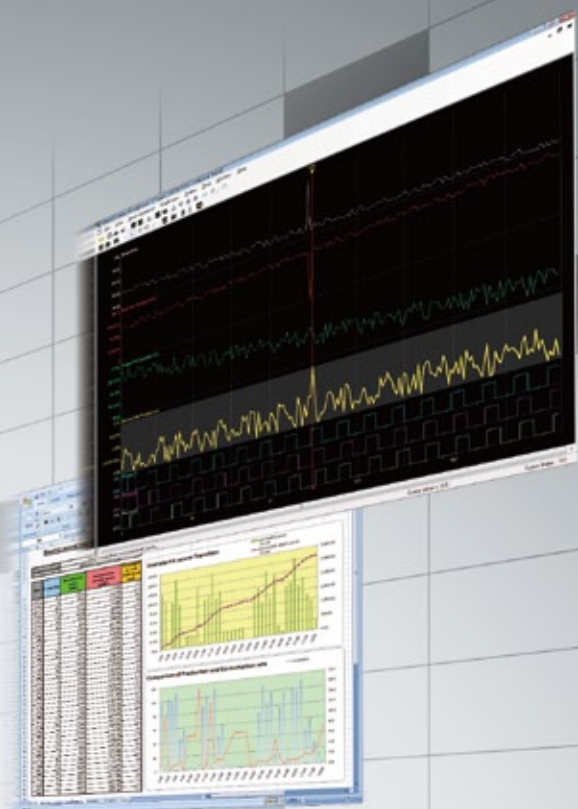


Changes for the Better

Programmable Controllers
High Speed Data Logger Module

High speed data logging without a PC



Extreme Speed and Ultimate Simplicity

**High Speed Data Logger
Module**

[Q D 8 1 D L 9 6]

Compatible with
Windows® 7

for a greener tomorrow



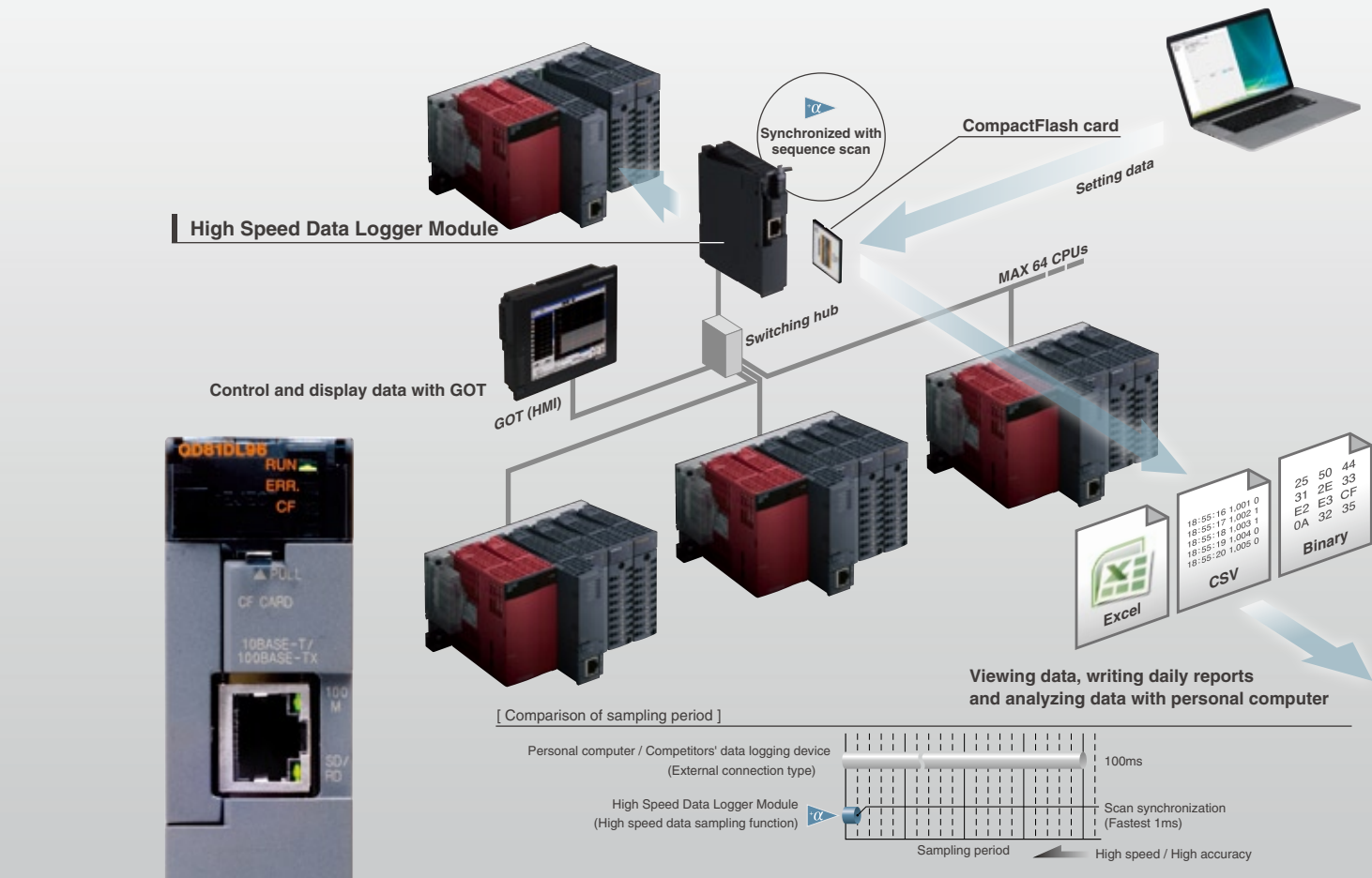
Meeting the need for data logging without the use of a personal computer, the

High Speed Data Logger Module

achieves unparalleled price-performance and sweeps the competition aside.

The included High Speed Data Logger Module Configuration Tool makes setting up data logging intuitive and fast using a wizard-like interface. GX LogViewer enables the use of customizable, interactive trend graphs to assist in data analysis. Data sampled at various stages in the production process provide crucial information for reducing production cost. Furthermore, this type of data contributes to system optimization and incremental increases in production efficiency.

The High Speed Data Logger Module transcends the traditional framework of data logging and adds a new page in factory automation history.



High Speed Data Logger Module

[Q D 8 1 D L 9 6]

High Speed

The high speed sampling function can be synchronized with the sequence scan of suitable CPUs. This synchronization enables powerful analysis of data by providing the ability to sample changes happening in the equipment as fast as the CPU can detect them. Noncompliant CPUs may still performing data logging with a minimum 100ms sampling period. Additionally, a large capacity 8GB CompactFlash card is enough to collect data over a long period of time without overwriting, even using high speed data sampling.



Sampling period (with host station control CPU, in high speed data sampling mode)
Sequence scan synchronization (Fastest 1ms)
High-speed, large-capacity CompactFlash card
8GB

Simple

The High Speed Data Logger Module Configuration Tool includes a wizard that makes configuration remarkably easy. Likewise, GX LogViewer is elegantly intuitive and makes monitoring and analyzing data a joy. When used with a GOT, the logging data can be controlled and monitored without a personal computer. The sampled data can be saved in Excel, CSV or binary format which allows the data to be used by a wide range of applications.

High Speed Data Logger Module Configuration Tool
Simple setting
Logging Data Display / Analysis Tool GX LogViewer
Easy analysis
Generate multiple file formats
Excel, CSV, Binary

Low Cost

A single High Speed Data Logger Module can sample data from up to 64 CPUs. Initial cost can be dramatically reduced compared to other solutions because personal computers and protocol converters are not necessary.

Maximum number of accessible CPUs
64 CPUs
Personal computer, protocol converter
Unnecessary

Equipment design and maintenance

What kind of data sampling is best to identify the cause of trouble?

■ Capture data at high speed for detailed investigation [High speed data sampling function] P. 3	■ Save large amounts of high-speed logging data [Save data in binary data format] P. 8
■ Jump directly to the problem for quick analysis [Trigger logging function] P. 4	■ Capture machine diagnostic data without having to dispatch a support engineer [Auto logging function] P. 9
■ Use logging data in 3rd party applications [Save data in CSV file format] P. 8	■ Create logging configurations quickly and easily [High Speed Data Logger Module Configuration Tool] P. 13 Upgraded Functions [Import global labels and device comments] P. 14 Upgraded Functions

Production and product management

What kind of data sampling is best for traceability?

■ Rapidly identify the what, when, and where of a situation [Event logging function] P. 5	■ Switch production quickly [Recipe function] P. 10 Upgraded Functions
■ Automatically create charts and reports based on sampled data [Save data in Excel file format] P. 7	■ Display and analyze sampled data [GX LogViewer] P. 11 Upgraded Functions
■ Create reports in batch and lot units [Create files in batch and lot units] P. 8	■ Analyze sample data without a PC [GOT LogViewer function] P. 12 Strengthened Product Synergy
■ Continuously log data and avoid replacing the CompactFlash card for extended periods of time [Automatic file overwrite function] P. 9	■ Minimize the cost of collecting sample data [Sample data from up to 64 CPUs] P. 15 [Protocol converters are completely unnecessary] P. 16

[Icon identification]
Capable of data logging synchronized to the control CPU scan time. For a list of compliant CPUs, refer to page 3.

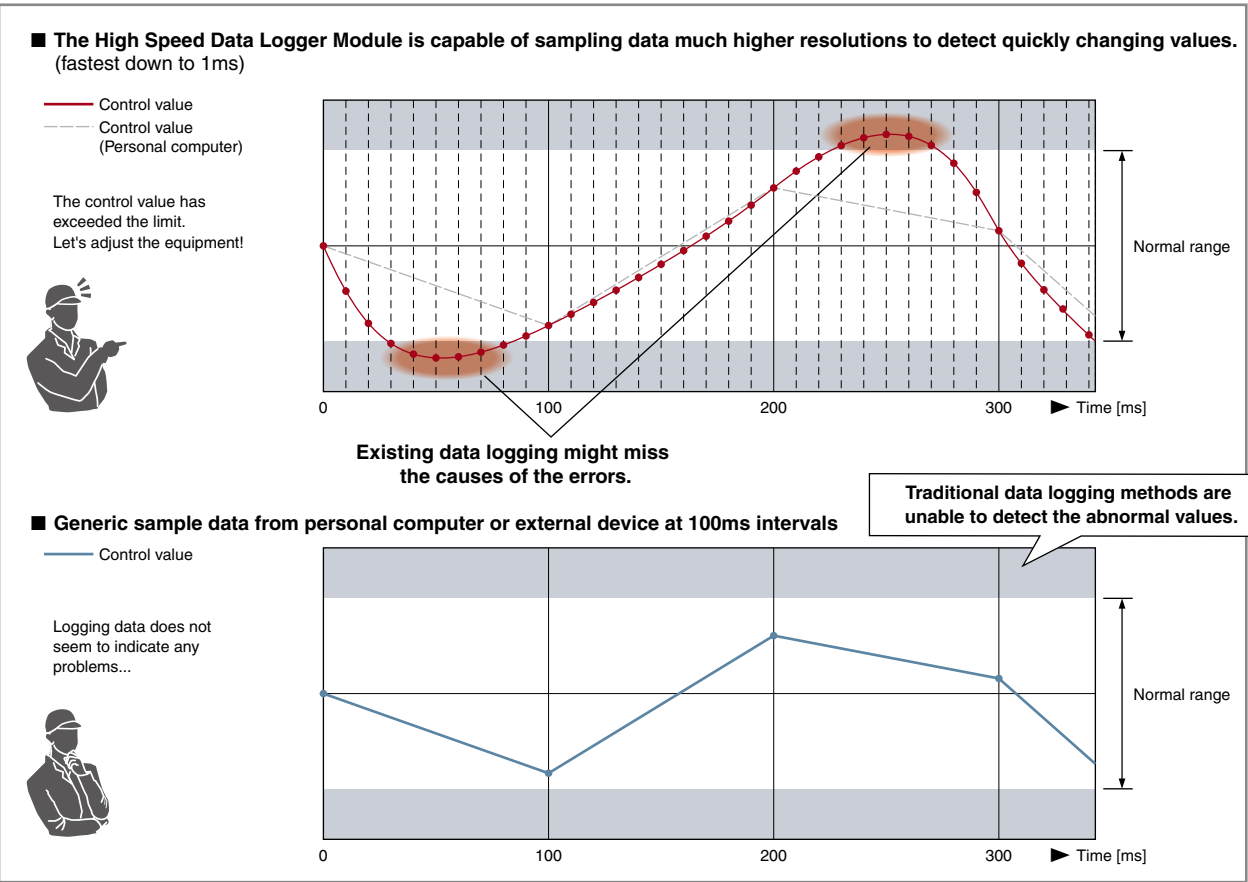
Experience the benefits of scan synchronized data logging.
High speed data sampling captures all of the relevant data.



