![Mitsubishi Electric logo] **MITSUBISHI ELECTRIC**

Changes for the Better

iQ Platform-compatible PAC
System Recorder
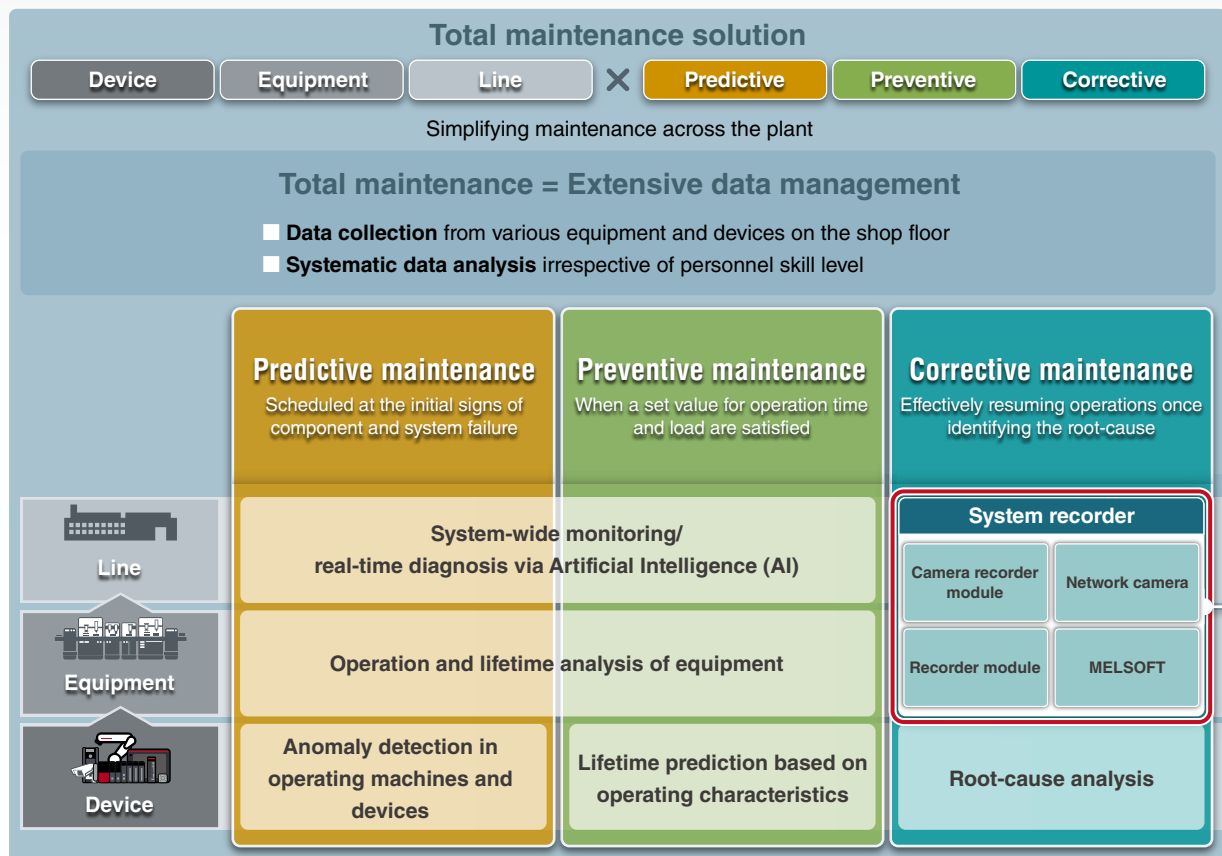
e-F@ctory

Total maintenance solution

Bringing maintenance data management to the next level

MELSEC iQ-R series

Mitsubishi Electric's solution for improving productivity through easier data management

Maintenance is critical for ensuring continuous production. Maintenance includes ❶**predictive maintenance** to detect signs of error, periodical ❷**preventive maintenance**, and ❸**corrective maintenance** for **prompt troubleshooting** at the time of failure. Mitsubishi Electric proposes an enhanced maintenance solution by recording and sampling production and machine operating data and utilizing this data within various stages of maintenance.

The system recorder is a ❸**corrective maintenance** solution that ensures prompt troubleshooting and error prevention.

Total maintenance solution

| Device | Equipment | Line | ✕ | Predictive | Preventive | Corrective |

Simplifying maintenance across the plant

Total maintenance = Extensive data management

■ **Data collection** from various equipment and devices on the shop floor
■ **Systematic data analysis** irrespective of personnel skill level

	Predictive maintenance — Scheduled at the initial signs of component and system failure	Preventive maintenance — When a set value for operation time and load are satisfied	Corrective maintenance — Effectively resuming operations once identifying the root-cause
Line	System-wide monitoring/ real-time diagnosis via Artificial Intelligence (AI)		**System recorder** — Camera recorder module / Network camera / Recorder module / MELSOFT
Equipment	Operation and lifetime analysis of equipment		
Device	Anomaly detection in operating machines and devices	Lifetime prediction based on operating characteristics	Root-cause analysis

*1. The recorder module, camera recorder module, and motion CPU module are supported. The motion module will be supported in the future.

System recorder

The system recorder is a corrective maintenance solution that ensures effective resumption of operations reducing downtime through its extensive system-wide data recording and simplified analysis software features.

System-wide recording and simplified analysis

System-wide recording

■ **Extensive recording ensures simpler cause analysis**

Error cause identification is made simpler by the extensive recording of various equipment and device data together with a real-time video feed reducing the need for multiple retesting due to insufficient data.

■ **System-wide recording**

Irregularities between various equipment including control and drive systems together with operations are all linked.

■ **Automatic system-wide recording**

Recording of errors that can occur outside standard operating shifts.

Record entire system data

A Programmable controller CPU (entire bit, word data, project data)
B Servo status (command position, actual position, speed, torque)
C Network camera video feed
D Display and operation log of GOT (HMI)

Simplified analysis

■ **Extensive data shown in the same timeline**

Waveform, data, program, operations log, and video feeds are shown in sequence ready for analysis.
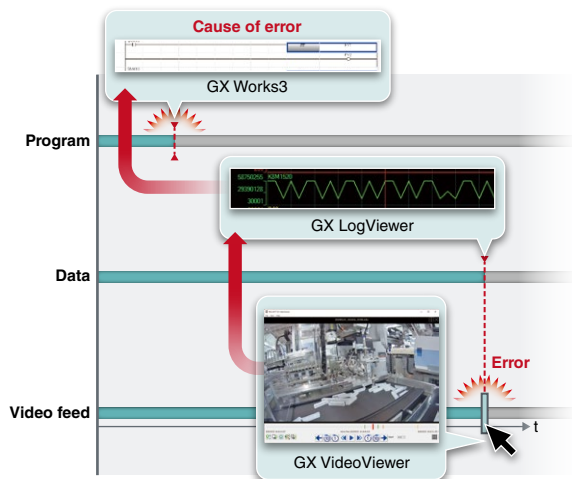
■ **Easier cause identification**

