

Enhanced PLC with improved performance and usability while fully leveraging existing assets



The CJ Series continues to evolve.

New CJ3M: Helping ensure automation investments remain high performing for years to come.

The new CJ3M features a redesigned interface and enhanced core performance.

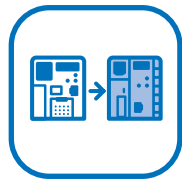
Built on the CJ Series platform, it enables seamless reuse of existing programs and engineering assets while continuing to evolve through improved software usability and functionality.



CJ3M



Improved performance and usability while preserving your existing automation investments



Maximize the value of existing equipment while simplifying replacements and upgrades P.4

Upgrade by replacing only the CPU
Upgrade from CJ2M to support large-scale systems



Familiar design, startup, and maintenance for users of all experience levels P.6

Easy programming with ST, ladder diagrams, and SFC
Shorter navigation paths for greater time savings
Reduced maintenance workload with battery-free operation



Proven CJ reliability now meets long-term global availability P.8

Secure system design with comprehensive security features
Standard interfaces for reliable procurement

Optimized system configurations with the ideal PLC for basic control P.10

Right-sized CPU selection for your application
System configurations optimized for your application
Ideal for simple positioning applications

Maximize the value of existing equipment while simplifying replacements and upgrades

Upgrade by replacing only the CPU

The CJ3M Series retains compatibility with existing CJ2M programs, memory maps, and I/O Units, enabling system upgrades and line expansions through a simple CPU Unit replacement.

Migration is fast and easy: read the current project, replace the CPU Unit, then transfer and verify the data.



Upgrade from CJ2M to support large-scale systems

With enhanced memory, storage, and communication bandwidth, along with expanded Ethernet functions including Modbus/TCP and socket communications, the CJ3M Series is ready for large-scale system applications. Further, trace memory is expanded for more efficient debugging.



Familiar design, startup, and maintenance for users of all experience levels

Easy programming with ST, ladder diagrams, and SFC

Design

CX-Programmer, included with CX-One, supports Structured Text, Ladder, and SFC programming. Built-in coding assistance, including variable and instruction suggestions, helps engineers choose the most suitable programming approach and develop applications more efficiently, regardless of experience level.

Structured Text

Easily program complex calculations, conditional branching, and string processing that are cumbersome to implement in Ladder logic.

```
(* *****  
STSample Finds length and angle from x,y coordinates.  
***** *)  
  
Radius := SQRT ( x_coordinate ** 2 + y_coordinate ** 2);  
  
IF x_coordinate > 0.0 THEN (* When x-coordinate is a positive value *)  
    Angle_degree := RAD_TO_DEG (ATAN( y_coordinate / x_coordinate ));  
ELSEIF x_coordinate < 0.0 THEN (* When x-coordinate is a negative value *)  
    Angle_degree := RAD_TO_DEG (ATAN( y_coordinate / x_coordinate )) + 180.0;  
ELSE (* When x-coordinate is 0.0 *)  
    IF y_coordinate > 0.0 THEN  
        Angle_degree := 90.0;  
    ELSEIF y_coordinate < 0.0 THEN  
        Angle_degree := 270.0;  
    ELSE  
        Angle_degree := 0.0;  
    END_IF;  
END_IF;
```

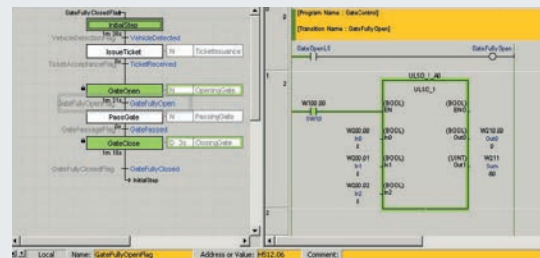
Ladder

Mnemonic entry is supported for ladder programming, the most widely used language for machine control, allowing instructions to be entered directly.



SFC

Sequential Function Chart (SFC) enables programs to be structured by process step for excellent readability.