High speed data sampling function

Data logging synchronized with sequence scan

- The high speed data sampling function has the power to synchronize with the sequence program scan, ensuring that every value available to the program is logged for analysis.
*For the maximum number of device points that can be sampled, refer to the [Processing time] table on page 20.
- Using this method is it possible to perform detailed operational analysis and identify existing or potential problems.



POINT CPUs that support the high speed data sampling function

- MELSEC-Q series [Universal model]

Q03UDE	Q04UDEH	Q06UDEH	Q10UDEH	Q13UDEH	Q20UDEH	Q26UDEH	Q50UDEH	Q100UDEH
Q03UD	Q04UDH	Q06UDH	Q10UDH	Q13UDH	Q20UDH	Q26UDH		

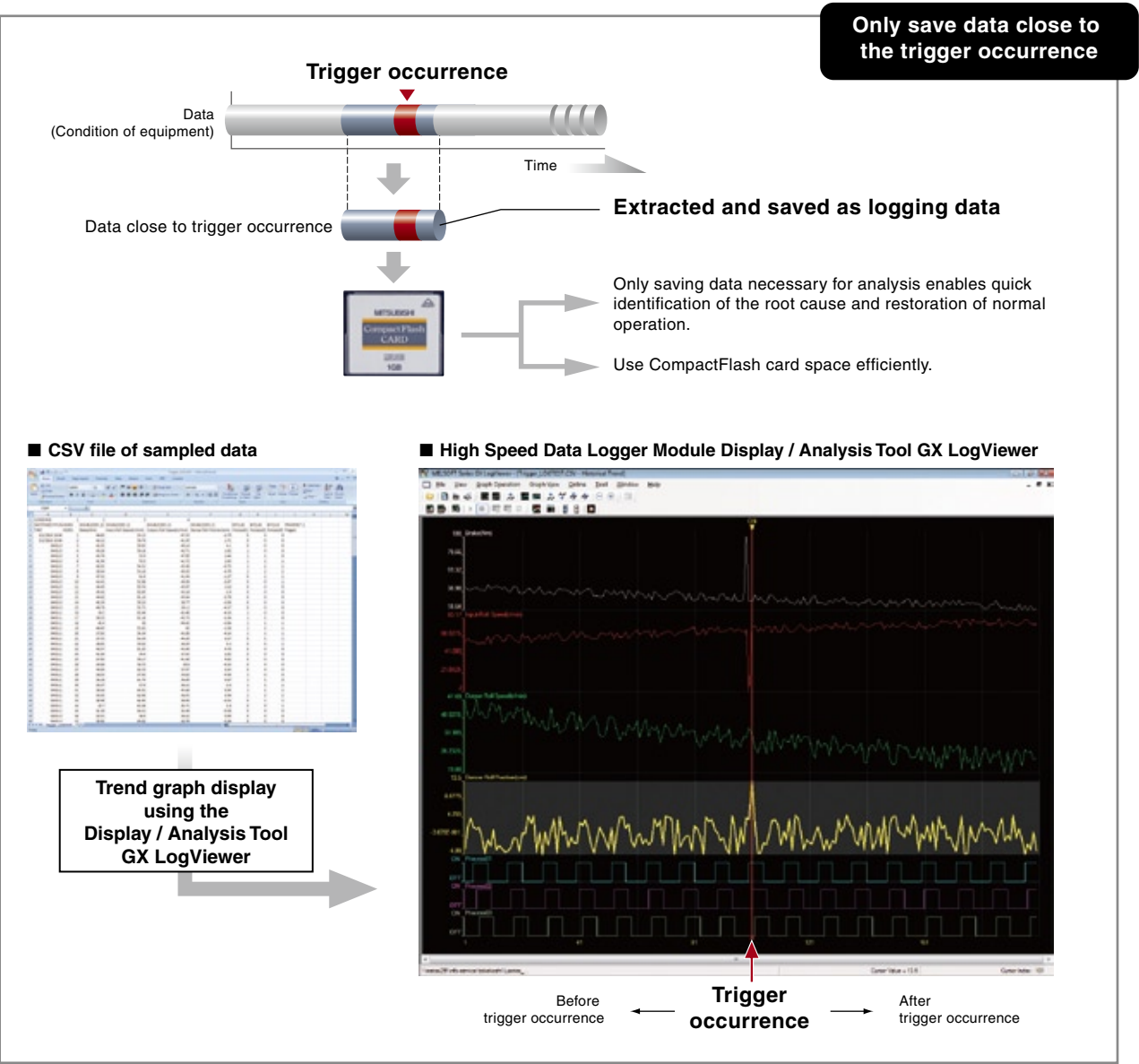
- Serial No. In cases where the first five digits are 11012 or higher.

* The high speed data sampling function only supports the host control CPU. (Other stations are not supported via the network.)

Trigger logging function

Accelerate the debugging process via conditional logging of data

- Trigger logging allows the user to specify a condition or set of circumstances for when sample data should be saved. This greatly simplifies the process of investigating why a problem has occurred and assists in the quick identification of solutions.
- By only recording data when abnormalities occur, even high speed data logging files do not occupy a large amount of space on the CompactFlash card.



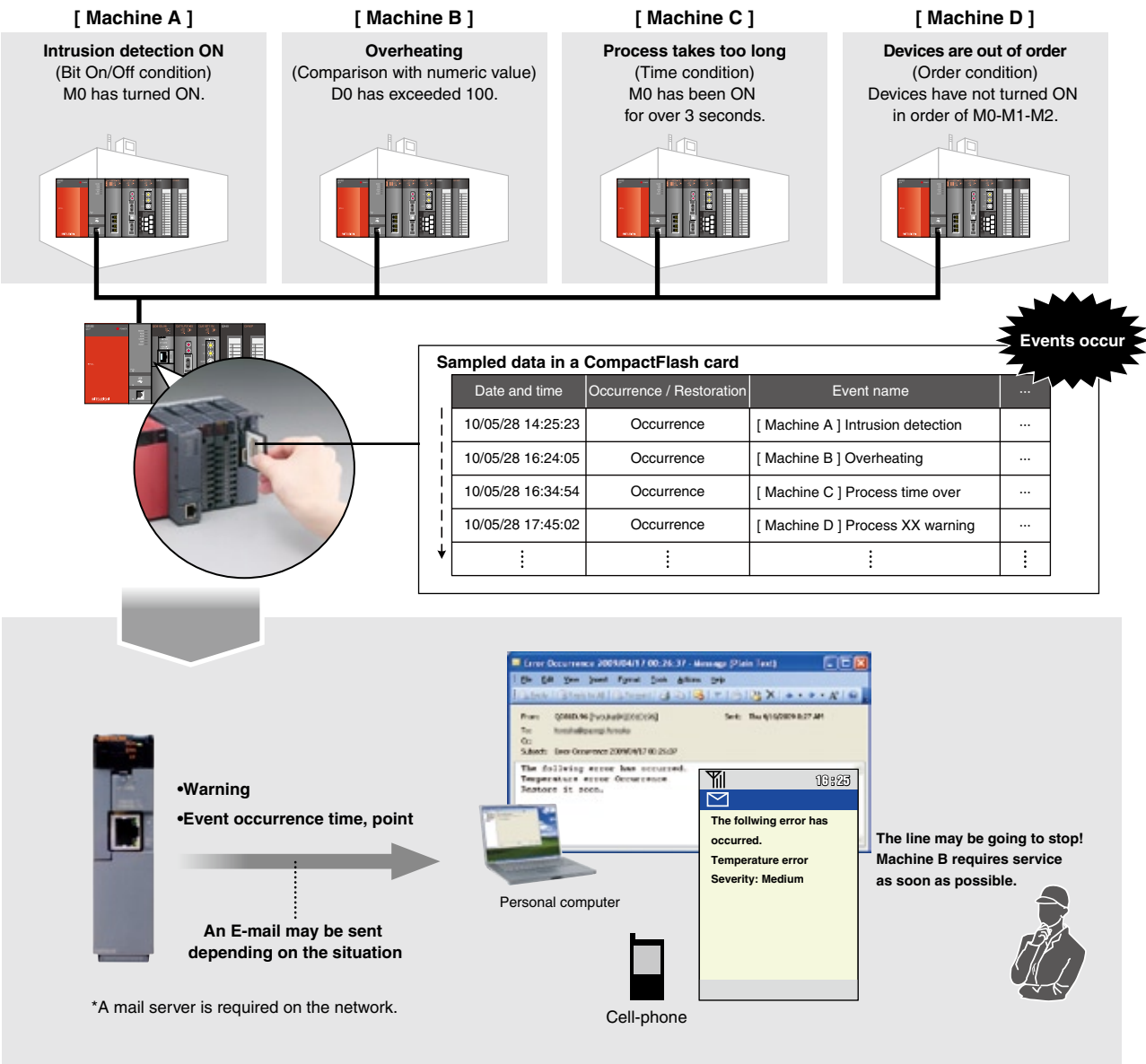
*The precise sequence of events is easily visible,
enabling quick troubleshooting.*

Receive e-mail notifications according to pre-defined situations.

Event logging function

Superior event condition detection and time-line of events facilitates the detection of failures before they happen

- Data is logged according to user defined monitoring conditions to leverage efficient problem identification and forecast future troubles.
- Monitoring conditions are extremely flexible. They encompass not only data values but occurrence interval and order of events.
- The e-mail notification feature enables quickened response time to trouble that translates to less down-time.