Data flow analysis makes understanding the root-cause of failures easier by showing the relationship between failed and normal devices.
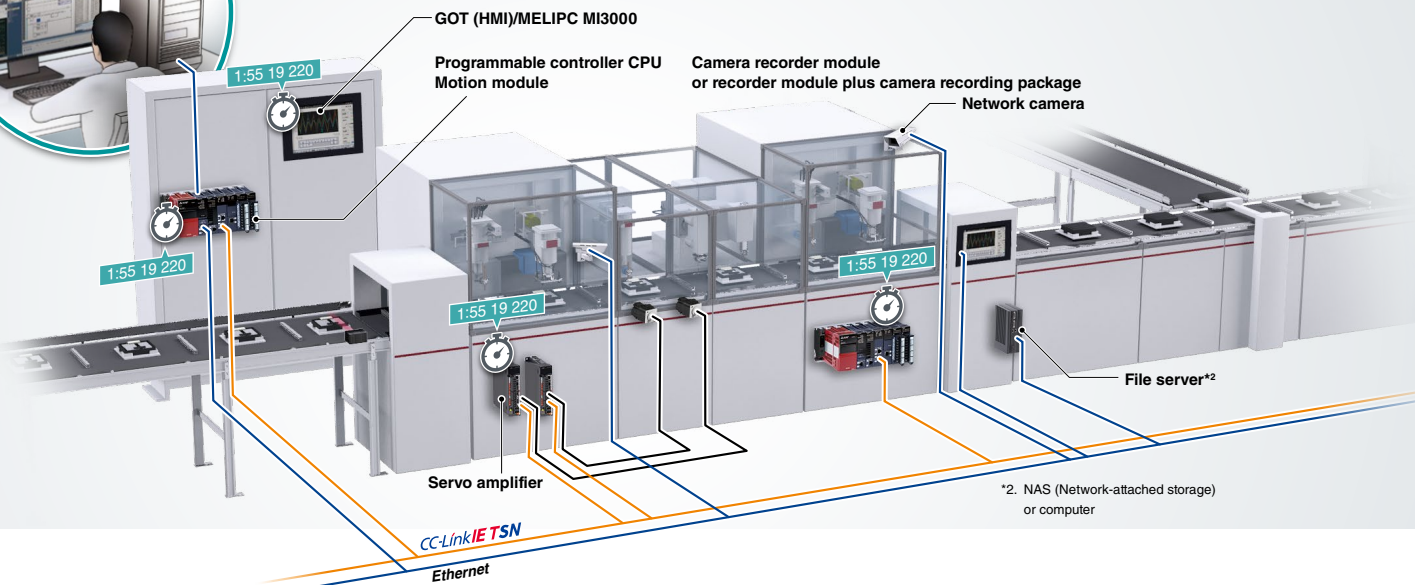
■ **Structured program ensures easier troubleshooting**

Supports structured programs and device labels enabling easier resolution of problems, thereby reducing TCO[1].
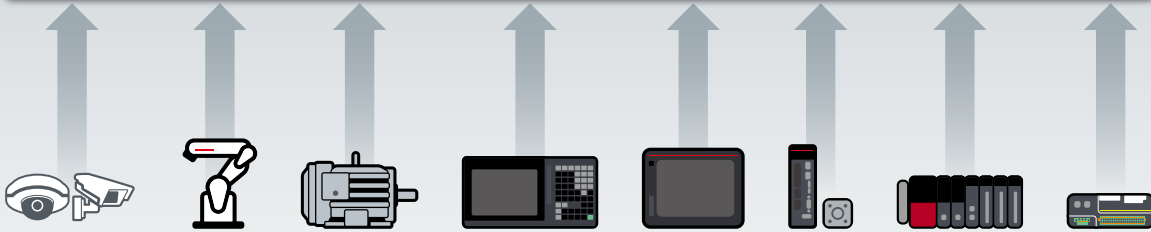
*1. TCO: Total Cost of Ownership

Cause of error
GX Works3
Program
GX LogViewer
Data
Error
Video feed
GX VideoViewer

MELSOFT

GX LogViewer	GT Designer3
GX Works3	GT SoftGOT2000
GX VideoViewer	MR Configurator2
GX VideoViewer Pro	

GOT (HMI)/MELIPC MI3000

Programmable controller CPU
Motion module

Camera recorder module
or recorder module plus camera recording package

Network camera

File server[2]

Servo amplifier

*2. NAS (Network-attached storage) or computer

CC-Link IE TSN
Ethernet

System-wide recording
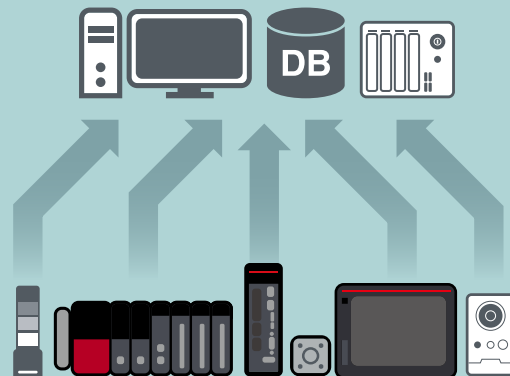
System-wide total data recording

Without the system recorder

- Difficult to identify the error cause from data after an error event. Need to collect as much data as possible for evidence

- Unable to stay to wait for an anomaly that rarely occurs
- When an error occurs, saving video feed is not possible

- One programmable controller CPU data is not enough to solve problems in large and expanding systems

With the system recorder

- Record all device/label per programmable controller scan

- Video feeds can also be recorded with easy and extensive trigger settings

- In addition to devices/labels; motion module/motion CPU module control data, event history from the programmable controller, GOT (HMI) operation history can also be recorded

DB

System-wide recording   Control data

Device/label collection every (programmable controller) scan

❶Collecting of all device and label data

- The MELSEC iQ-R Series recorder module and camera recorder module can automatically collect all device and label data per programmable controller scan prior to and after an error event (together with a time-stamp)
- Complete collection of data necessary for analysis ensures simpler error analysis, reducing the recovery time of the control system
- Safety device and label collection are also supported

❷Easy setting

- The recorder module and camera recorder module can be set within the intuitive engineering software GX Works3
- Target device and labels to be recorded are automatically set by checking the box
- Influence on the CPU scan time can be checked

Device and label used are automatically collected just by checking the box

Check influence on the CPU scan time
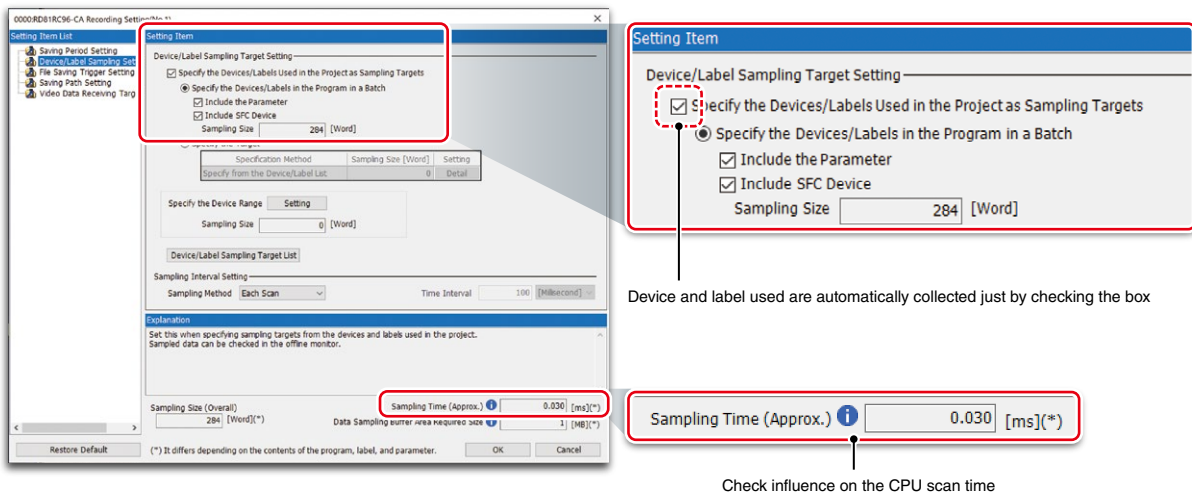
❸Minimal impact on the scan time

- The modules are designed to separate load from the CPU module, minimizing impact to control
- Influence on the CPU scan time is further minimized by filtering of devices and labels
- Collecting targets can be quickly set by narrowing down with filter conditions

Select multiple filter conditions to narrow down specific devices or labels

| Specifying the collection target |
| --- |
| Device/label |
| Sampling target |
| Label data type |
| Range |
| Program file name |
| Data name |
| Comment |
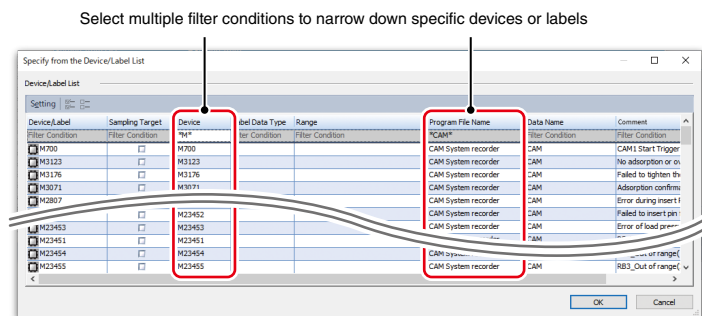
Recording method according to applications

Recording of data prior to and after an error event

• Two saving period settings are available with the MELSEC iQ-R Series recorder module/camera recorder module. In addition to recording of data prior to and after the event, data can be recorded starting from the beginning of the equipment cycle

### ❶ Record prior to and after an error event (file saving trigger only)

Record data prior to and after a file saving trigger for a specified time. Setting equipment alarm relay as a file saving trigger enables recording of data prior to and after the error event.

