To use the products given in this publication properly, always read the relevant manuals before use. The products have been manufactured as general-purpose parts for general industries, and have not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.

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Increase productivity and lower the total cost of ownership. Introducing the next generation of IA programming software

GX Works2 supports a multitude of programming languages and allows them to be mixed and matched for amazing flexibility.

GX Works2 focuses on driving down total cost by including features that speed up commissioning, reduce downtime, improve programming productivity, and provide strong security.

With GX Works2, Mitsubishi has become the innovation leader in industrial automation programmable controller software.
Designed to solve existing problems and the unforeseen challenges ahead, GX Works2 supports your program development style by providing two project types and four programming languages.

- Programming will primarily be done in ladder, and I want to be able to program complex formulae easily.
- I want to use existing GX Developer programs and maintain compatibility.
- I want a more user-friendly and feature rich version of GX Developer.

A "Simple project" will meet your needs

- I want to use program libraries.
- I want to use program libraries and Structured project.
- I want to develop structured projects based on C Language.

Choose a "Structured project" for maximum flexibility

- I want to use program libraries.
- I want to use program libraries and Structured project.
- I want to develop structured projects based on C Language.

Increased Productivity

- Improved user interface
- Improved monitoring features
- Time saving programming features
- Improved search functions
- Detailed memory usage information
- Utilizing sample comments
- Selective display of ladder blocks
- Memory size confirmation tool

Accelerated Debugging

- Advanced search functions
- Improved monitoring features
- Visualize changing values with custom timing charts
- Test run programs without PLC hardware
- Keep track of program changes
- Simulator
- Watch windows

Reduced Downtime

- Identify problems immediately using an interactive graphical system display
- System monitor
- System error history
- PLC diagnostics
- Detailed module information

Robust Security

- Data security settings
- Managing (adding/deleting/changing) users
- Data security settings
- Password registration
- Block password
- Remote password
Work more efficiently with an improved user interface and a wealth of new features

**Improved user interface**

GX Developer users will find the user interface familiar while discovering a wealth of improvements and completely new features.

- Use tabs to easily switch between programs, Parameters and other screens.
- Improve readability by hiding ladder rungs not relevant to the current operation.
- Fully integrated intelligent function module management tools.
- Quickly identify each program and its execution type.
- Cross reference devices and labels with ease.

**Keep large projects organized and easy to manage**

Manage projects effectively by using multiple programs

Divide complicated programs into separate parts by function or process to make them easier to follow and understand as a whole.

**Choose the appropriate language for each task**

Support for 5 programming languages (future plan)*1

Accomplish programming tasks more efficiently by utilizing the optimal programming language for any given operation.

**Program for Product A[Process N]**

- Y10
- Y11
- M1
- INC D10
- SM400
- M0
- Y10
- Y11
- M1
- INC D10
- SM400
- M0
- Program for Product A[Process 2]

**Program for Product A[Process 1]**

- INC D0
- Y0
- Y10
- Y11
- SM400
- SM400
- M0 M1
- INC D10

**Common program**

- INC D0
- Y0

**GX Works2**

- GX Developer
- Program created with GX Developer
- Import to GX Works2

*1) 5 languages whose guidelines are defined as languages for programmable controllers by the international standard IEC 61131-3.

**Build on existing development investments**

Import programs made with GX Developer

Get the most from existing programs and hardware by upgrading to GX Works2. The advanced maintenance and debugging features can improve the reliability of existing systems. Importing to GX Works2 ensures future compatibility and increases flexibility in development.
Include ST in a ladder program to deal with numerical and string operations. Using inline ST can save time in the program development process and is more efficient with program memory.

Monitor ST and ladder devices without having to change screens. Make changes to current device values using the same operation as with ladder programs. This dynamic view of associated data helps to speed up development and debugging processes.

**Crunch numbers easily in ladder programs**

**Inline ST (Structured Text)**

- Numerical operations

  - Using inline ST, the operations are accomplished in one line!