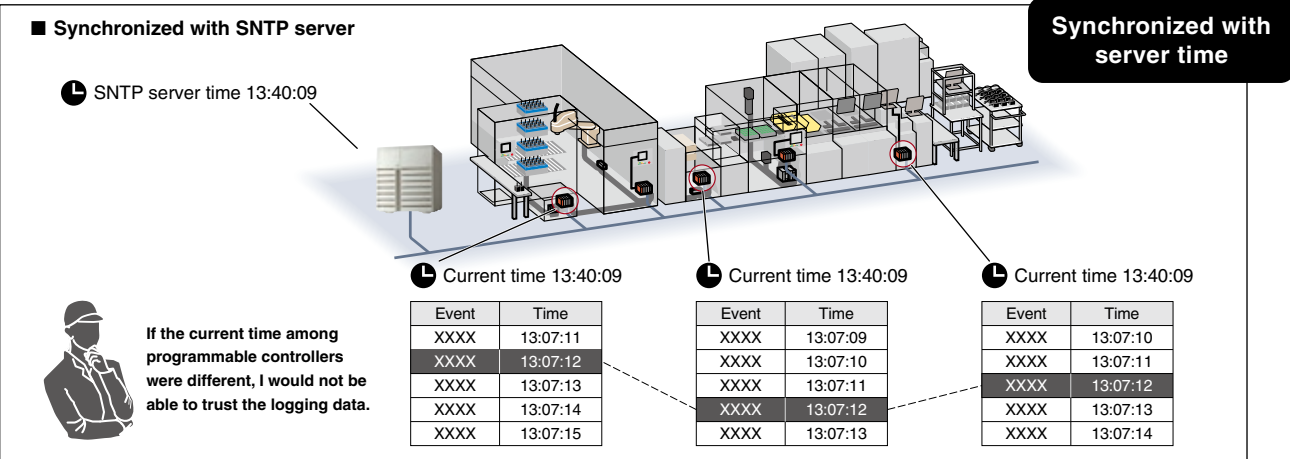


Time synchronization function

Compare logging data across multiple systems with a high degree of accuracy

- Synchronize systems on the Ethernet network using an SNTP server. Highly precise time synchronization can be achieved to enable precise comparison of logging data from multiple High Speed Data Logger Modules. Perform simultaneous operations, quality control, error tracking, and other actions.
- When all data logger modules are time synchronized, sampling data time-stamps allow the easy and rapid tracking of cause and effect across large systems.

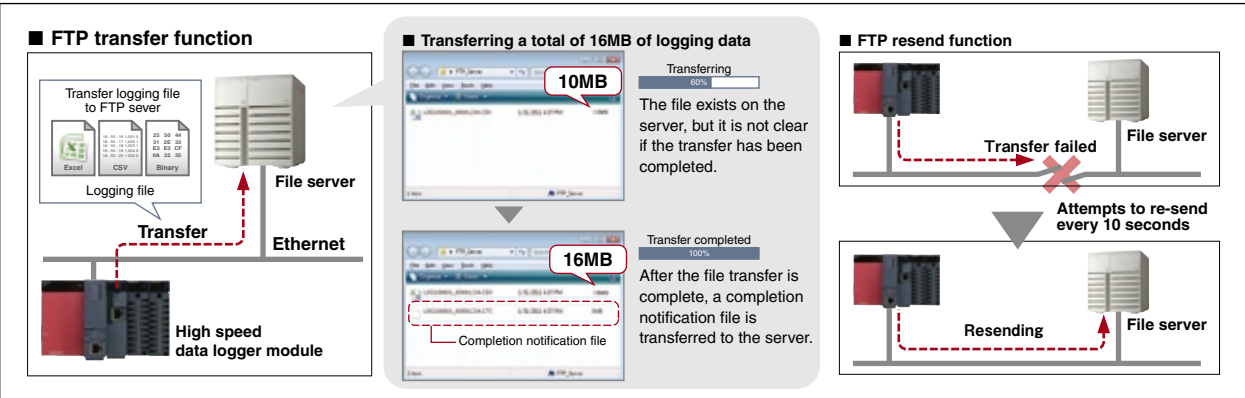
*SNTP: Simple Network Time Protocol



FTP transfer function

Manually or automatically transfer large volumes of logging data to an FTP server

- The ability to automatically transfer logging data to an FTP server allows continuous logging and CompactFlash card overcapacity issues can be avoided altogether.
- If a file transfer is interrupted or the FTP server becomes inaccessible, the data logger module can retry later to prevent lost data.
- An additional "completion notification" file is transferred to the server when the main file transfer is complete. This can prevent data that is still being written from being used inadvertently.



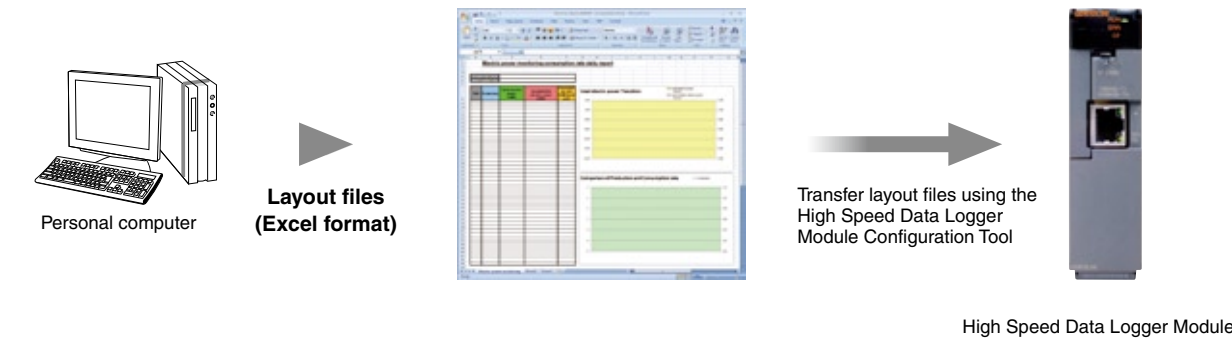
For flexibility, data can be saved in Excel, CSV, or binary format.
Create reports in batch and lot units



Save data in Excel file format

Auto creation of Excel files

- Create custom layout files in Excel containing formulas, graphs, charts, et cetera.



Save data in CSV file format

Analyze data using a wide variety of applications

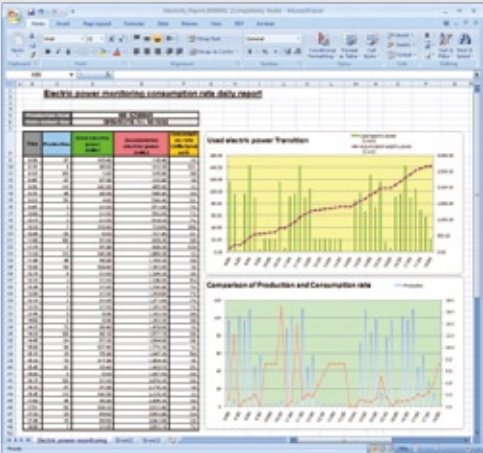
- The CSV format is in wide-spread use across operating systems. This interoperability lets the user view the data the way they want to.
- File operations are faster and file size is smaller compared to Excel files.

Save data in binary data format

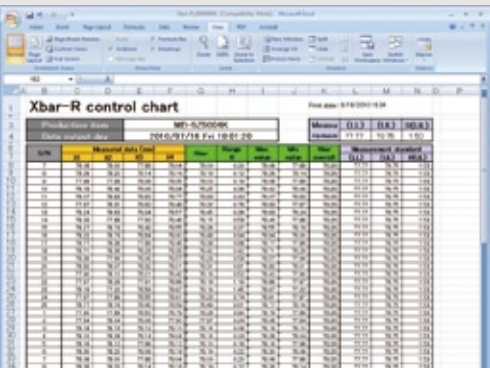
Compact size and high speed file operations make it ideal for very large sampling data

- The “raw binary” format used by the Display and Analysis Tool is even more efficient than CSV.
- GX LogViewer reads binary files and presents the data in graph form. The way the graphs are displayed is highly flexible to allow the user to create the optimal environment for data analysis.

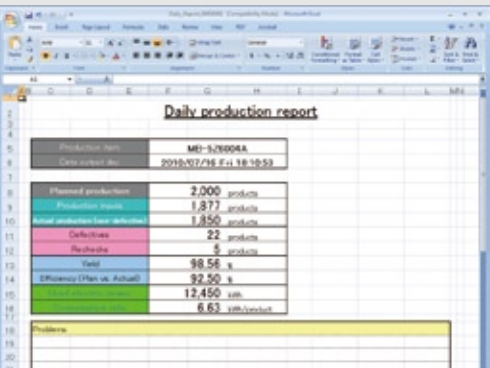
Using the report function, automatically fill in a layout file with sampled data to generate monthly, weekly, or daily reports; all kinds of reports can be created that include charts, graphs, and other visual aids. It is even possible to e-mail the reports automatically!



Control chart



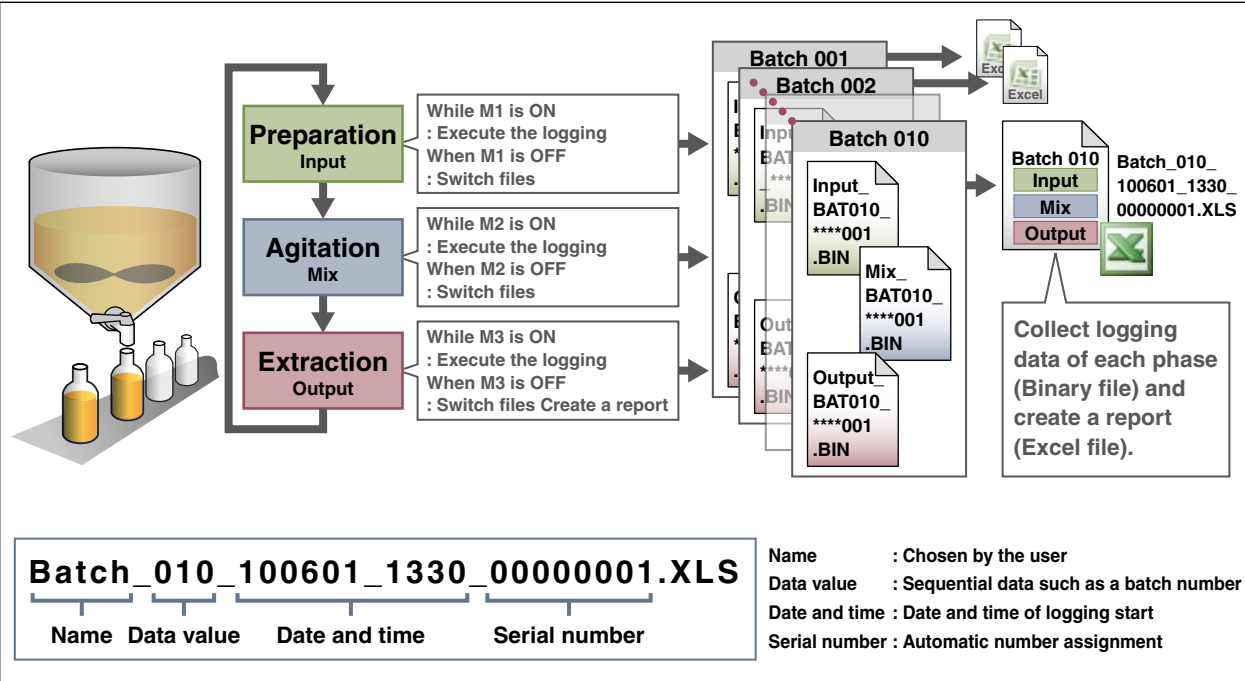
Daily production report



Create files in batch and lot units

Fully customizable file switching behavior

- Configure how and when logging data is split into separate files to generate reports for batch and lot units.
- Automatically generated file names can be configured to include date, time, and batch numbers for improved organization.