File saving trigger

Saving period before trigger | Saving period after trigger

Non-saving period | **Saving period** | Non-saving period
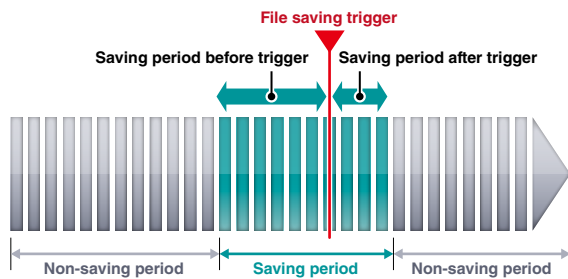
• The total of the saving periods before and after trigger can be set within a range from 1 to 86400 seconds
• When the recording buffer capacity is exceeded, the old data is overwritten

❷ Record equipment cycle (recording startup trigger + file saving trigger)

Record data after a recording startup trigger for a specified time. Setting starting relay of equipment cycle as a recording startup trigger enables recording from cycle start.

Recording startup trigger | **File saving trigger**
Saving period after trigger | Saving period after trigger

Non-saving period | **Saving period** | Non-saving period
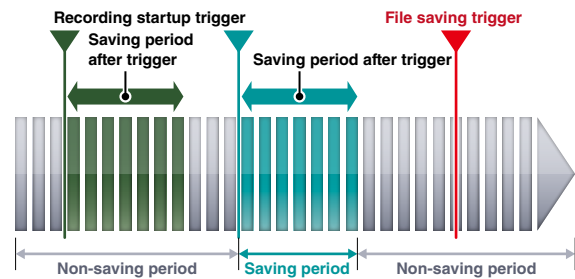
• If recording startup trigger and such are set, data is saved without a file saving trigger
• The previous recording buffer is overwritten per recording startup trigger
• If the data exceeds the recording buffer capacity in a single recording, old data is prioritized and the data exceeding the capacity is discarded

Extensive recording trigger settings

• The recorder module/camera recorder module are available with extensive triggers for recording which can be used according to requirements
• Setting triggers enables non-alarm stop detection and motion detection, errors previously undetectable can now be detected

Non-alarm stop detection

At normal operation ▶

Error ▶

Timeout detection

Timeout time

Non-alarm stop ⚠
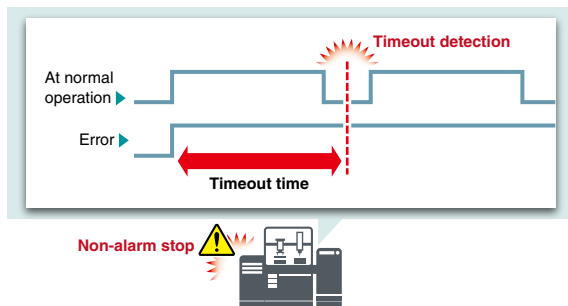
• Active signals are monitored periodically to detect a signal which remains unchanged for a certain period as timeout
• Used to detect a machine that stops without alarm

Motion detection

Trigger occurrence

Save
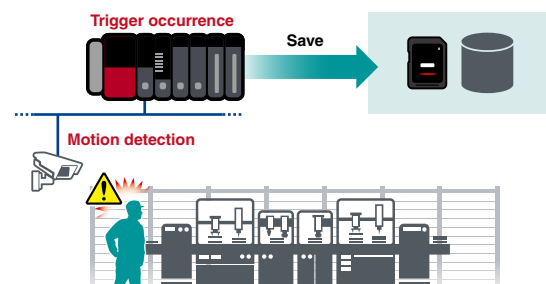
Motion detection

• Monitor equipment and operators with network cameras to trigger when motions are detected

* Motion detection is supported by the camera recorder module only.
* For details of compatible camera, please refer to the technical bulletin (FA-A-0326).

Automatic saving to file server

- As a recording file storage, an SD memory card for the system recorder modules or a file server (such as a NAS or computer) can be selected
- A file server (such as a NAS or computer) can be used as storage for a large capacity data. Remote retrieval of collected data directly from the file server is supported without requiring access on the shop floor

Save

Save

SD memory card

Computer   Large capacity storage   NAS
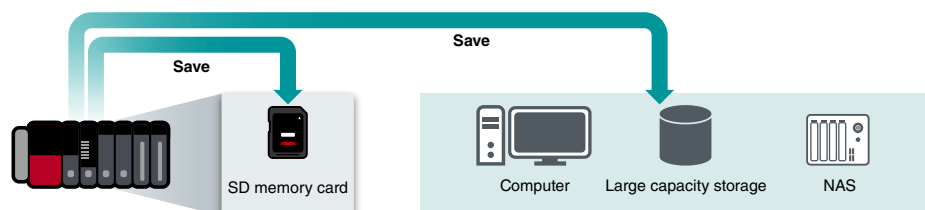
Record video feeds at the moment an error occurs with network cameras

- By supporting available network cameras, the camera recorder module offers a wide choice of functions, specific to an application and installation environment
- Network cameras (such as image resolution, frame rate) can be set within GX Works3 without requiring individual setup

Wide angle/fish-eye lens type:
Enables panoramic view of an entire production line

Optical zoom type: Provides detailed and vivid video feeds
PTZ (Pan-Tilt-Zoom) type: Pre-registered positions allowing multiple areas with a single camera.
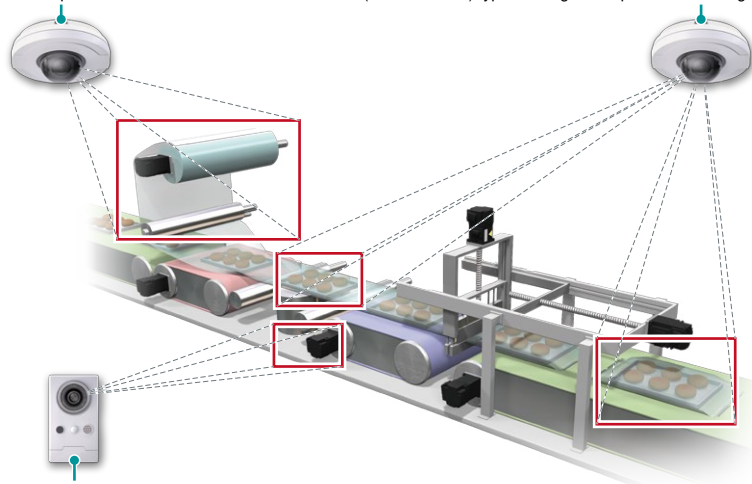
Modular type: Installable within control enclosures with limited space
Wireless type: Greater installation flexibility as communication cables are not required

Installation environment	Applicable cameras
• Wide-area coverage capturing entire process area • Recording personnel operations	Wide angle/fish-eye lens type
• Detailed view • Multiple viewing positions	Optical zoom type PTZ (Pan-Tilt-Zoom) type
• Limited installation space • Difficulty installing communications cabling	Modular type Wireless type

* For details of compatible cameras, please refer to the technical bulletin (FA-A-0326).

