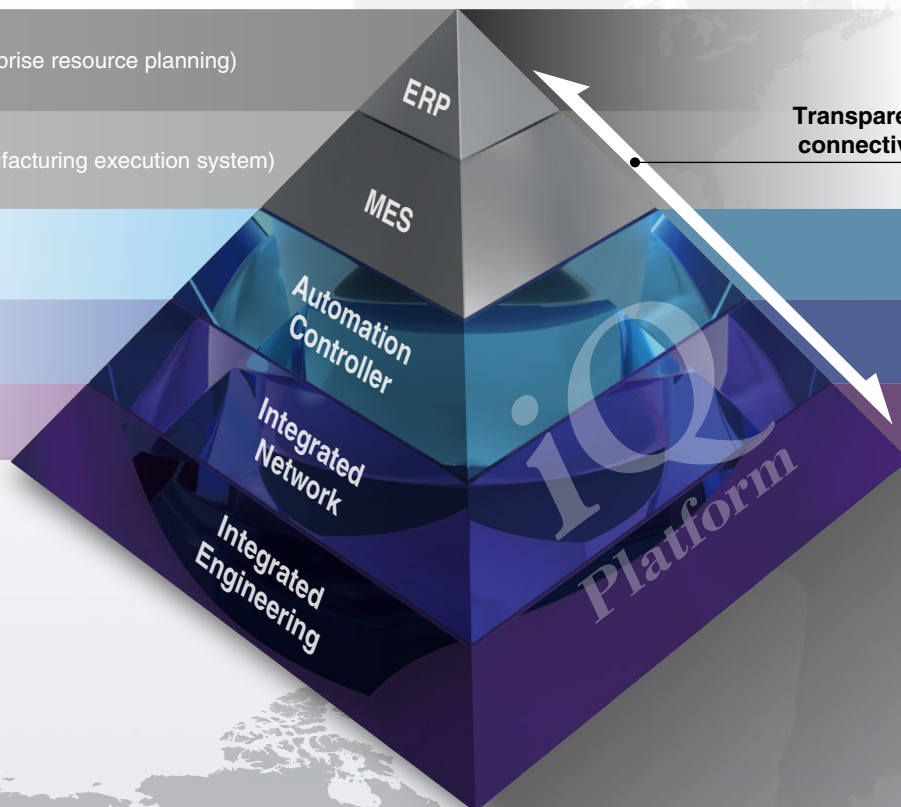
PAC & HMI

1 The new high-speed MELSEC iQ-R Series system bus is 40-times faster realizing improved system performance

2 Program standardization through function blocks and module labels

3 Powerful and robust security features

Network

1 CC-Link IE, 1Gbps high-speed and large bandwidth communications network (40-times faster link refresh)

2 Seamless connectivity within all levels of manufacturing with SLMP
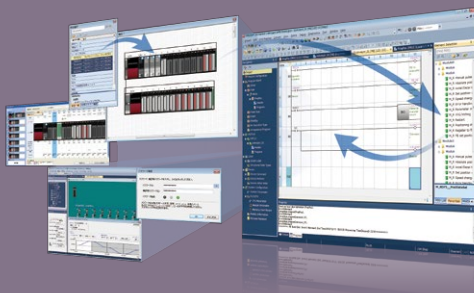
Engineering

1 Automatic generation of network configuration diagram

2 Share parameters across multiple engineering software via MELSOFT Navigator

3 Changes to system labels shared between PAC and HMI

Mitsubishi Electric
FA Integrated Controller
iQ Platform

Lineup

Power supply

R61P.................................... AC input

NEW

R62P.................................... AC input
(inc. 24 V DC output)
R64P.......... AC input (large capacity)

R63P....................................DC input

Base

Main base

R35B 5-slot
R38B 8-slot
R312B 12-slot

Extension base

R65B 5-slot
R68B 8-slot
R612B 12-slot

RQ extension base (MELSEC-Q Series)