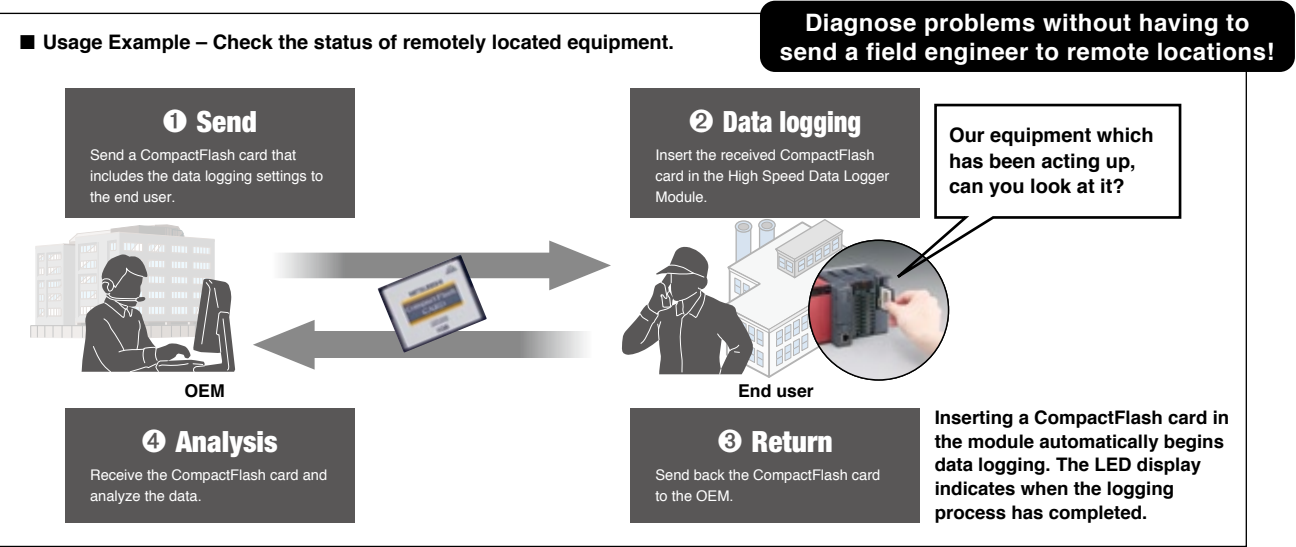


A wide range of valuable functions are included with every unit

Auto logging function

Automatically begin logging data by simply inserting a CompactFlash card

- Data logging begins immediately by inserting a CompactFlash card that contains logging settings.
- OEMs can send a logging setting file or CompactFlash card to the end user for foolproof capture of diagnostic data.



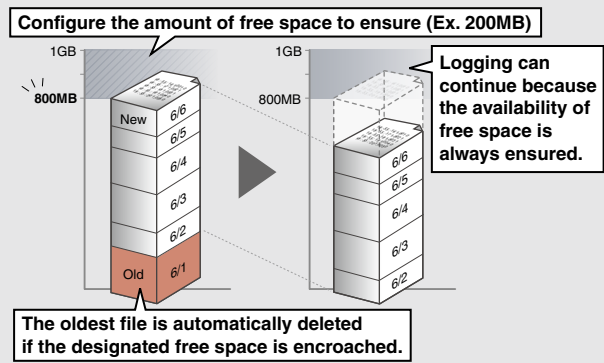
Automatic file overwrite function

Prevent data loss due to lack of CompactFlash card space

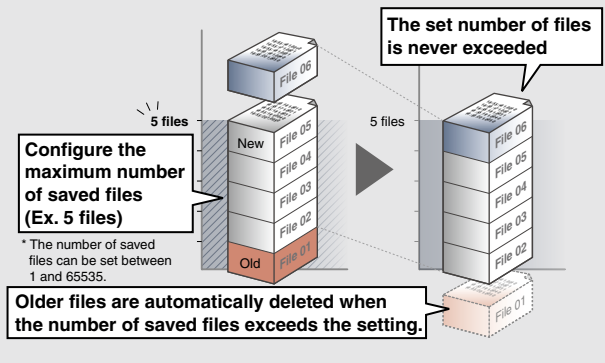
- Using the automatic file overwrite function, data can be continuously logged without filling up the CompactFlash card.*
- *The CompactFlash card has a service life (limited number of writes). Replace the card before it reaches the end of its service life. Refer to the formula in the high speed data logger manual for details on calculating the service life.

[Automatic file overwrite function]

Maintain a designated amount of free space



Maintain a designated number of files



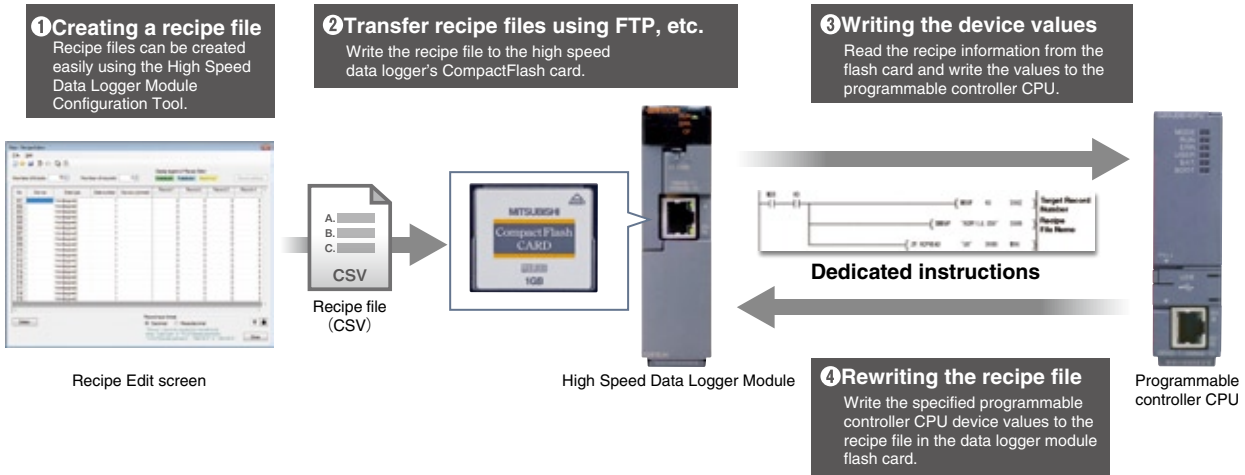
To avoid overwriting files, use a large-capacity 8GB CompactFlash card. This will maximize the time between required flash card changes.

Recipe function

Upgraded Functions

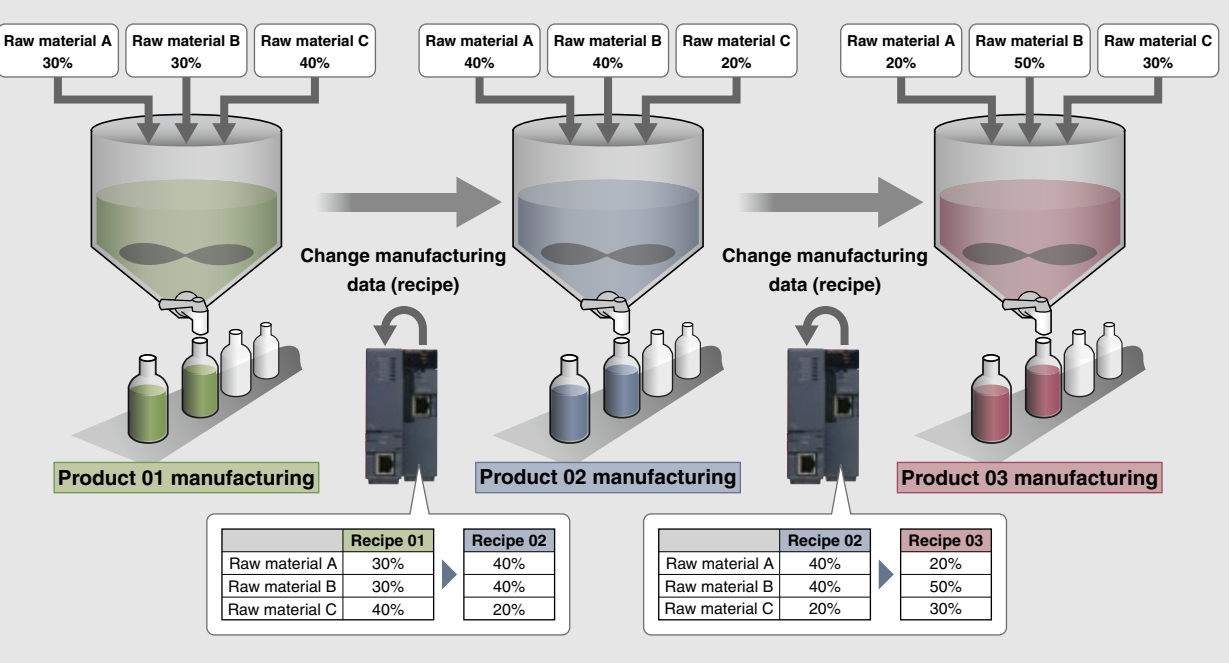
Reduce setup time

- Information required for production can be read from a recipe file(CSV format) in the high speed data logger module and written to the programmable controller CPU at the chosen time.
- Specified device values can be read from the programmable controller CPU and saved as recipe files.

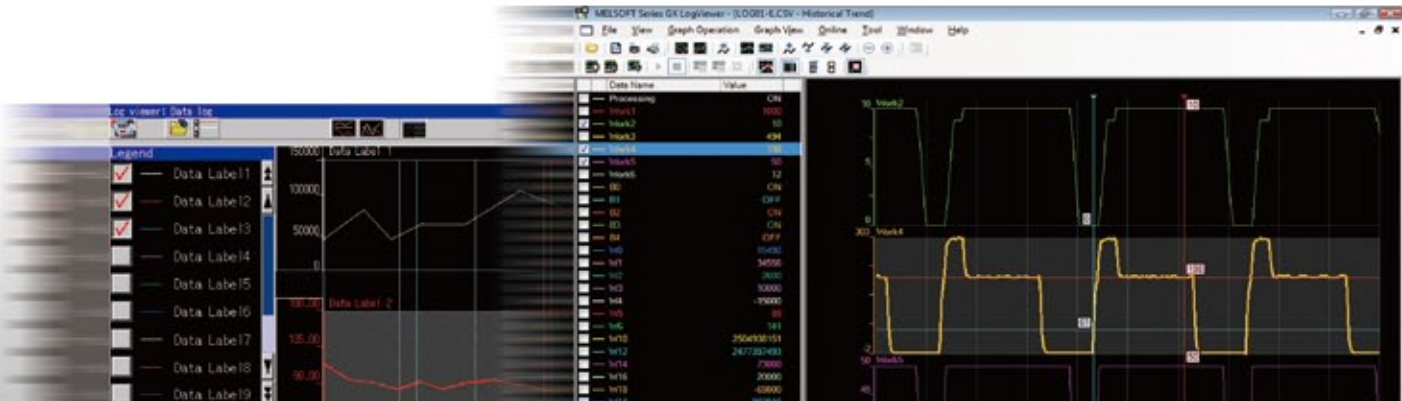


[Reconfigure the production line quickly using a recipe file]