System-wide recording Video data

Optimized focusing on camera subject

- Live image streaming of the network camera on the GOT (HMI) and MELIPC MI3000 and also PTZ (Pan-Tilt-Zoom) control are possible
- Machine movement can be checked from the GOT (HMI) and MELIPC MI3000
- Fine adjustments are supported while monitoring the live video feed on the shop floor

Camera (Live/PTZ) setting screen

Pan

Zoom

Tilt
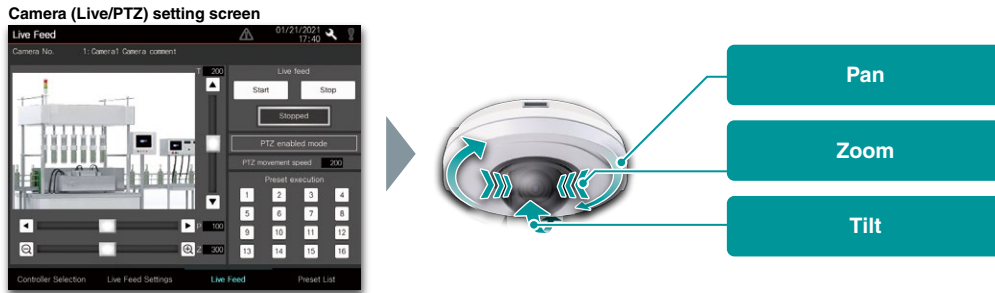
Support high resolution and long-duration recording

- The system recorder stores high-definition video feeds for a long time using the H.264 codec which compresses the data, making space utilization more efficient
- Since it uses a general-purpose video format, there is no need to move or process the storage location of the video file. In addition, recorded video feeds can be checked instantly by a general video replay software as well as dedicated GX VideoViewer and GX VideoViewer Pro
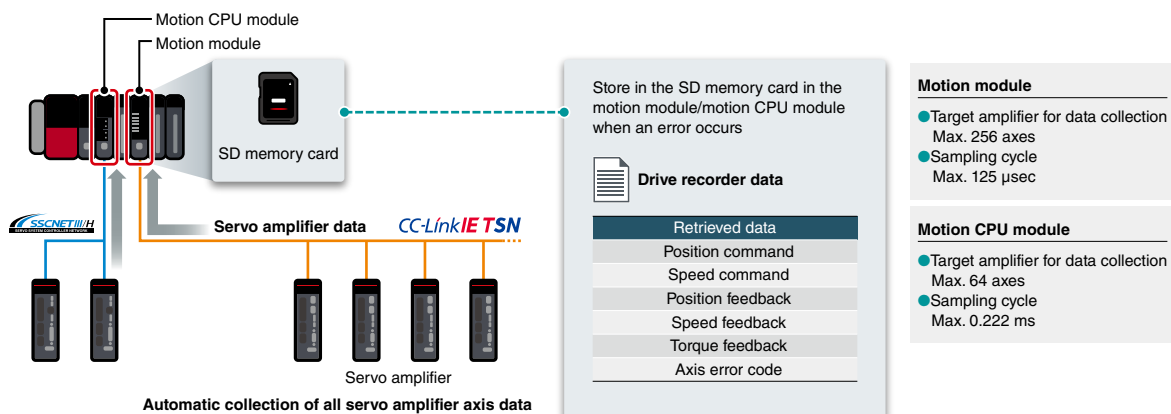
Collecting all servo axis data in real-time

❶ Recording of positional data from servo

- Servo systems tend to operate at a much faster cycle time compared with a programmable controller making it difficult to capture. Control data of the motion CPU module and motion module can be recorded with a time-stamp
- Detailed positional data from the servo can be recorded

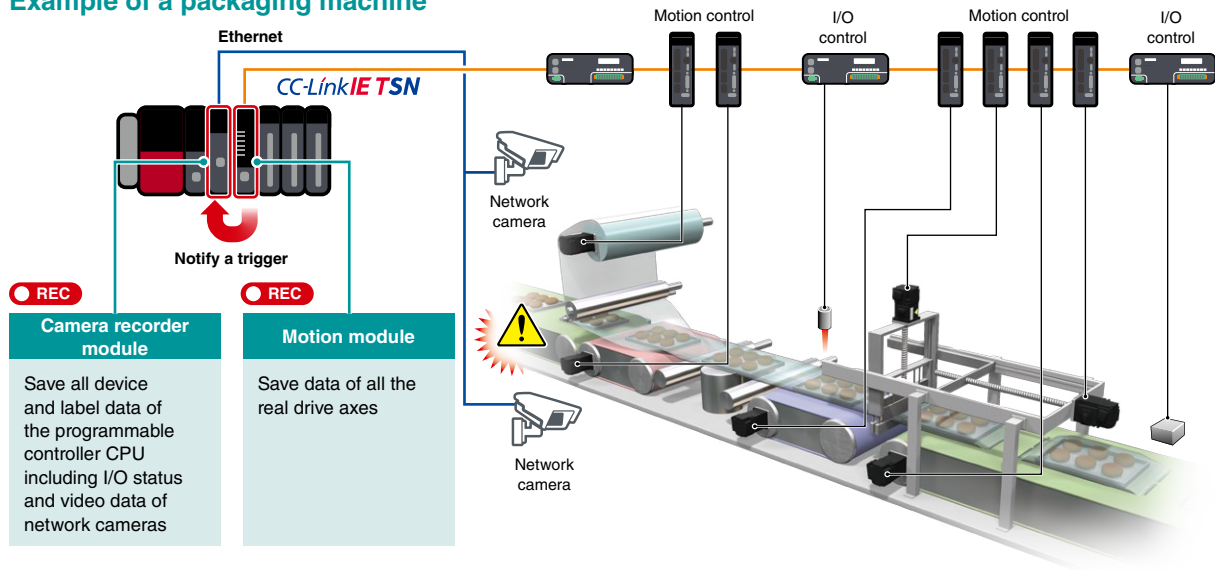### ❷ Automatic collection without requiring a program

- Simple parameter settings enable the data collection without programming
- Speed/torque/positional data of the MELSERVO-J5/MELSERVO-J4 Series servo amplifier connected with the MELSEC iQ-R Series motion module/motion CPU module are automatically collected as logging data when an error occurs
- Data with a time-stamp is saved in the SD memory card of the motion module/motion CPU module

Motion CPU module
Motion module

SD memory card

SSCNETⅢ/H

Servo amplifier data

CC-Link IE TSN

Servo amplifier

Automatic collection of all servo amplifier axis data

Store in the SD memory card in the motion module/motion CPU module when an error occurs

Drive recorder data

Retrieved data
Position command
Speed command
Position feedback
Speed feedback
Torque feedback
Axis error code

Motion module

- Target amplifier for data collection
  Max. 256 axes
- Sampling cycle
  Max. 125 µsec

Motion CPU module

- Target amplifier for data collection
  Max. 64 axes
- Sampling cycle
  Max. 0.222 ms

Co-recording function enables easier error cause identification by recording entire system data within compatible modules*1 NEW
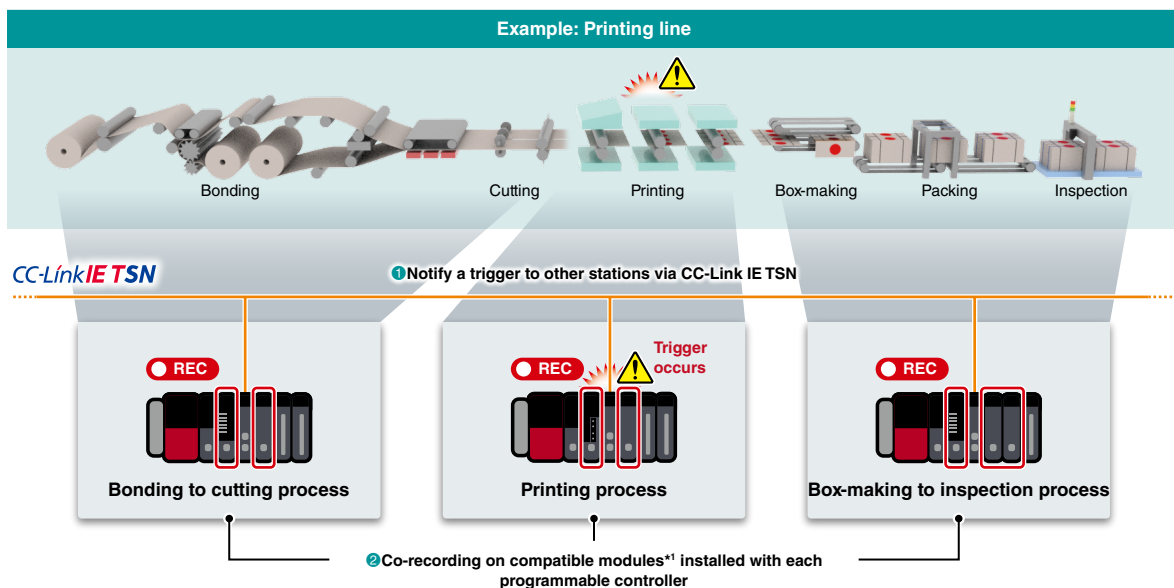
- When any of the compatible modules*1 detects an error, all data recorded in the system is saved at the same time
- By comparing the control data for each module and video feeds when an error occurs, the error cause within multiple devices can be easily analyzed