RQ65B 5-slot
RQ68B 8-slot
RQ612B 12-slot

Extension cable

RC06B ....0.6 m
RC12B ....1.2 m
RC30B ....3 m
RC50B ....5 m

CPU

Programmable controller CPU

R04CPU ....40K steps
R08CPU ....80K steps
R16CPU ....160K steps
R32CPU ....320K steps
R120CPU ....1200K steps

Motion CPU

R16MTCPU......................... 16-axis
R32MTCPU......................... 32-axis

NEW

Process CPU

R08PCPU ....80K steps
R16PCPU ....160K steps
R32PCPU ....320K steps
R120PCPU ....1200K steps

C Controller

R12CCPU-V.........Memory capacity
256 MB

I/O

AC input

RX10 ....16-point

DC input

RX40C7 ....16-point
RX41C4 ....32-point
RX42C4 ....64-point

Relay output

RY10R2 ....16-point

Transistor (sink) output

RY40NT5P.........................16-point
RY41NT2P.........................32-point
RY42NT2P.........................64-point

Transistor (source) output

RY40PT5P.........................16-point
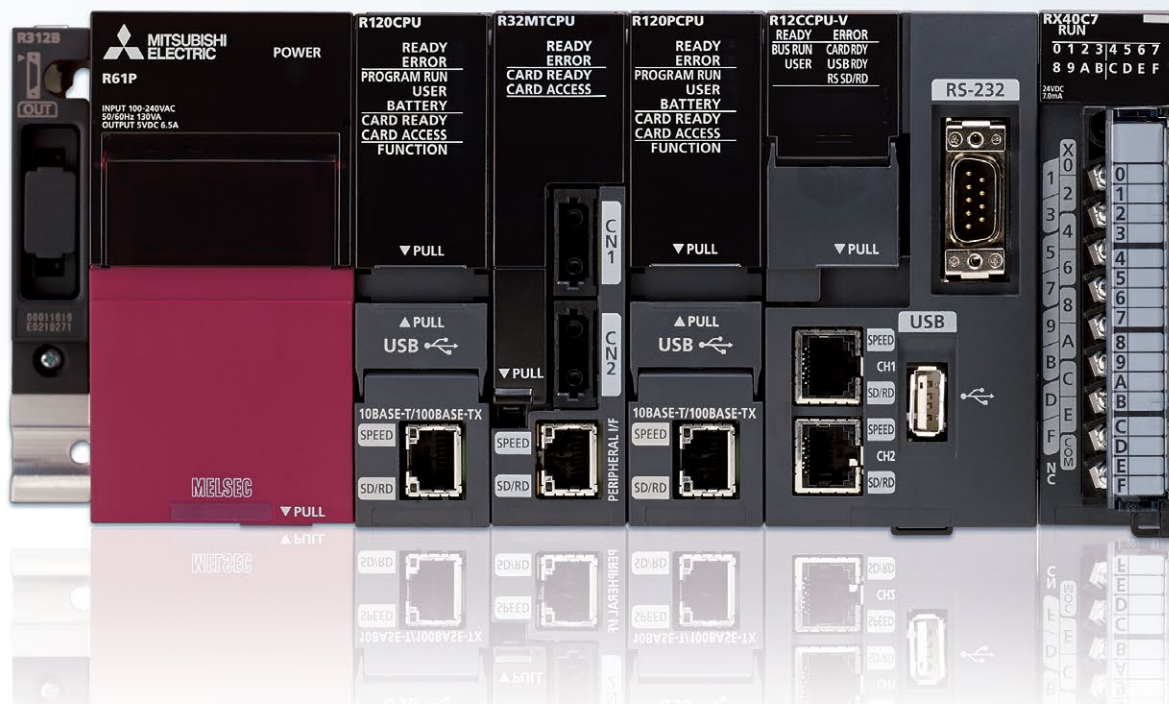RY41PT1P.........................32-point
RY42PT1P.........................64-point

I/O combined module

DC Input, transistor (sink) output

RH42C4NT2P 32-point/32-point

Analog

Analog input
R60AD4 .... 4-channel
(voltage or current)
R60ADV8 .... 8-channel (voltage)
R60ADI8 .... 8-channel (current)