Reduce setup time



Display and analyze logging data

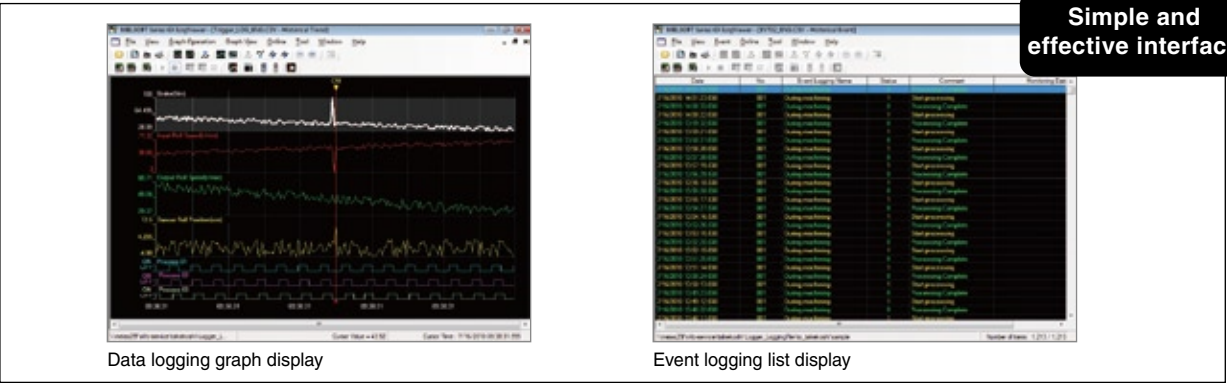


GX LogViewer

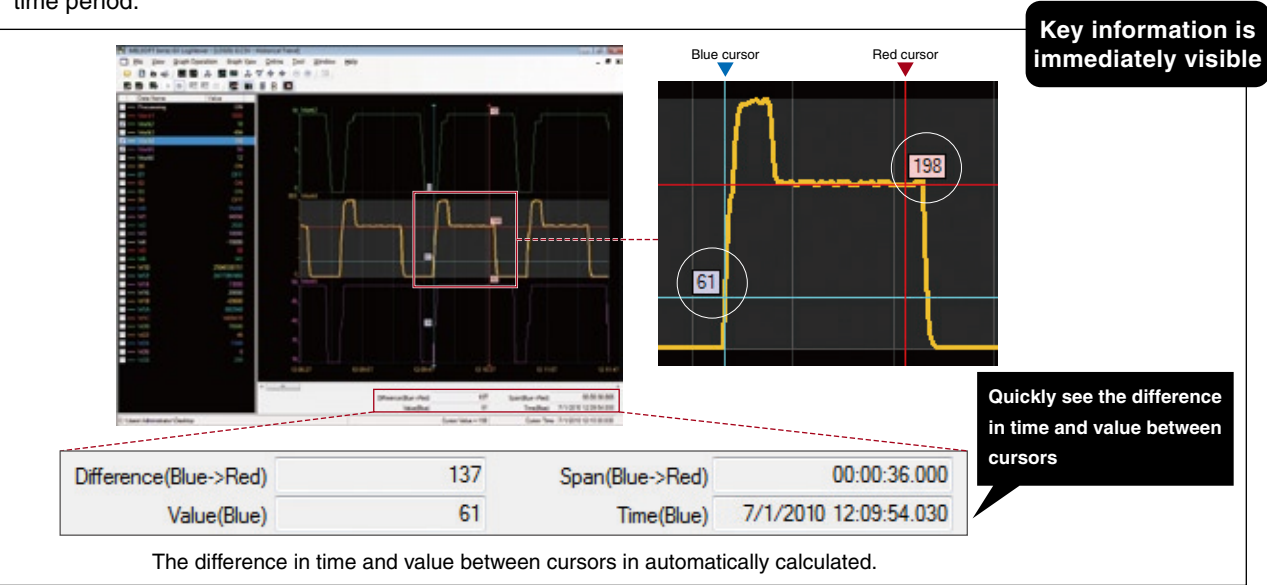
Upgraded Functions

View logging data using a customizable interface

- Examine and evaluate sampled data efficiently using the Logging Data Display / Analysis Tool, GX LogViewer. The highly customizable interface allows comfortable viewing, personalized to the user. When connected to the high speed data logger module, saved or live (real-time) sample data can be viewed.
[Realtime display (online)]
Displays the condition of equipment in real-time.
[Historical display (online/offline)]
Displays saved logging data from a CompactFlash card or personal computer. The data can be displayed at any time, from any location with a personal computer and the Display and Analysis Tool.



- Users can easily arrange and analyze graphs thanks to user-friendly functionality such as the auto adjust bounds function, drag & drop placement of graphs, and easily customizable & recallable graph display settings.
- The use of multiple color-coded cursors allows the user to instantly identify the precise shift in value over a specified time period.

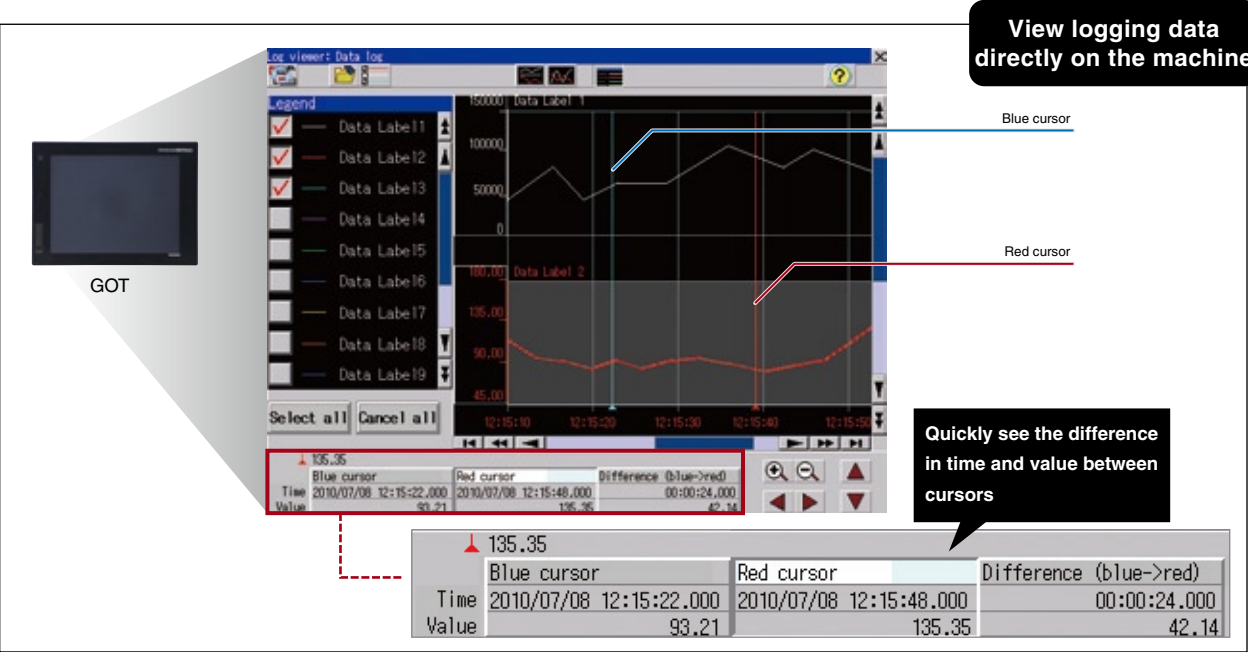


GOT LogViewer function

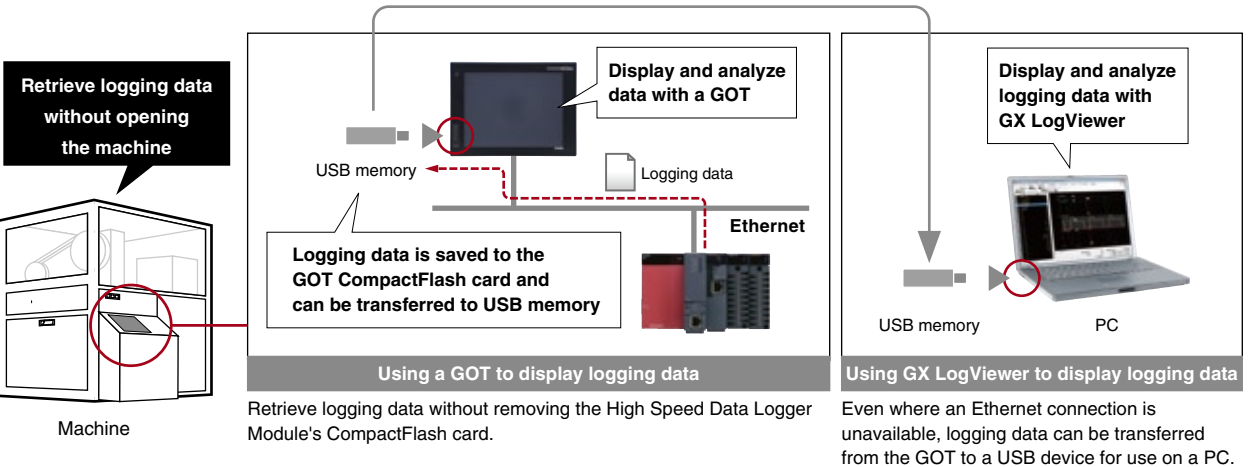
Strengthened Product Synergy

Backup and display logging data without a PC

- Even if a PC is not available on-site, logging data can be viewed using a GOT (GT16) to quickly locate any trouble.
- The GOT log viewing interface is very similar to GX LogViewer, including the ability to use multiple cursors for quick analysis.

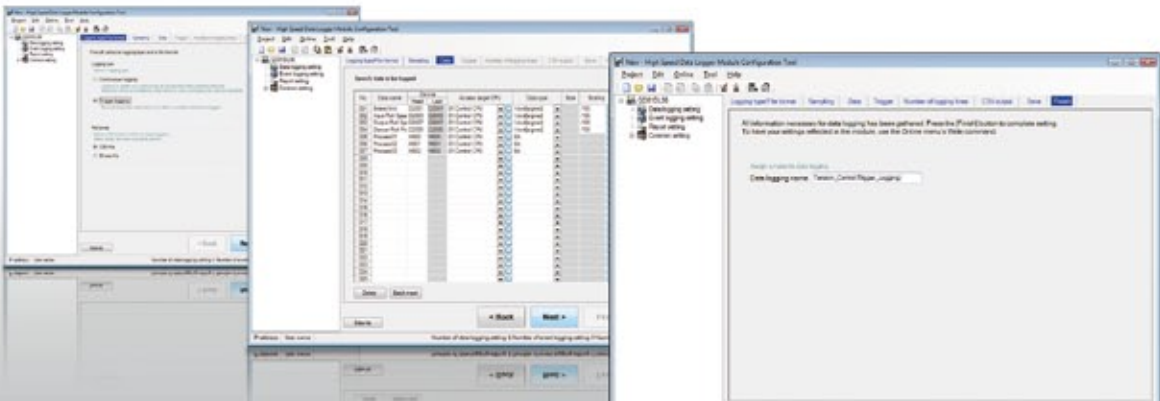


- The High Speed Data Logger Module's logging data can be saved to a USB memory stick when connected to the GOT's front USB interface.
- Logging data can be retrieved easily without opening any control panels or removing the High Speed Data Logger Module's CompactFlash card.



* GOT (GT16) and GT Designer3 (Ver. 1.17T or later) are separately required. For details about GOT and GT Designer3, please refer to the GOT1000 series catalog. This GOT function is compatible with all versions of the High Speed Data Logger Module.

Configure the High Speed Data Logger Module quickly and easily.
Configuration is straight-forward, eliminating confusion and stress.



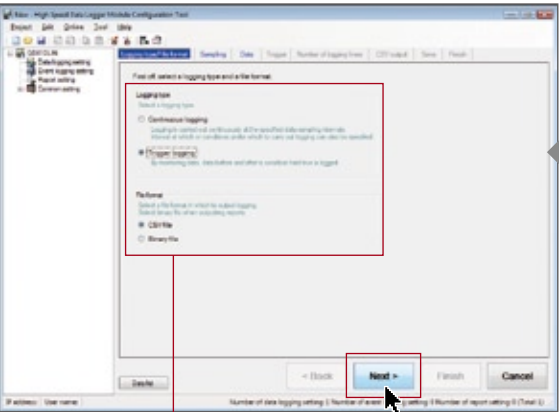
High Speed Data Logger Module Configuration Tool

Upgraded Functions

Configuration is quick thanks to simple yet powerful logging settings

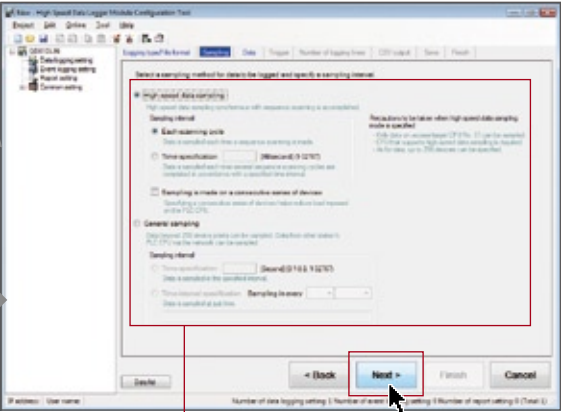
- Even making sophisticated data collection rules is easy to do using the intuitive step-by-step configuration process.
- The Configuration Tool's beginner-friendliness avoids the confusion and stress typically associated with learning a new software program.