Example of a packaging machine

Ethernet

CC-Link IE TSN

Motion control | I/O control | Motion control | I/O control

Network camera

Network camera

Notify a trigger

● REC
Camera recorder module

Save all device and label data of the programmable controller CPU including I/O status and video data of network cameras

● REC
Motion module

Save data of all the real drive axes

Error cause identification via network across entire system by co-recording compatible modules*1 NEW

- Errors detected by any of compatible modules*1 are notified to other stations via CC-Link IE TSN
- Even in a large-scale production line with multiple equipment/processes, error factors across programmable controllers can be easily analyzed by aligning a specific timeline


Example: Printing line

Bonding | Cutting | Printing | Box-making | Packing | Inspection

CC-Link IE TSN

❶ Notify a trigger to other stations via CC-Link IE TSN

● REC
Bonding to cutting process

● REC
Trigger occurs
Printing process

● REC
Box-making to inspection process

❷ Co-recording on compatible modules*1 installed with each programmable controller

*1. The recorder module, camera recorder module, and motion CPU module are supported. The motion module will be supported in the future.

System-wide recording `Event history`

Record event history

- Operation from engineering software and device/label operation from external devices can be recorded as historical events
- By analyzing event history with records of device/label changes when an error occurs, an error due to data write from an external device or a mistake with operator's procedure can be checked
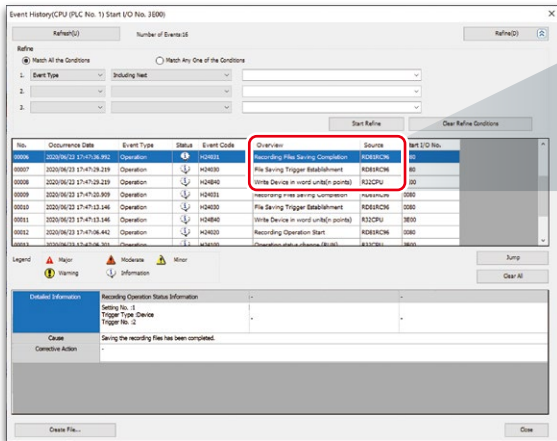
Overview	Source
Recording Files Saving Completion	RD81RC96
File Saving Trigger Establishment	RD81RC96
Write Device in word units(n points)	R32CPU

| Recorded items |
|---|
| Operation from engineering software |
| Device and label data registration via SLMP*1 Ethernet protocol |
| Device and label data registration using instructions (from other stations or machines) |
| Device and label registration using "Simple CPU communications" (from external device) |

*1. SLMP: Seamless Message Protocol

Record operation log and alarm history

❶Easier to identify error cause from operation log

- Operation logs can be recorded as operation log in an SD memory card or USB memory and can be confirmed in the GOT (HMI) or MELIPC MI3000 on the shop floor
- Data such as operation logs and alarm history can be checked on a computer in time-series
- In addition to operator authentication, recording of specific operator logs can be identified easily

Operation log list
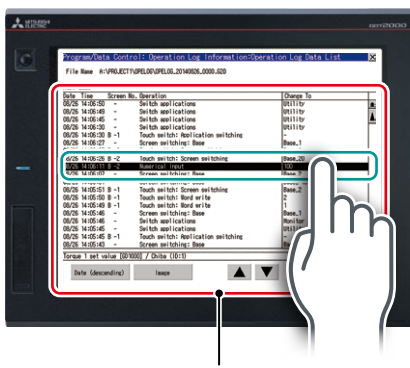
Check log profile

Focus on log

Detailed information

Check log details ◄

Check log image ▶

Image (GOT2000)

❷Recording of system alarm history

System errors that have occurred are logged in the GOT (HMI) situated on the shop floor. Alarms related to each device with detailed logs showing specific network station number are supported. These features are ideal for large-scale systems.
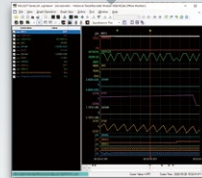
Simplified analysis

Analysis of recorded data
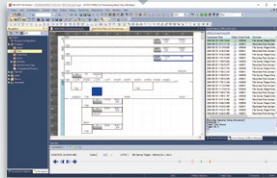
Program monitoring and event history


Replay the video

Waveform data check

GOT (HMI) display

Without the system recorder

- A lot of data when an error occurs is recorded, but linking data is troublesome

- Difficult to trace a program with varying outputs
- Takes time to understand programs created by others

- Troublesome to find reference points for concerns from a video feed

With the system recorder

- The related video feeds, programs, and devices can be linked to check in the same timeline, allowing easier reproduction of the process at an error

- Analysis of programs created by others is easy as relationships of device values and program can be visualized within the flowchart

- As unusual motion is extracted from a video feed and automatically marked, the reference points for concerns can be narrowed down
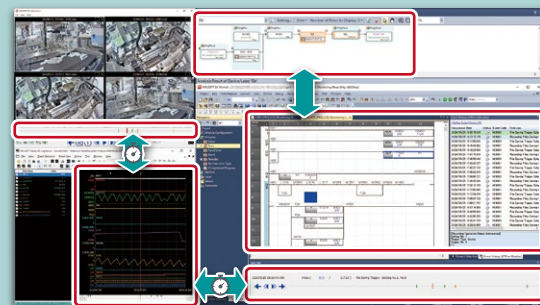
Log marker function

Faster cause analysis by synchronized video feed, program and waveform monitoring

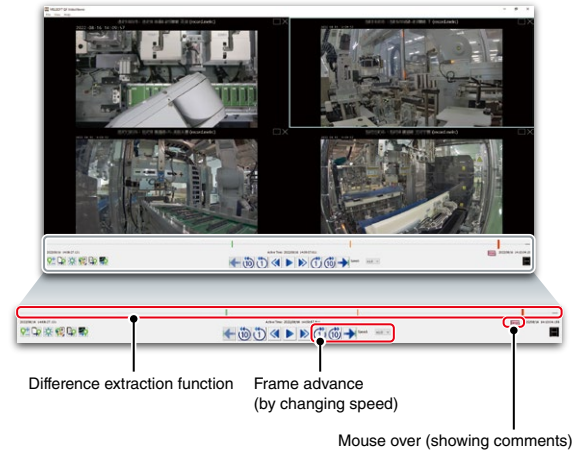❶ **Register milestone points on the timeline**

Milestone points (log marker) can be added to the moment when an error occurs. These points can be saved for later use or for distributing amongst other support personnel enabling multiple people even in the remote location to analyze the problem area of the application.

❷ **Categorize registered milestone points**

Log markers can be color-coded according to importance and event type with support of commenting, realizing efficient analysis.

❸ **Confirming video feed with collected data**

After checking the video feed, outputs causing an error and related devices can be tracked as well as programs that change devices. The milestone points (log markers) are synchronized with each software and reproduced at different playback speeds offering a realistic view of the process together with the control data collected.

Difference extraction function   Frame advance (by changing speed)

Mouse over (showing comments)

Difference extraction function

Maisart

AI technology that extracts differences from the target video by comparing "appearance" and "operation" without deep learning

Industry's first*1

In addition to the GX VideoViewer functions, differences in a video feed are extracted and marked just with simple setting.

*1. Based on Mitsubishi Electric research as of April 28, 2022

❶ **Automatically mark differences in the recorded video feed**

• Extracts differences in the video feed that differ from normal patterns and adds a mark in the video feed and on the seek bar
• AI analyzes differences of appearance and operation with unique algorithm, enabling easier error analysis
• Significantly reduce the time to find errors and such occurring at a high-speed which cannot follow with the human eye

❷ **Easy 2-step setting**

Automatic extraction by unique algorithms can be set up in 2 simple steps:

STEP ❶   Set camera images of normal operation. (generation of normal pattern)

STEP ❷   Execute difference extraction.