- String operations

  - Using inline ST, the program is easier to read!

Use the split-pane display to view the current value of word devices.

Edit current device values using the same method as standard ladder programs.

Changing screens and editing current device values.

Accelerated Debugging

Reduced Downtime

Work more efficiently with an improved user interface and a wealth of new features.
Use function blocks for common operations

What is FB?
Function blocks allow sections of commonly used code to be easily reused and shared among projects. Using them effectively results in faster development times with fewer programming mistakes.

Function Block Selection Window
Function blocks can easily be saved to and recalled from the function block selection window. Add them to a program with simple drag-and-drop operation.

Advantages of program structuralization
Structured projects make it easy to logically separate code based on function. The resulting programs are easy to understand, debug, and modify.

Utilize user libraries
Create user libraries of frequently-used program components and share them between projects to quickly accomplish tasks and save on development costs.
Work more efficiently with an improved user interface and a wealth of new features

Intelligent function module management

Configure modules without the need to reference a manual

GX Works2 incorporates support tools for intelligent function modules right out of the box. All of the required information to configure and revise complicated parameter settings is included in the configuration tool so it is not necessary to reference a manual.

Simplified serial communication

Communications protocol support function

The number of required program steps is drastically reduced allowing for rapid development, more available program memory, and faster CPU scan times. Additionally, the circuit trace function allows quick identification of problems.

Visualize positioning module buffer data

Trace function

Monitor online or save and review motion command data such as speed, simultaneous start, and dual-axis interpolation routines using customizable graphs.

GX Works2 incorporates support tools for intelligent function modules right out of the box. All of the required information to configure and revise complicated parameter settings is included in the configuration tool so it is not necessary to reference a manual.

Create custom communication protocols

Select the desired communication protocol

Circuit trace

Serial communication module

GX Works2 Integrator
Work more efficiently with an improved user interface and a wealth of new features

Three new features to maximize work area effectiveness

**Docking windows**
Quickly hide and recall docking windows to make the most of the available display area.

Docked windows will auto hide when not in focus or they can be kept open by clicking the icon.

Click the tab to expand the window.

**Selective display of ladder blocks**
Minimize selected ladder code to focus on relevant sections. Choose to display all ladder blocks for a standard view, or hide all to quickly scan through ladder statements and find the desired section.

To hide a ladder block, right-click and select “Non-Display Ladder Block”

To display a ladder block, right-click and select “Display Ladder Block”

**Screens tabs**
Large projects can result in many open windows. Find and switch between them quickly using screen tabs.

Switch between windows by simply clicking the desired tab

Even with the window maximized, the tabs are readily visible
Work more efficiently with an improved user interface and a wealth of new features

**Time saving programming features**

**Symbol entry window instruction and label list**

The dynamic list of instructions and labels prevents mistakes and saves time. There is no need to memorize all of these data as they can be found quickly using the list.

*Instruction help*

Detailed information about instructions and function blocks can be immediately displayed by selecting them and pressing the F1 key. When nothing is selected, a list of instructions is displayed.

**Rapidly edit ladder connections without changing the mode**

Use [Ctrl] + the arrow keys (←, →, ↑, ↓) to draw and erase lines.

Use [Shift] + [Ctrl] + (←, →) to edit continuous lines.

**Custom key bindings**

Select from default, GX Developer format (GPPA), or create custom key bindings and save them to a template.

Different users can easily switch between templates.

A list of instructions is displayed when no instructions are selected and F1 is pushed.

In the instruction help screen, further details can be seen by clicking the “Browse Manual” button.
Work more efficiently with an improved user interface and a wealth of new features

**Standard devices have pre-defined comments**

**Import sample comments**

Don’t waste time making comments for standard devices. Special relays and registers for each CPU have sample comments pre-defined. Intelligent function modules also have sample comments which can be easily imported.

- Use the import function in the comment window to add pre-defined device comments.
- Right-click to access the import function.

**Special relays and special registers**

Comments for special relays and registers matching the CPU type of the project are automatically filled in.