Analog input (channel isolated) **NEW**
R60AD8-G 8-channel
(voltage or current)
R60AD16-G 16-channel
(voltage or current)

Temperature input
R60TD8-G........................ 8-channel
(thermocouple)
R60RD8-G .... 8-channel (RTD)

Analog output
R60DA4 .... 4-channel
(voltage or current)
R60DAV8 .... 8-channel (voltage)
R60DAI8 .... 8-channel (current)

Analog output (channel isolated) **NEW**
R60DA8-G 8-channel
(voltage or current)
R60DA16-G 16-channel
(voltage or current)

Motion, Positioning, High-speed counter

Simple motion
RD77MS2 .... 2-axis
RD77MS4 .... 4-axis
RD77MS8 .... 8-axis
RD77MS16 .... 16-axis

Positioning
Transistor output
RD75P2 .... 2-axis
RD75P4 .... 4-axis
Differential driver output
RD75D2 .... 2-axis
RD75D4 .... 4-axis

High-speed counter
DC input/Transistor (sink) output
RD62P2 .... 2-channel
DC input/Transistor (source) output
RD62P2E 2-channel
Differential input/Transistor (sink) output
RD62D2 .... 2-channel

Network

Ethernet
RJ71EN71....... 1 G/100 M/10 Mbps
Multiple network type
(Ethernet/CC-Link IE)

CC-Link IE Control network
RJ71GP21-SX ....Control/Normal
station optical cable

CC-Link IE Field network
RJ71GF11-T2 .... Master/Local
station

CC-Link
RJ61BT11 ....Master/Local station
CC-Link Ver.2

Serial communication
RJ71C24 .... RS-232, RS-422/485
RJ71C24-R2 .... RS-232 x2ch
RJ71C24-R4 .... RS-422/485 x2ch
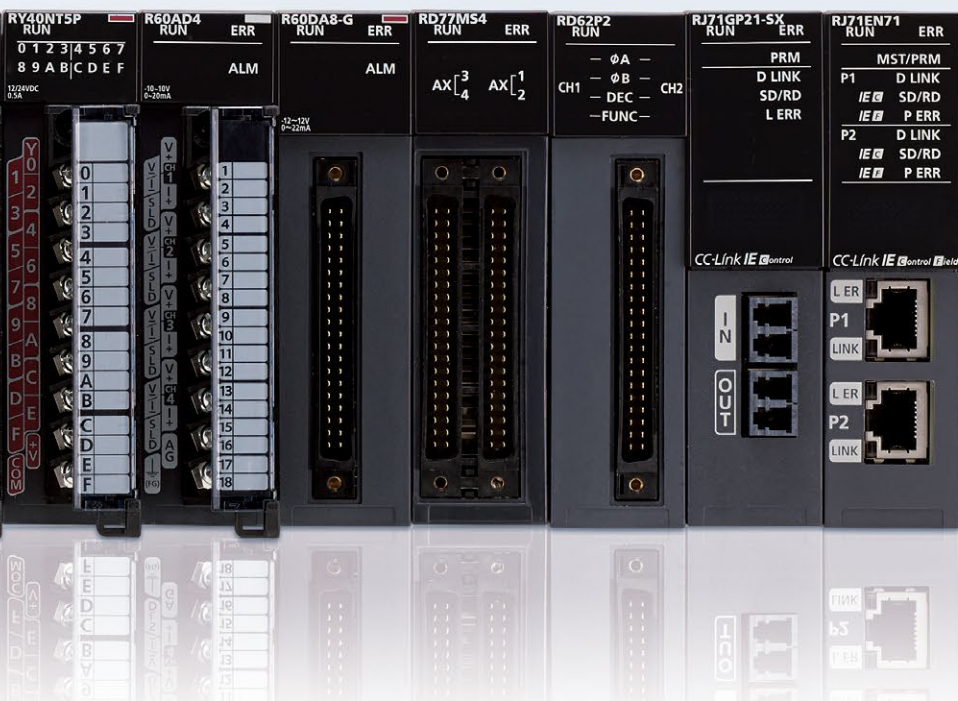
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