Differences are extracted according to changes in "appearance" and "operation", then marked on the video feed automatically.
The log markers can be synchronized with other software.

Conventionally Differences from normal patterns are checked by an operator	Possible differences from normal patterns are automatically extracted

0:00   20:00

0:00   20:00

■ : Different area in the video
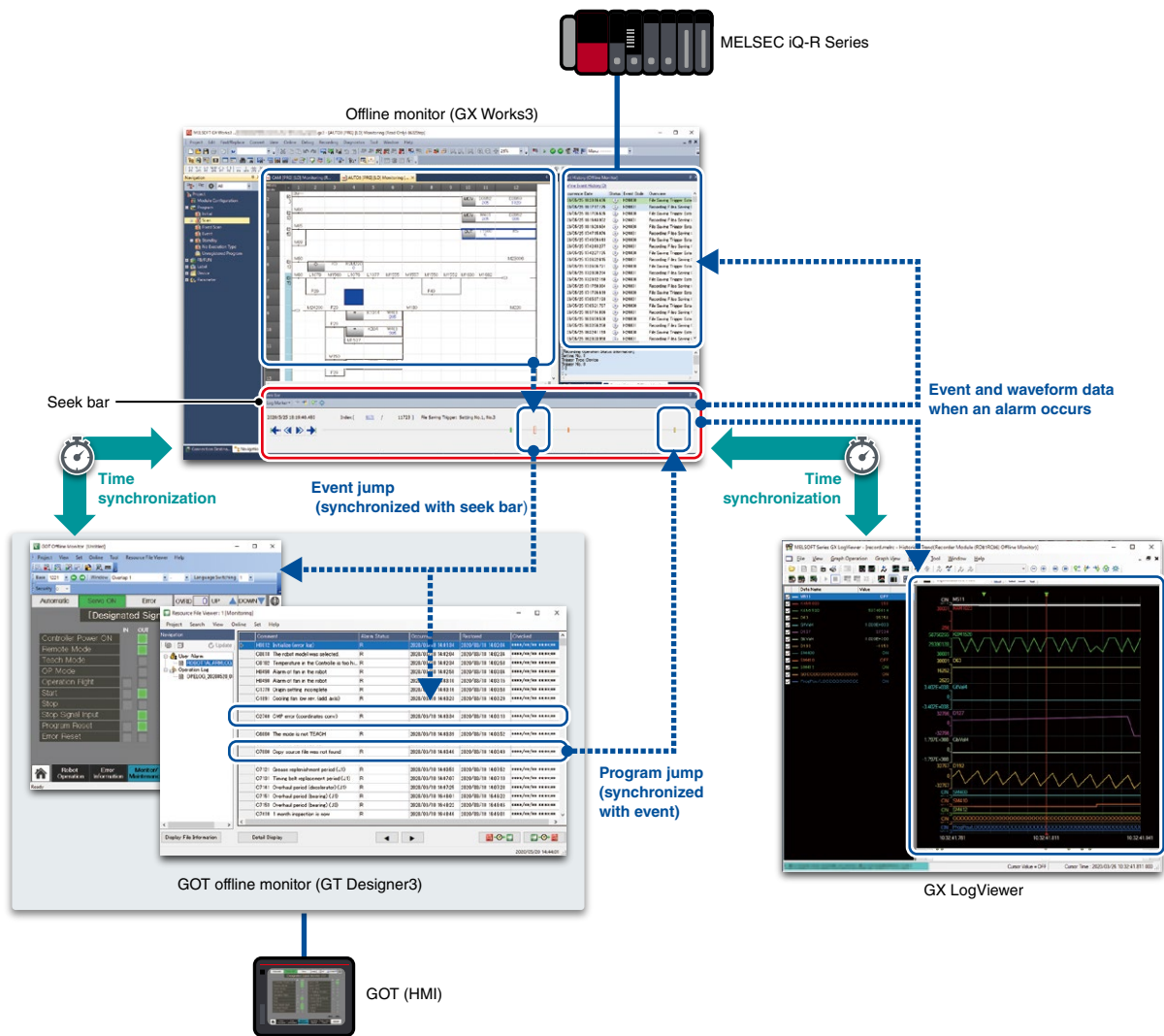
▨ : Different area duration displayed on the seek bar

User benefits   **Differences are automatically extracted from the recorded video feed, saving labor time in identifying the cause of abnormalities**

Maisart

Maisart: Mitsubishi Electric's AI creates the State-of-the-ART in technology
Mitsubishi Electric's brand of AI technology aiming to make all devices smarter

Offline monitoring

Synchronized playback of program, waveform data, GOT (HMI) (screens, operation logs, alarm history)

- Playback of data can be done very simply just by loading the recorded data into GX Works3, automatically executing all other necessary tools
- Using the "seek bar" enables to jump back and forth within the timeline synchronizing data between GX Works3 program monitoring (circuit monitor), GX LogViewer (waveform display), and GOT (HMI) (screens, operation logs, alarm history)
- Programming languages such as ladder, ST, FBD, and SFC are supported

MELSEC iQ-R Series

Offline monitor (GX Works3)

Seek bar

Event and waveform data when an alarm occurs

Time synchronization

Event jump (synchronized with seek bar)

Time synchronization

Program jump (synchronized with event)

GOT offline monitor (GT Designer3)

GX LogViewer

GOT (HMI)

Data flow analysis function
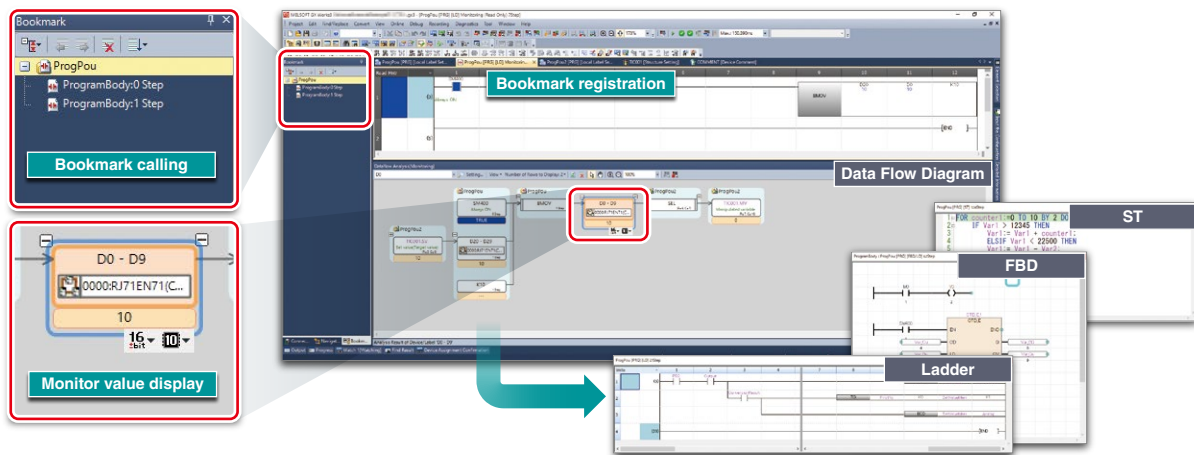
❶Visualize affected area of device/label

Device and labels together with the affected area can be visualized within the flowchart. The process flow from comments, instruction names, event history, and monitored values can be checked easily identifying the cause of an error.

❷Bookmark milestone points

Bookmark milestone points to check speedy.

❸Main program languages supported

Analysis can be done for ladder programs, function block diagram (FBD), SFC (within Zoom) and ST language programs.