Logging type/File format



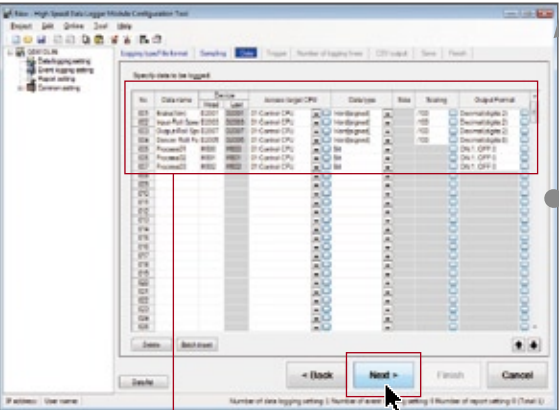
Select the logging type and file format, and click [Next].

Sampling



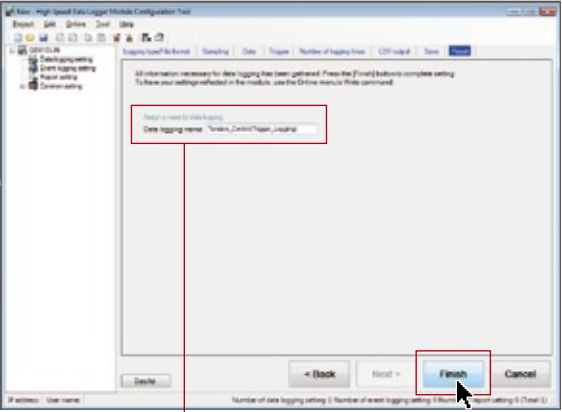
Select the data sampling method and sampling interval, and click [Next].

Data



Specify data to be logged, and click [Next].

Finish



Assign a data logging name and click [Finish]

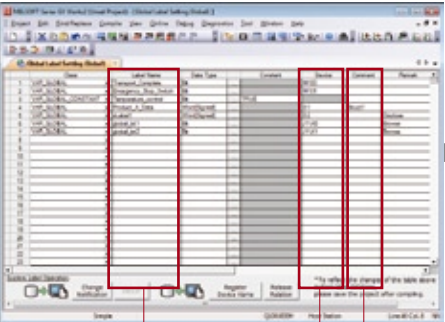
Settings complete!!

Simply upload the settings to the module and the process is complete!

[Import global labels and device comments]

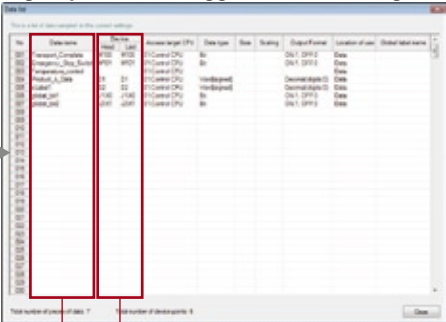
- Global labels and device comments can be imported from GX Works2 project files. This reduces the time needed to input devices and prevents mistakes.

GX Works2



Global labels Devices Device comments

High Speed Data Logger Module Configuration Tool



Data name
(global label - device comment) Device

Import global labels and device comments

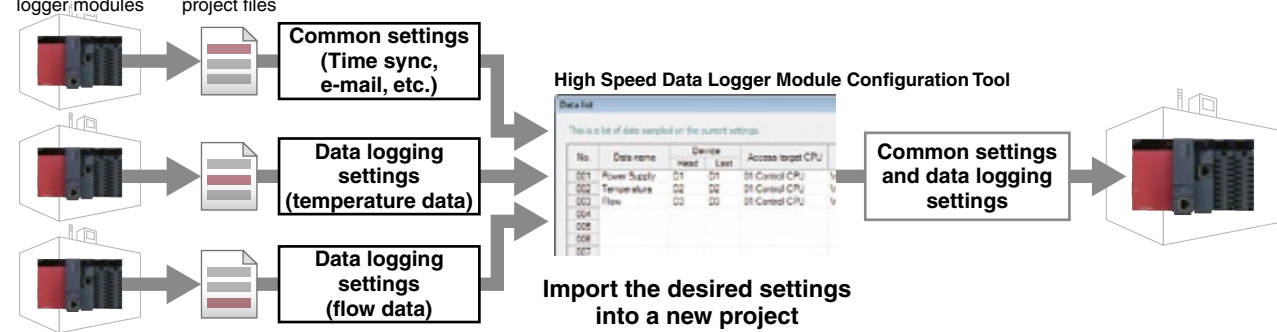
[Import and export any settings from Configuration Tool projects]

- Individual setting items may be selected and imported from existing Configuration Tool projects to quickly create configuration files for new High Speed Data Logger modules.
- Choose only the desired settings from the selected project.

Existing systems

using data logger modules

Configuration Tool project files



Start the Configuration Tool

There are two ways to start the Configuration Tool, "online startup" and "offline startup"

[Online startup]

The Configuration Tool can be downloaded from or directly started from a web browser connected to the High Speed Data Logger Module. This ensures the user is never without the ability to configure the High Speed Data Logger, even when no other copy of the Configuration Tool software is available.

[Offline startup]

Run a copy of the Configuration Tool that is already installed on a PC.

* To acquire the latest version of the Configuration Tool or GX LogViewer, contact your local Mitsubishi Electric representative.



Screen when connected to the High Speed Data Logger Module

*Using the High Speed Data Logger module configuration tool version 1.03D or later.

Collect sample data from up to 64 CPUs using a single module.

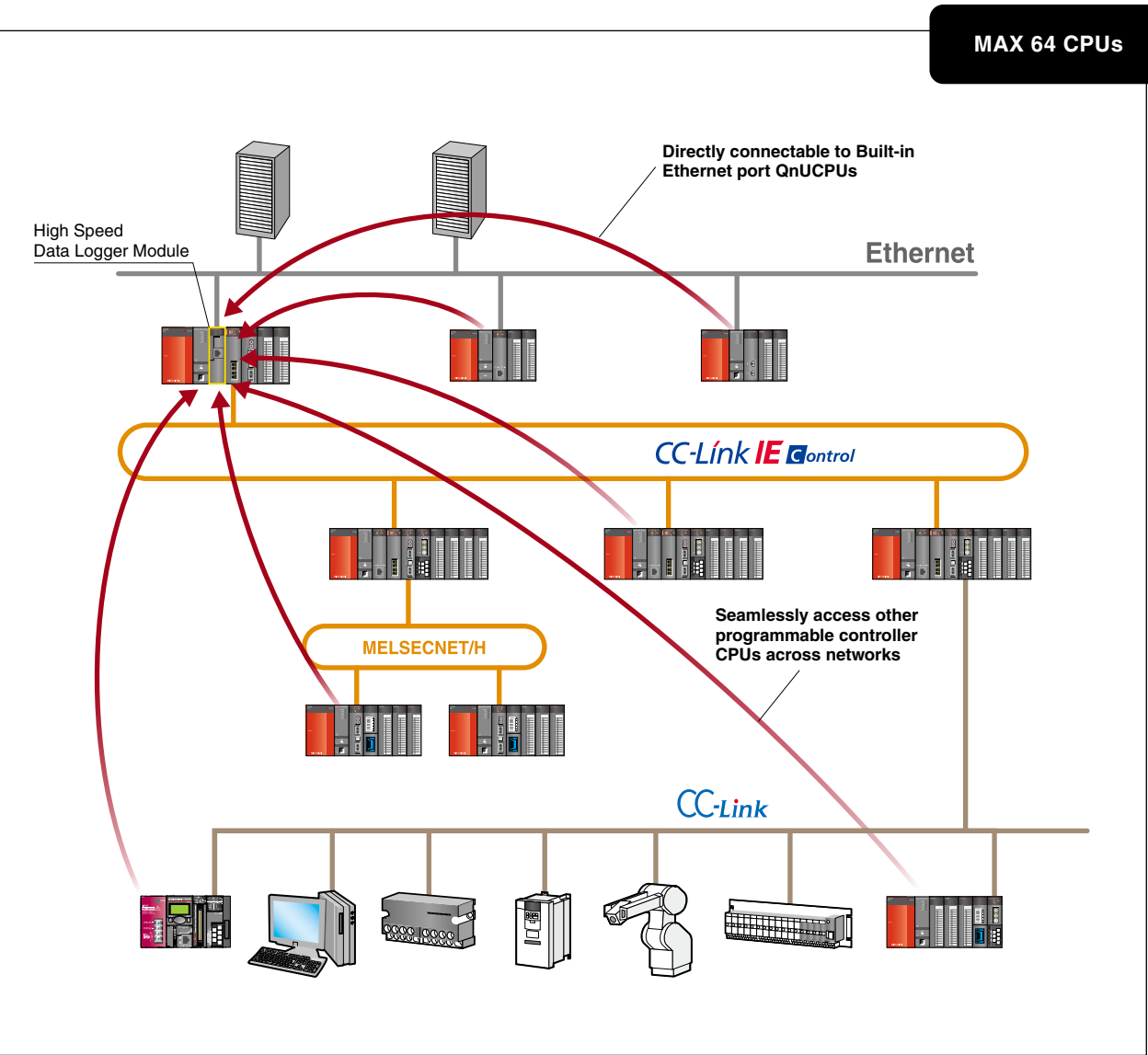
Reduce initial cost, total cost of ownership,
and get superior performance.



Sample data from up to 64 CPUs

Simultaneously access and sample data from up to 64 CPUs using a single module

- The High Speed Data Logger Module can seamlessly access and sample data from up to 64 CPUs across the different networks through CC-Link IE controller network, MELSECNET/H, and CC-Link.
- The High Speed Data Logger Module can directly access other stations via its built-in Ethernet port. An additional network module is unnecessary when connecting to systems using a Built-in Ethernet QnUCPU.