**Intelligent function modules**

Select the appropriate module types from the list to import the comments.

**Detailed memory usage information**

**Memory size confirmation tool**

This tool provides detailed information in table form and a pie chart for an at-a-glance understanding of memory resource allocation.

- Easily determine memory space requirements for programs to be written to the programmable controller CPU.
- View the usage details and contents of the connected CPU.
- Determine the available memory before and after writing to the CPU.
- Easily change the view mode.
- The table view reveals the size of each file.

I need to make sure I have enough memory.

Don’t waste time making comments for standard devices. Special relays and registers for each CPU have sample comments pre-defined. Intelligent function modules also have sample comments which can be easily imported.
Advanced search functions

Cross reference

- Quickly find all related labels and devices to an item by using this tool.
- Jump to the location of the results to confirm or make changes.

Search by device type

Include device type in your searches to narrow the results and avoid unintentional replacements.
This is particularly useful when a device is used many times throughout a program.

Rename labels and apply the change in batch throughout all associated programs.
Search for labels and devices using partial spellings.

Replace "Auto" with "Automatic"
Reduce total cost by using features designed to help make debugging and maintenance tasks faster

**Improved monitoring features**

**Program monitoring**
Examine the operational status of function blocks and programs in their respective languages. Observe and change device values the same way as a standard ladder program.

Watch windows
Use watch windows to make a list of values to monitor. Accomplish debugging tasks quickly by monitoring only the relevant data.

**Visualize changing values with custom timing charts**

**Sampling trace**
Trace changes in device and label values over time. Easily get an understanding of program and equipment operating status.

**Test run programs without PLC hardware**

**Simulator**
GX Works2 includes simulator functionality as standard. Perform debugging tasks and confirm proper program operation even without access to PLC hardware.

**Program monitoring**
Examine the internal operation of function blocks.

Double-click the function block to open.

Monitor the ON/OFF status of bit devices.

Monitor the current value of word devices.

Register the device and label in the watch window.

Double-click a device or label to register it in the watch window.

Easily monitor, compare, and test (change the value of) devices and labels.

The value of devices and labels at the selected time is shown in the vertical axis column.

Check the ON/OFF status of bit devices.

Observe how word device values change over time using the trend graph.

Observe how word device values change over time using the trend graph.

Registered devices and labels.

**Simulator**

Examine the operational status of function blocks and programs in their respective languages.

Observe and change device values the same way as a standard ladder program.

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Registered devices and labels.

**Test run programs without PLC hardware**

**Simulator**
GX Works2 includes simulator functionality as standard. Perform debugging tasks and confirm proper program operation even without access to PLC hardware.

Programs can be debugged and tested at any time because access to physical hardware is unnecessary.

Using this functionality it is possible to write programs that work the way they are intended the first time they are written to the programmable controller CPU.

Access to physical hardware is unnecessary!
Keep track of program changes

Revision restoration
Easily keep track of different versions of the same project. By creating a revision entry, subsequent project saves do not permanently overwrite previous versions of the project. Details about each version can be easily seen in the revision list.

Revision verification
Easily identify what was changed and compare the differences between revisions using the verify function.

Revision restoration!
If an unintended change is made, the project can easily be restored.

Revision verification
Selected revision information is verified with the project being edited

Verify source (Project being edited)
Verify destination (Previous revision)

Revision restoration!
If an unintended change is made, the project can easily be restored.

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Selected revision information is verified with the project being edited

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Revision restoration!
If an unintended change is made, the project can easily be restored.

Revision verification
Selected revision information is verified with the project being edited

Verify source (Project being edited)
Verify destination (Previous revision)
Identify and recover from errors rapidly using comprehensive diagnostic tools.

System monitor
To quickly spot errors, an icon will appear next to malfunctioning modules based on the severity of the error. The interactive graphical system display provides immediate access to all of the diagnostic features and information about every module.

System error history
Simplify troubleshooting with a combined, time-stamped, error history list for CPUs and intelligent function modules. The details section provides explanations of error codes and suggested solutions.