Bookmark calling

Monitor value display

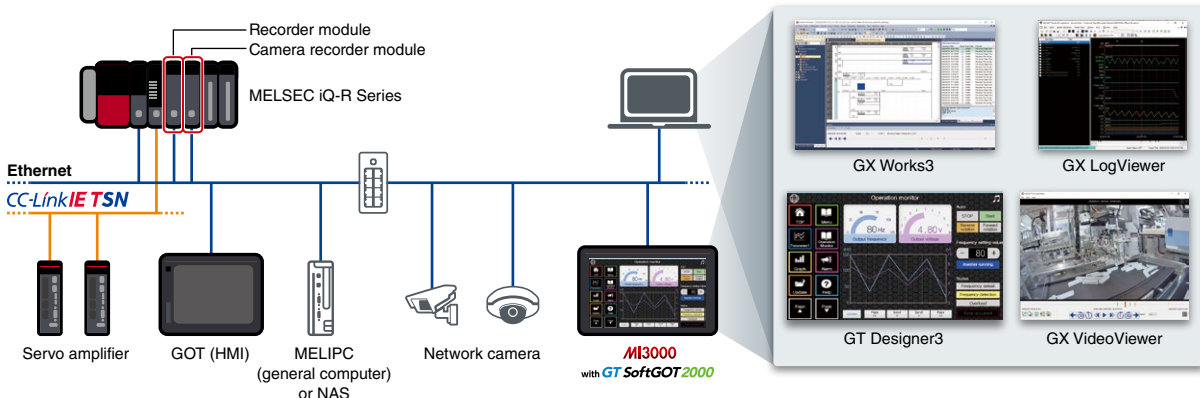Bookmark registration

Data Flow Diagram

ST

FBD

Ladder

Simplified analysis of motion control

By loading the motion module/motion CPU module data to GX LogViewer, the axis data shown as a waveform can be easily compared with the programmable controller device data for analysis.

Simplified analysis using panel computer

Multiple data can be reproduced on a panel computer such as the MELIPC MI3000 (embedded Windows® OS). Considering the panel computer is situated on the shop floor, various historical alarms and operation logs can be confirmed efficiently at the point where a problem occurs.

Recorder module
Camera recorder module
MELSEC iQ-R Series

Ethernet
CC-Link IE TSN

Servo amplifier   GOT (HMI)   MELIPC (general computer) or NAS   Network camera   MI3000 with GT SoftGOT 2000

GX Works3   GX LogViewer

GT Designer3   GX VideoViewer

■System recorder related products specifications

Recording function
(device and label collection, image recording)

■ Recorder module RD81RC96   ■ Camera recorder module RD81RC96-CA

Automatic collection of all device changes per programmable controller scan time
(with time-stamp) prior to and after an error occurs.

- Collect all device/label and event history data
- Easily register device trigger and recording time before and after the event
- Network camera image recording (RD81RC96-CA only)

RD81RC96   RD81RC96-CA

Recorder module, camera recorder module specifications

Item		RD81RC96	RD81RC96-CA
Recording target		Device/label, event history	Device/label, event history, video data
Number of recording settings		Up to 4	
Recording method		File saving trigger only, recording startup trigger + file saving trigger	
File saving trigger		Device of the control CPU module (rise, fall, timeout), specified time after completion of data accumulation, control CPU module stop error	Device of the control CPU module (rise, fall, timeout), specified time after completion of data accumulation, control CPU module stop error, camera event
Recording startup trigger		Rise/fall (1 per recording setting)	
Sampling method		Each scan, time specification, trigger instruction, safety cycle time	
Number of connectable modules		One recorder module per control CPU	Four camera recorder modules per control CPU
Applicable cameras[1]	Camera type	-	ONVIF® Profile S compliant network camera
	Number of cameras	-	Max. 4 per module[2]
Storage type		SD memory card, file server	
Compatible CPU module		R04/08/16/32/120(EN)CPU, R08/16/32/120SFCPU[3]	

*1. For details of compatible camera, please refer to the technical bulletin (FA-A-0326).
*2. Up to two units when the recording operation setting is "main" and four units when the recording operation setting is "sub". For details, please refer to the relevant product manual.
*3. Compatible CPU modules can be checked from product information. Please refer to System recorder device configuration on P.18 and "MELSEC iQ-R CPU User's Manual (Application) (SH-081264ENG)".

Image recording

■ Camera recording package[4]
Dedicated function blocks (FB) used in combination with the recorder module.

Camera recording package specifications

Item		Camera recording package
Applicable cameras	Camera	AXIS® COMMUNICATIONS (AXIS®) Network camera[5]
	Amount (max.)	RnCPU:16, RnENCPU:64, RJ71EN71:112[6]
Save destination		File server
Included item	FB	Time setting, recording direction, virtual input port control
	Connection guideline	Commercially available network camera and connection and setup guideline for included FBs
Compatible module	CPU embedded Ethernet port	R00/01/02CPU, R04/08/16/32/120(EN)CPU
	Ethernet interface module	RJ71EN71

*4. For information on obtaining the package, please contact your local Mitsubishi Electric sales office or representative.
*5. For details of compatible camera, please refer to the technical bulletin (FA-A-0306).
*6. The maximum number of cameras depends on the amount of available connections not used by other devices. For more information, please refer to "MELSEC iQ-R Ethernet/CC-Link IE User's Manual (Startup) (SH-081256ENG)".

Network camera (Live/PTZ) setting screen

■ **Camera adjustment on the operation panel*1**
   MI3000
   GOT2000 (GT27, GT25)

Sample screens supporting live image streaming and PTZ adjustment of the network camera via the MELSEC iQ-R camera recorder module are available.

*1. For information on obtaining the sample screens, please contact your local Mitsubishi Electric sales office or representative.
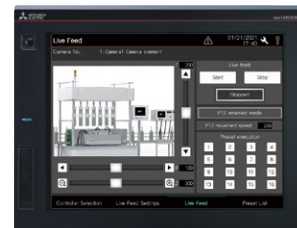
Servo system recorder

■ **Motion module**

RD78G4	**RD78G64**
RD78G8	**RD78GHV**
RD78G16	**RD78GHW**
RD78G32	

■ **Motion CPU module**

R16MTCPU
R32MTCPU
R64MTCPU

RD78G   R64MTCPU

Automatic collection of all servo control system drive axes data from the motion module and motion CPU module when an error occurs. Can be used for easy troubleshooting based on command and feedback values.

• Collect servo system recorder data without programming
• Data collection of all drive system axes
• Compare axis data with other logged data on GX LogViewer

■System recorder related software

GX VideoViewer

Playback of recorded video up to four screens, while freely playing forward one frame, fast-forwarding, and rewinding. Each video can be linked to check in the same timeline. Color-coded log markers can be added to the video timeline, which is useful for analyzing among multiple personnel and inspection. Log markers are synchronized with related engineering software.
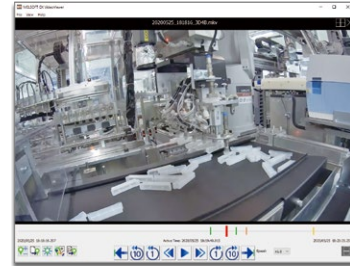

GX VideoViewer Pro

In addition to the GX VideoViewer functions, GX VideoViewer Pro automatically extracts differences in a video feed and easily identify an error cause. Differences in the video feed from normal patterns generated during normal operation are extracted based on "appearance (color, shape, position, etc.)" and "operation (movement amount in unit time)", then log markers are automatically added. The error cause can be easily identified in two steps; model generation and difference extraction.
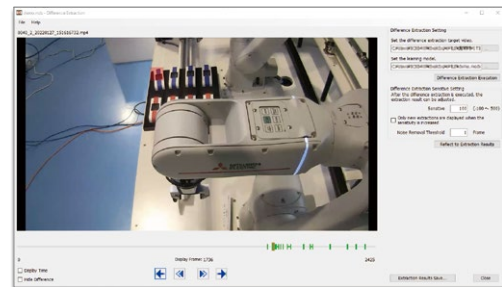

GX LogViewer

GX LogViewer allows observation of device values, which represent quantities that change over time, by zooming in and out of waveforms similar to an oscilloscope. Difference can be checked by superimposing multiple waveforms and observed from repeated patterns and such.
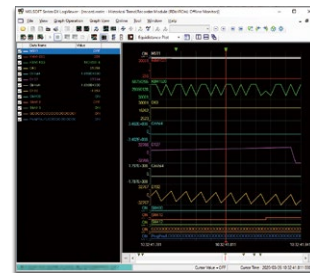
GX Works3

Program steps can be followed and device value changes can be checked by synchronizing the recorded system recorder data with log markers. Data flow analysis visualizes device values and programs affecting the data value change, helping to identify the cause of faults. This can reduce analysis time. Supported programs which synchronize with log markers include not only ladder programs but also function blocks that are easy to follow from the program.
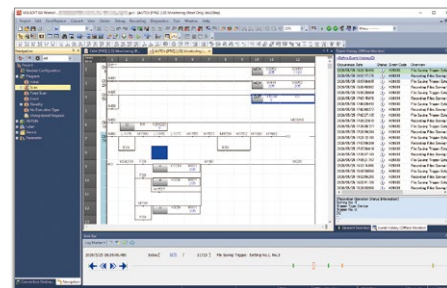
GT Designer3

Screen creation software for GOT (HMI).
GOT (HMI) display/operation log/alarm history can be displayed offline by synchronizing with other applications, making it easier to visualize an error.