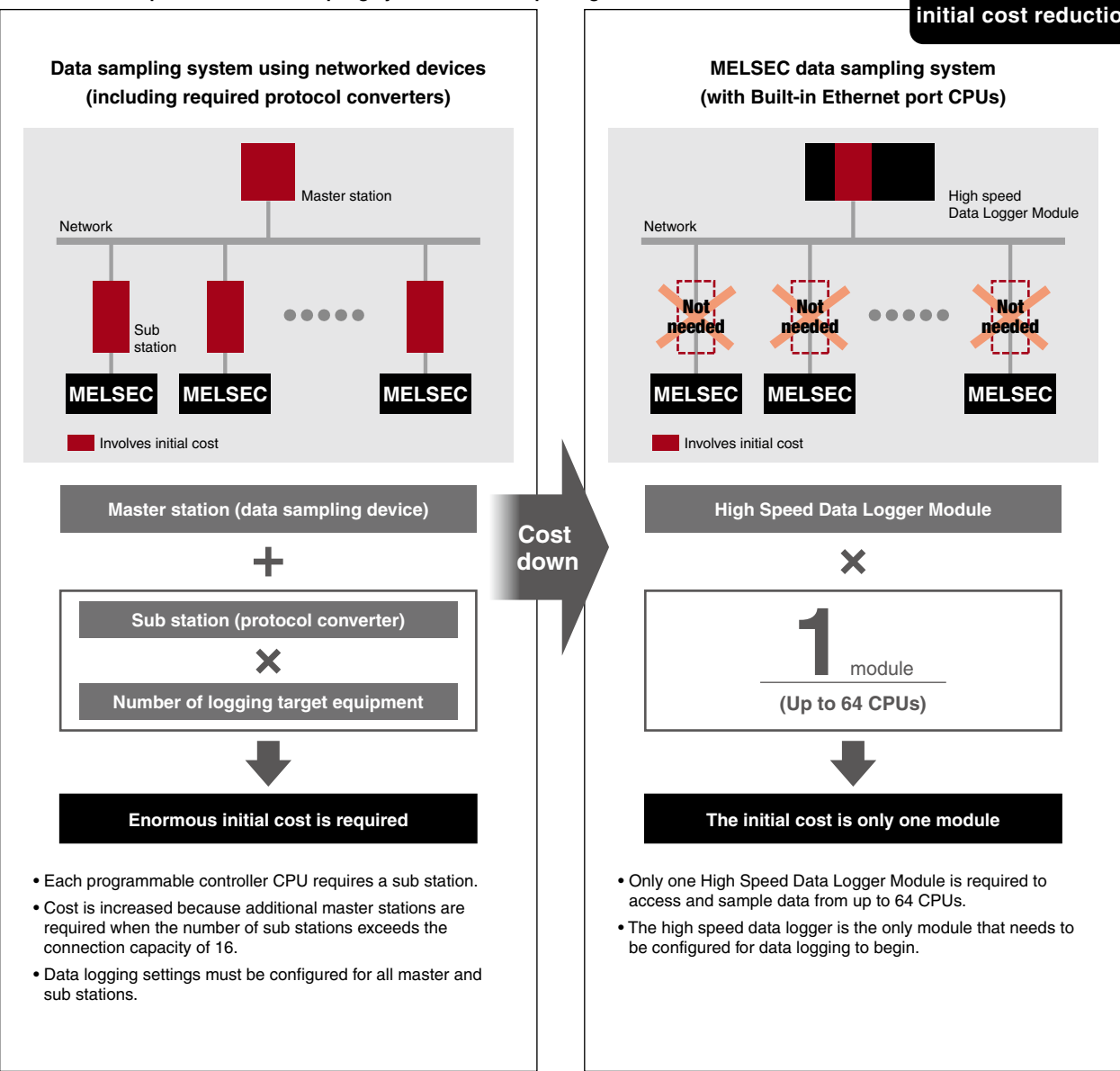


Protocol converters are completely unnecessary

Greatly reduce initial costs

- The High Speed Data Logger Module and MELSEC CPUs speak the same language, eliminating the need for protocol converters and other hidden costs.
- Set-up is easy because only the High Speed Data Logger Module needs configuring, other stations need no special settings.

Initial cost comparison for data sampling systems with multiple target CPUs



■ Performance specifications

[Transmission and interface specifications]

Item		Specifications	
Ethernet	Interface ^{*1}	10BASE-T	100BASE-TX
	Data transmission rate	10 Mbps	100 Mbps
	Transmission method	Base band	
	Number of cascade connection steps	Maximum 4 stages	Maximum 2 stages
	Maximum segment length ^{*2}	100 m	
	Supported function	Auto-negotiation function supported (automatically distinguishes 10BASE-T / 100BASE-TX)	
CompactFlash card	Supply power voltage	3.3V ± 5 %	
	Supply power capacity	Maximum 150 mA	
	Card size	TYPE I card	
	Number of installable cards	1 card	
Number of occupied I/O points		32 points/slot (I/O assignment: Intelli. 32 points)	
Clock		•Obtained from a programmable controller CPU (in multiple CPU system, CPU No.1) or SNTP server •Time accuracy after obtaining the time is a daily variation of ±9.504 seconds ^{*3}	
Internal current consumption (5VDC)		0.46A	
External dimensions		98 (3.86) (H) x 27.4 (1.08) (W) x 90 (3.54) (D) [mm (inch)]	
Weight		0.15 kg	

*1: The high speed data logger module distinguishes 10BASE-T from 100BASE-TX according to the external device.
For connection to a hub without an auto-negotiation function, set the hub to half-duplex communications mode.
*2: Distance between a hub and node.
*3: For programmable controller CPU, everyday (once in 24 hours); for SNTP server, re-obtains the time at the user specified interval.

[Accessible programmable controller CPU ^{*1}]

Series	Module name				
Universal model QCPU	Q00UJCPU	Q02UCPU	Q06UD(E)HCPU	Q20UD(E)HCPU	Q100UDEHCPU
	Q00UCPU	Q03UD(E)CPU	Q10UD(E)HCPU	Q26UD(E)HCPU	
	Q01UCPU	Q04UD(E)HCPU	Q13UD(E)HCPU	Q50UDEHCPU	
High Performance model QCPU ^{*2}	Q02CPU	Q02HCPU	Q06HCPU	Q12HCPU	Q25HCPU
Basic model QCPU	Q00JCPU	Q00CPU	Q01CPU		
Process CPU	Q02PHCPU	Q06PHCPU	Q12PHCPU	Q25PHCPU	
Redundant CPU ^{*3}	Q12PRHCPU	Q25PRHCPU			
Standard model LCPU	L02CPU	L26CPU-BT			
C Controller	Q12DCCPU-V ^{*4}				

*1: Not accessible to the QnACPU, QCPU(A mode), and ACPU.
*2: Can be mounted to the base unit with High performance model QCPU function version B or later only.
*3: Only the own station can be accessed.
*4: C Controller with first five digits of serial number being *12042* or later.

[Operating environment (High Speed Data Logger Module Tools)]

*The operating environment of the "High Speed Data Logger Module Configuration tool / GX LogViewer"

Item		Description
Computer		PC/AT-compatible personal computer which runs the following operating systems.
	CPU	
	Required memory	
Free hard disk space		512MB or more
Display		Resolution 1024 x 768 pixels or higher
Operating system ^{*1 *2 *3 *4}		Microsoft® Windows® XP Professional Operating System (English version) SP2 or later ^{*5} Microsoft® Windows® XP Home Edition Operating System (English version) SP2 or later ^{*5} Microsoft® Windows Vista® Home Basic Operating System (English version) ^{*6} Microsoft® Windows Vista® Home Premium Operating System (English version) ^{*6} Microsoft® Windows Vista® Business Operating System (English version) ^{*6} Microsoft® Windows Vista® Ultimate Operating System (English version) ^{*6} Microsoft® Windows Vista® Enterprise Operating System (English version) ^{*6} Microsoft® Windows® 7 Starter Operating System (English version) ^{*6 *7 *8} Microsoft® Windows® 7 Home Premium Operating System (English version) ^{*6 *7 *8} Microsoft® Windows® 7 Professional Operating System (English version) ^{*6 *7 *8} Microsoft® Windows® 7 Ultimate Operating System (English version) ^{*6 *7 *8} Microsoft® Windows® 7 Enterprise Operating System (English version) ^{*6 *7 *8}
Excel ^{*9}		Microsoft® Excel® 2003 (English version) ^{*10} Windows® Excel® 2007 (English version) ^{*11}
Web browser ^{*12}		Microsoft® Internet Explorer® 6.0 (English version) Windows® Internet Explorer® 7.0 (English version) Windows® Internet Explorer® 8.0 (English version)
Interface		Ethernet port

*1: Windows® XP Professional 64-bit version, Windows Vista® 64-bit version, and Windows® 7 64-bit version cannot be used.
*2: The following functions cannot be used.If any of the following functions are used, this product may not operate normally.
• Starting applications in Windows® compatibility mode • Fast user switching • Remote desktop
• Large fonts (detailed setting in the Display Properties) • Windows® sleep or hibernate
*3: Cannot be used if the user is logged in with Guest authority.
*4: If the Windows firewall setting is enabled, the 'Find High Speed Data Logger Module function' and 'Direct connection function' may not operate correctly. Disable the Windows firewall setting.
*5: Installation of .NET Framework 2.0 is required. (Included with the high speed data logger module tool.)
*6: Cannot be used if the user is logged on with parental controls enabled.
*7: The following Windows® 7 functions can not be used: • Windows XP Mode • Windows Touch
*8: Will be supported by GX LogViewer soon.
*9: Required when using the report function.
*10: Microsoft® Office 2003 Service Pack 3 or later is required when using Microsoft® Excel® 2003 under the Windows® 7 operating system.
*11: The save format of the report file output with the report function is the xls format. A portion of the functions added from Microsoft Excel 2007 or later cannot be used.
*12: Required for the online start function.

[Personal computer system requirements]

Operating system	System requirements	
	CPU	Required memory
Windows® XP Professional	Intel® Core™ 2 Duo 2GHz or higher is recommended	1GB or more
Windows® XP Home Edition		
Windows Vista® Ultimate		
Windows Vista® Business		
Windows Vista® Home Premium		
Windows Vista® Home Basic		
Windows Vista® Enterprise		
Windows® 7 Starter		
Windows® 7 Home Premium		
Windows® 7 Professional		
Windows® 7 Ultimate		
Windows® 7 Enterprise		

[Data sampling ^{*1}]

Item		Specifications	
Number of access target CPUs		Maximum of 64 CPUs	
Data sampling interval <div>POINT</div>	High speed data sampling ^{*2}	•Sequence scan time synchronization •1 to 32767 milliseconds (for trigger logging)	•3 to 32767 milliseconds (for continuous logging)
	General data sampling	•0.1 to 0.9 seconds, 1 to 32767 seconds	•Time interval specification (specify hour/minute/second) <div>Upgraded Function</div>
Amount of sampled data ^{*3 *4 *5}	High speed data sampling	•Overall amount of data: maximum of 8192 (per setting: 256)	•Overall number of device points: maximum of 8192 (per setting: 256)
	General data sampling	•Overall amount of data: maximum of 16384 (per setting: 256)	•Overall number of device points: maximum of 262144 (per setting: 4096)
Data type ^{*6}		•Bit •Word[signed] •Double word[signed] •Word[unsigned] •Double word[unsigned] •Float[single precision]	•Float[double precision] •16 bit BCD •32 bit BCD •String: 1 to 8192 characters •Raw: 1 to 8192 bytes
Data output format (CSV file) ^{*7}		•Bit •Decimal format: 0 to 14 digits after the decimal point •Exponential format: 0 to 14 digits after the decimal point	•Hexadecimal format •String •Raw
Scaling ^{*8}		Basic arithmetic operations: calculations combining (x, ÷) and (+, -)	

*1: The specification for target data sampling with the data logging function, event logging function, and report function.
*2: The high speed data sampling function works only with the high speed data sampling compliant programmable controller CPU. For details, refer to page 3.
*3: The number of device points available for 1 piece of data depends on the data type.
*4: The total number of data logging, event logging, and report data.
• Data logging : logging target data, trigger condition data, period condition data,file switching condition data, saved file name data, e-mail transmission data
• Event logging : monitoring data, period condition data, file switching condition data, saved file name data, e-mail transmission data
• Report : current value data, creation trigger condition data, period condition data, saved file name data, e-mail transmission data
*5: The amount of sampled data per single setting is as follows only when the creation trigger and current value data are not synchronized with the report setting.
Amount of data (per single setting): maximum of 65535, number of device points (per single setting): maximum of 65535.
However, note that, a number of device points per setting of data excluding current value data is as follows.
High speed data sampling: maximum of 256, General data sampling: maximum of 4096
*6: The data type when reading data from the programmable controller CPU's device memory.
*7: The format when outputting data to a CSV file with data logging or event logging.
Binary files are output in the binary format.
Reports are output in Excel cell format.
*8: A function to perform data scaling and offset calculations.