Note:
Currently only Universal model QCPUs support this function. (with the first five digits of the serial number are 11045 or later)

Supported intelligent function modules:
QJ71BT11N (first five digits of the serial number are 11042 or later)
QJ71LP21-25, QJ71LP21S-25, QJ71LP21G, QJ71BR11, and QJ71NT11B (first five digits of the serial number are 11042 or later)

Quickly identify the error, its cause, and solution without the need to reference a manual.

PLC diagnostics
From one central window quickly read error and status information, export log files to CSV, perform remote CPU operations like reset, stop, CPU memory format, and more.

Detailed module information
Resolve intelligent function module issues quickly by clicking on a module to open this function. All of the information relevant to the module is displayed here including error codes, their description, and possible solutions.

CC-Link IE controller network diagnostics
A visual display of every station on the network allows rapid identification of problems. View detailed error information, monitor the status of other stations on the network, download error logs from connected stations, perform communication tests, and more.
Data security settings

Detailed user management
Assign access privileges to individual users for increased security.

Password registration
Prevent software leaks and unauthorized changes by setting a programmable controller CPU access password.

Block password
Protect individual program components with separate user independent passwords. These block passwords can add another layer of security in addition to user authentication and prevent the leak of valuable software assets.

Remote password
Programmable controllers connected to a network can be a risk. Secure them using remote passwords to stop unauthorized access.

Data security settings
Prevent unauthorized access to different parts of a project. Users can be compartmentalized and only given access to specific parts of a project.
Operating Environment

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Microsoft® Windows® 7 Starter, Microsoft® Windows® 7 Home Premium, Microsoft® Windows® 7 Professional, Microsoft® Windows® 7 Enterprise, Microsoft® Windows® XP Home Edition, Service Pack 2 or later, Microsoft® Windows® XP Professional, Service Pack 2 or later, Microsoft® Windows® 2000 Professional, Service Pack 4 or later</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® Core™ i3/i5/i7 Dual Processor 2GHz or more</td>
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<tr>
<td>Optical drive</td>
<td>CD-ROM supported disk drive</td>
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<tr>
<td>Monitor</td>
<td>Resolution 1024 × 768 pixels or higher</td>
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Supported Programmable Controller CPU

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
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<tbody>
<tr>
<td>Q series</td>
<td>Universal model QCPU</td>
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<tr>
<td>Q00J, Q01U, Q02J, Q03J, Q03UE, Q04J, Q04UE, Q05U, Q05UE, Q06U, Q06UE, Q10U, Q10UE, Q31U, Q31UE, Q20U, Q20UE, Q25U, Q25UE, Q26U, Q26UE</td>
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<tr>
<td>High Performance model QCPU</td>
<td>Q02J, Q02UE, Q03J, Q03UE, Q04J, Q04U, Q05J, Q05UE, Q06J, Q06UE, Q10J, Q10UE, Q31J, Q31UE, Q20J, Q20UE, Q25J, Q25UE, Q26J, Q26UE</td>
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<tr>
<td>Basic model QCPU</td>
<td>Q00J, Q01J</td>
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<tr>
<td>FX series</td>
<td>FX, FX1, FX2</td>
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Network Modules (Remote I/O network)

<table>
<thead>
<tr>
<th>Series</th>
<th>Model</th>
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<tbody>
<tr>
<td>Q series</td>
<td>MELSECNET/H network Module</td>
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<tr>
<td>Q1JPL2P01-25, Q1JPL2P25, Q1JPL2P50, Q1JPL2B15</td>
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<tr>
<td>L series</td>
<td>CC-LAN IE Field Network Head Module</td>
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<tr>
<td>L720P15-1T</td>
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Product Information

Single license product

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<tr>
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Volume license product

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Additional license product

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</table>
| GX Works2 Version 1 | SW1DNC-GXW2-EAZ | This product does not include CD-ROM. Only license certificate with the product ID number will be issued.
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