* For details on how to obtain the above software, please contact your local Mitsubishi Electric sales office or representative.

■System recorder device configuration

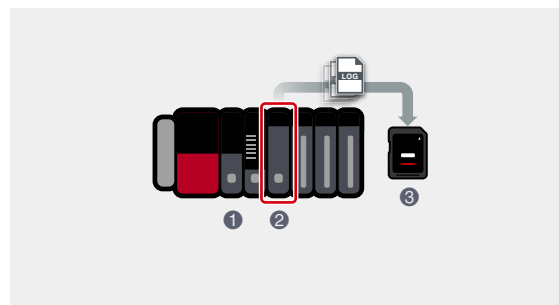## Basic configuration

Collecting of all device and label data

❶MELSEC iQ-R Series CPU module*1
❷**Recorder module*2**
❸SD memory card

*1. CPU modules with product information (3rd and 4th digits) stated below support collecting of all device and label data.

Model	Product information	Model	Product information	Model	Product information
R04CPU	"19" or later	R04ENCPU	"32" or later	R08SFCPU	
R08CPU	"20" or later	R08ENCPU	"30" or later	R16SFCPU	
R16CPU	"20" or later	R16ENCPU	"27" or later	R32SFCPU	"05" or later
R32CPU	"17" or later	R32ENCPU	"30" or later	R120SFCPU	
R120CPU	"17" or later	R120ENCPU	"22" or later		

For how to check product information, please refer to the "MELSEC iQ-R Module Configuration Manual (SH-081262ENG)." Module firmware update may be required depending on modules.

*2. GX Works3 (Ver.1.065T or later) is necessary for recording setting and module setting.
GX Works3 (Ver.1.070Y or later) is necessary when using RnSFCPU.

Basic configuration + ⟨ Camera recording package ⟩

Collecting of all device and label data and recording instructions to network camera from software

❶MELSEC iQ-R Series CPU module*3
❷Network camera*4
❸**Camera recording package (FB and guideline)**
❹**Recorder module*5**
❺SD memory card or file server (NAS or computer)
❻PoE switching hub (IEEE802.3at (PoE+) compliant)*6

*3. CPU modules with product information (3rd and 4th digits) stated below support collecting of all device and label data.

Model	Product information	Model	Product information
R04CPU	"19" or later	R04ENCPU	"32" or later
R08CPU	"20" or later	R08ENCPU	"30" or later
R16CPU	"20" or later	R16ENCPU	"27" or later
R32CPU	"17" or later	R32ENCPU	"30" or later
R120CPU	"17" or later	R120ENCPU	"22" or later

For how to check product information, please refer to the "MELSEC iQ-R Module Configuration Manual (SH-081262ENG)." Module firmware update may be required depending on modules.
To use camera video recording only, below CPU modules can be used.
 • R00/01/02/04/08/16/32/120CPU, R04/08/16/32/120ENCPU (no restriction to product information)
 • In addition to the above CPU Ethernet ports, the Ethernet interface module (RJ71EN71) can also be used

*4. For details of compatible AXIS® COMMUNICATIONS (AXIS®) Network cameras, please refer to the technical bulletin (FA-A-0306).

*5. GX Works3 (Ver.1.065T or later) is necessary for recording setting and module setting. GX Works3 (Ver.1.070Y or later) is necessary when using RnSFCPU.

*6. PoE: Power over Ethernet
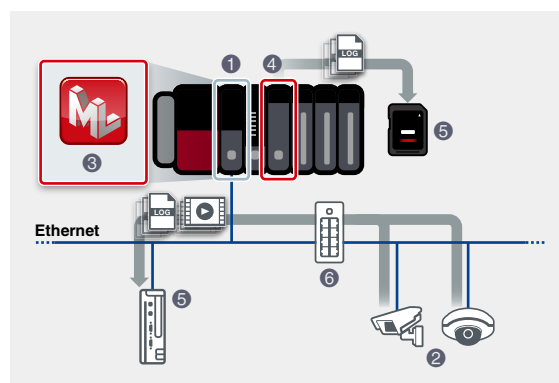
Basic configuration + ⟨ Camera recorder module ⟩

Collecting of all device and label data, storage of video data from network camera

❶MELSEC iQ-R Series CPU module*7*8
❷Network camera*9
❸**Camera recorder module*8**
❹SD memory card or file server (NAS or computer)
❺PoE switching hub (IEEE802.3at (PoE+) compliant)

*7. CPU modules with product information (3rd and 4th digits) stated below support collecting of all device and label data.

Model	Product information	Model	Product information	Model	Product information
R04CPU	"19" or later	R04ENCPU	"32" or later	R08SFCPU	
R08CPU	"20" or later	R08ENCPU	"30" or later	R16SFCPU	
R16CPU	"20" or later	R16ENCPU	"27" or later	R32SFCPU	"05" or later
R32CPU	"17" or later	R32ENCPU	"30" or later	R120SFCPU	
R120CPU	"17" or later	R120ENCPU	"22" or later		

For how to check product information, please refer to the "MELSEC iQ-R Module Configuration Manual (SH-081262ENG)." Module firmware update may be required depending on modules.

*8. GX Works3 (Ver.1.072A or later) is necessary for recording setting and module and camera setting (not yet supported).

*9. For details of ONVIF® Profile S compatible network camera and other compatible cameras, please refer to the technical bulletin (FA-A-0326).
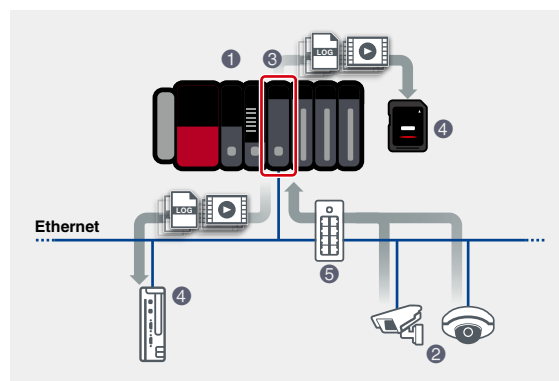
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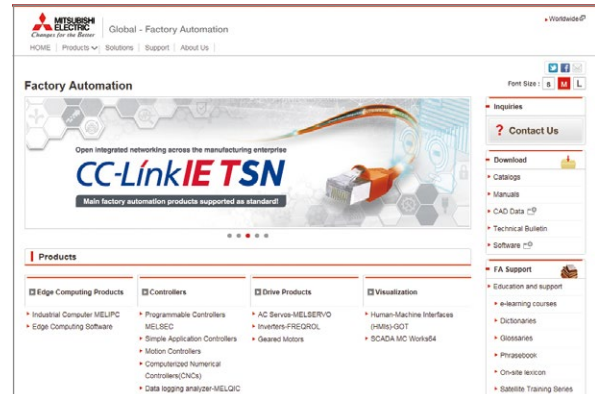
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France	MITSUBISHI ELECTRIC EUROPE B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France	Tel : +33-1-55-68-55-68 Fax : +33-1-55-68-57-57
Czech Republic	MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch, Prague Office Pekarska 621/7, 155 00 Praha 5, Czech Republic	Tel : +420-255-719-200
Poland	MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 48, 32-083 Balice, Poland	Tel : +48-12-347-65-00
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Russia	MITSUBISHI ELECTRIC (RUSSIA) LLC St. Petersburg Branch Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027 St. Petersburg, Russia	Tel : +7-812-633-3497 Fax : +7-812-633-3499
Turkey	MITSUBISHI ELECTRIC TURKEY A.S. Umraniye Branch Serifali Mah. Kale Sok. No:41 34775 Umraniye - Istanbul, Turkey	Tel : +90-216-969-2500 Fax : +90-216-661-4447
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