POINT

The High Speed Data Logger Module data logging, event logging, and report functions are 'best effort functions'.
Because module processing time changes depending on the settings and status of other devices, operation might not operate within the set data sampling interval.
Run the system by fully verifying the processing time of each function when constructing it.
For the processing time, refer to the manual.
*Best-effort: Attitude trying to ensure the highest performance depending on the current condition.

■ Performance specifications

[Data logging]

Item		Specifications	
Number of settings		Maximum of 64 settings *1	
Logging type		•Continuous logging	•Trigger logging
File format		•CSV file (extension: CSV)	•Binary file (extension: BIN) *2
Period		Specify applicable period or exclusion period. •Data condition: bit ON/OFF, compare data to constant value, compare data to data •Date range: specify start and/or end month/day •Time range: specify start and/or end hour/minute/second	•Day of week/week condition: specify days of the week and/or weeks AND or OR combination of the above: up to 8 conditions *3
Trigger logging	Trigger conditions	•Condition: •Comparison: bit ON/OFF, compare data to constant value, compare data to data •At the time of change of value •Fixed cycle: 1 to 86400 seconds •Time interval specification: specify hour/minute/second Upgraded Function •Time of day specification: specify month/day/hour/minute/second •At module startup AND or OR combination of the above: up to 8 conditions *3 •Condition execution count: 3 conditions *3 •Condition execution order (order and/or time conditions): up to 4 conditions *3	
	Number of logging lines *4	•Before trigger occurs: 0 to 65534 lines Upgraded Function	•After trigger occurs: 1 to 65535 lines Upgraded Function
File switching timing		•Number of lines (number of records) specification: 100 to 65535 lines •File size specification: 10 to 16384 kilobytes •Condition specification: •Comparison: bit ON/OFF, compare data to constant value, compare data to data •At the time of change of value •Fixed cycle: 1 to 86400 seconds •Time interval specification: specify hour/minute/second Upgraded Function •Time of day specification: specify month/day/hour/minute/second •At module startup AND or OR combination of the above: up to 8 conditions *3 •Trigger logging unit	
Saved file name		Serial number (eight-digit hexadecimal) In addition to the above specification, the following options can be specified. •Fixed string •Time (year, month, day, hour, minute, second) •Data values (up to two)	
Number of save files		1 to 65535	
Saved file automatic deletion		•Specified by the number of saved files	•Specified by the CompactFlash card free capacity

*1: Up to 64 settings can be configured for data logging, event logging, and report function combined.
Of these, up to 32 settings can be configured for data logging, event logging, and report function when high speed data sampling is specified.
*2: By using the report function, data can be re-output in the Excel file format.
*3: When high speed data sampling is specified, period, trigger conditions, and file switching condition combined up to 5 conditions.
When general data sampling is specified, period, trigger conditions, and file switching condition combined up to 10 conditions.
*4: It is possible to set up to 65535 lines by combining the number of lines saved before and after trigger generation.
Due to the trigger logging buffer capacity setting, in some cases it is not possible to set the logging number of lines setting. For details, refer to the manual.

[Event logging]

Item		Specifications	
Number of settings		Maximum of 64 settings *1	
Number of events		Maximum of 64 events per single event logging setting	
File format		•CSV file (extension: CSV)	•Binary file (extension: BIN)
Event condition		•Condition: •Comparison: bit ON/OFF, compare data to constant value, compare data to data •At the time of change of value AND or OR combination of the above: up to 4 conditions	•Condition execution count: 3 conditions •Condition execution order (order and/or time conditions): up to 4 conditions
Period of time		Specify applicable period or exclusion period. •Data condition: bit ON/OFF, compare data to constant value, compare data to data •Date range: specify start and/or end month/day •Time range: specify start and/or end hour/minute/second •Day of week/week condition: specify days of the week and/or weeks AND or OR combination of the above: up to 8 conditions *2	
File switching timing		•Number of lines (number of records) specification: 100 to 65535 lines •File size specification: 10 to 16384 kilobytes •Condition: •Comparison: bit ON/OFF, compare data to constant value, compare data to data •At the time of change of value •Fixed cycle: 1 to 86400 seconds •Time interval specification: specify hour/minute/second Upgraded Function •Time of day specification: specify month/day/hour/minute/second •At module startup AND or OR combination of the above: up to 8 conditions *2 Upgraded Function	
Saved file name		Serial number (eight-digit hexadecimal) In addition to the above specification, the following options can be specified. •Fixed string •Time (year, month, day, hour, minute, second) •Data values (up to two)	
Number of save files		1 to 65535	
Saved file automatic deletion		•Specified by the number of saved files	•Specified by the CompactFlash card free capacity

*1: Up to 64 settings can be configured for data logging, event logging, and report function combined.
Of these, up to 32 settings can be configured for data logging, event logging, and report function when high speed data sampling is specified.
*2: When high speed data sampling is specified, period and file switching condition combined up to 5 conditions. When general data sampling is specified, period and file switching condition combined up to 10 conditions.

[Processing time*1]

Item			Number of device points				
			16	64	256	1024	4096
Trigger logging	Sampling speed	High speed data sampling	1ms	1ms	1ms	2ms	8ms
		General data sampling	100ms	100ms	100ms	500ms	2000ms
Continuous logging	Binary file saving speed	High speed data sampling	3ms	4ms	10ms	40ms	160ms
		General data sampling	100ms	100ms	100ms	500ms	3000ms
	CSV file saving speed	High speed data sampling	4ms	10ms	30ms	130ms	580ms
		General data sampling	100ms	100ms	100ms	500ms	3000ms

*1: Numbers listed in the table are rough processing times of each data sampling.
Processing time may vary depending on external factors such as settings and access from the GX LogViewer.

[Report]

Item		Specifications	
Number of settings		Maximum 64 *1	
File format		Excel format (extension: XLS)	
Output data type		•Data inside data logging file *2 •Current value data	•Creation time
Number of pieces of output data		64 layouts per single report setting, 65535 cells in total	
Creation trigger conditions		•Condition: •Comparison: bit ON/OFF, compare data to constant value, compare data to data •At the time of change of value •Fixed cycle: 1 to 86400 seconds •Time interval specification: specify hour/minute/second •Time of day specification: specify month/day/hour/minute/second Upgraded Function •At module startup •At the time of the data logging file is switched AND or OR combination of the above: up to 8 conditions *3 •Condition execution count: 3 conditions *3 •Condition execution order (order and/or time conditions): up to 4 conditions *3	
Period		Specify applicable period or exclusion period. •Data condition: bit ON/OFF, compare data to constant value, compare data to data •Date range: specify start and/or end month/day •Time range: specify start and/or end hour/minute/second •Day of week/week condition: specify days of the week and/or weeks AND or OR combination of the above: up to 8 conditions *3 Upgraded Function	
Layout file size		Maximum of 10MB (total of all report settings)	
Saved file name		Serial number (eight-digit hexadecimal) In addition to the above specification, the following options can be specified. •Fixed string •Time (year, month, day, hour, minute, second) •Data values (up to two)	
Number of save files		1 to 65535	
Saved file automatic deletion		•Specified by the number of saved files	•Specified by the CompactFlash card free capacity

*1: Up to 64 settings can be configured for data logging, event logging, and report function combined.
Of these, up to 32 settings can be configured for data logging, event logging, and report function when high speed data sampling is specified.
*2: Only binary format data logging can be output to report function.
*3: When high speed data sampling is specified, period and creation trigger conditions combined up to 5 conditions.
When general data sampling is specified, period and creation trigger conditions combined up to 10 conditions.

[Other]

Item		Specifications	
E-mail	Application	•Notification when event occurs	•Transmit saved file
	Subject	•Event notification e-mail: user specified	•Saved file transmission e-mail: automatically created/ user specified Upgraded Function
	Body	•Event notification e-mail : user specified	•Saved file transmission e-mail: automatically created/ user specified Upgraded Function
	Attachment	•Event notification e-mail : none	•Saved file transmission e-mail: Saved file (CSV, binary, or Excel file) Maximum of 512KB
	Attachment format	MIME format	
	MIME version	1.0	
	Communications with mail server	Port number	25, 587, other (1 to 65535)
		Authentication method	•No authentication •SMTP-AUTH (PLAIN, LOGIN, CRAM-MD5) •POP before SMTP
	Target address	Maximum of 16 groups	
FTP server ^{*1}	Application	•Read and delete saved files	•Write, read, and delete recipe files Upgraded Function
	Operability verified FTP client software	•Microsoft® Internet Explorer® 6.0 •Windows® Internet Explorer® 7.0	•Windows® Internet Explorer® 8.0 Upgraded Function
	Session count ^{*2}	10	
FTP client ^{*3}	Application	Transfer saved files	
	Operability verified FTP server software	Microsoft® Internet Information Services	
Recipe Upgraded Function	Number of data	Maximum of 256 data	
	Number of records	Maximum of 256 records	
	Data type	•Bit •Word [signed] •Double word [signed] •Word [unsigned] •Double word [unsigned]	•FLOAT [single precision] •FLOAT [double precision] •16bit BCD •32bit BCD
	Recipe file	CSV file (extension: csv) Maximum of 256 files	
	Execution type	Dedicated instructions (ladder program), Configuration Tool	

*1: A function to access the high speed data logger module (FTP server) from a personal computer's FTP client software.
*2: The upper limit of the number of simultaneous connections to the high speed data logger module from FTP client software.
FTP client software may use multiple connections per single access session.
*3: A function to access a personal computer's FTP server software from the high speed data logger module (FTP client).

Upgraded Function : Available for products with a serial number whose first five digits are "12062" or higher.

■ Product List

[Legend] DB : Double brand product ^(Note) NEW : Recently released product SOON : Product available soon

Product		Model	Outline
High Speed Data Logger	Option	QD81DL96	High Speed Data Logger Module *CompactFlash card are required
		QD81MEM-512MBC	512 MB CompactFlash card
		QD81MEM-1GBC	1 GB CompactFlash card
		QD81MEM-2GBC	2 GB CompactFlash card
		QD81MEM-4GBC	4 GB CompactFlash card
		QD81MEM-8GBC	8 GB CompactFlash card
High Speed Data Logger Module Configuration Tool [†]		SW1DNN-DLUTL-E	High Speed Data Logger Module Configuration Tool
GX LogViewer [†]		SW1DNN-VIEWER-E	Logging Data Display/Analysis Tool

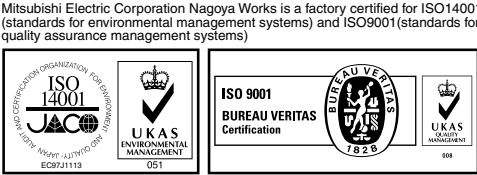
¹ To acquire the latest version of the Configuration Tool or GX LogViewer, contact your local Mitsubishi Electric representative.
(The Configuration Tool is downloadable from the High Speed Data Logger Module directly.)

Ethernet related products

Product		Model	Outline
Industrial switching HUB		NZ2EHG-T8 DB NEW	10Mbps/100Mbps/1Gbps AUTO-MDIX, DIN rail mountable, 8 ports
		NZ2EHF-T8 DB NEW	10Mbps/100Mbps AUTO-MDIX, DIN rail mountable, 8 ports

Note: General specifications and product guarantee conditions of jointly developed products are different from those of MELSEC products.
For more information, please refer to the product manuals or contact your local Mitsubishi representative for details.

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Mitsubishi Electric Programmable Controllers

High Speed Data Logger Module

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This publication explains the typical features and functions of the Q Series programmable controllers and does not provide restrictions and other information on usage and module combinations. When using the products, always read product user manuals.

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