Shorter navigation paths for greater time savings

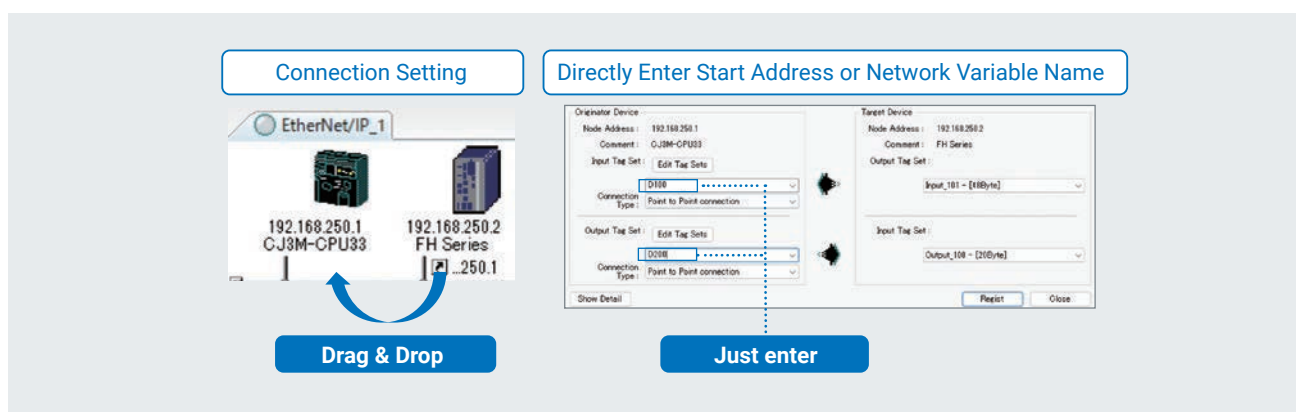
Fewer steps are required for network configuration and data tracing, creating a more intuitive workflow. Engineers of all experience levels can complete tasks with confidence and improve productivity.

Automated EtherNet/IP™ data link configuration between the CPU Unit and I/O devices

Design

Automatically generate CPU tag sets based on tag set information for I/O devices.

Communication settings can be completed without a manual in just a few clicks.

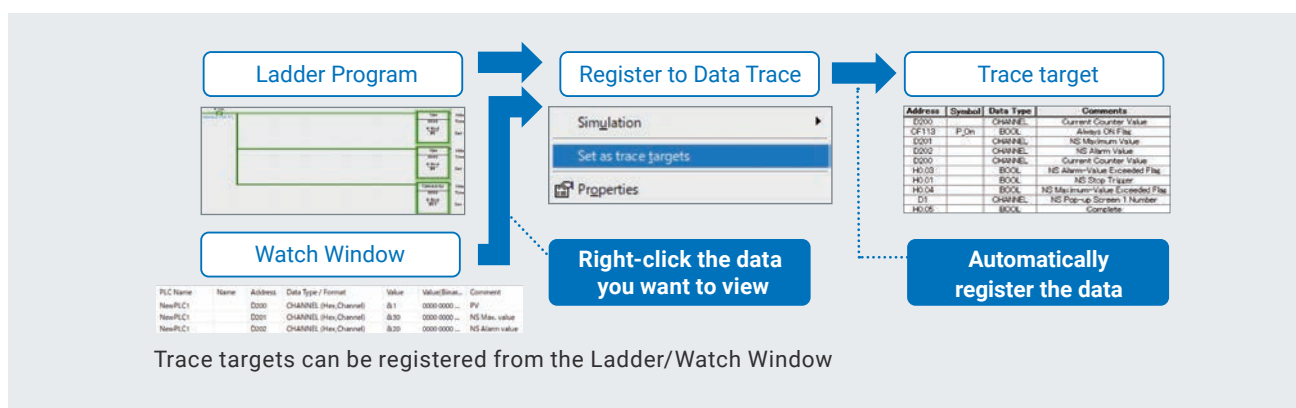


Batch registration of data tracing items from the Ladder/Watch Window

Implementation / Maintenance

Trace targets can be registered from the Ladder/Watch Window.

Multiple items can also be registered at once, enabling data tracing to start easily and smoothly.



Reduced maintenance workload with battery-free operation

Maintenance

No backup battery management or replacement is required, reducing maintenance effort.

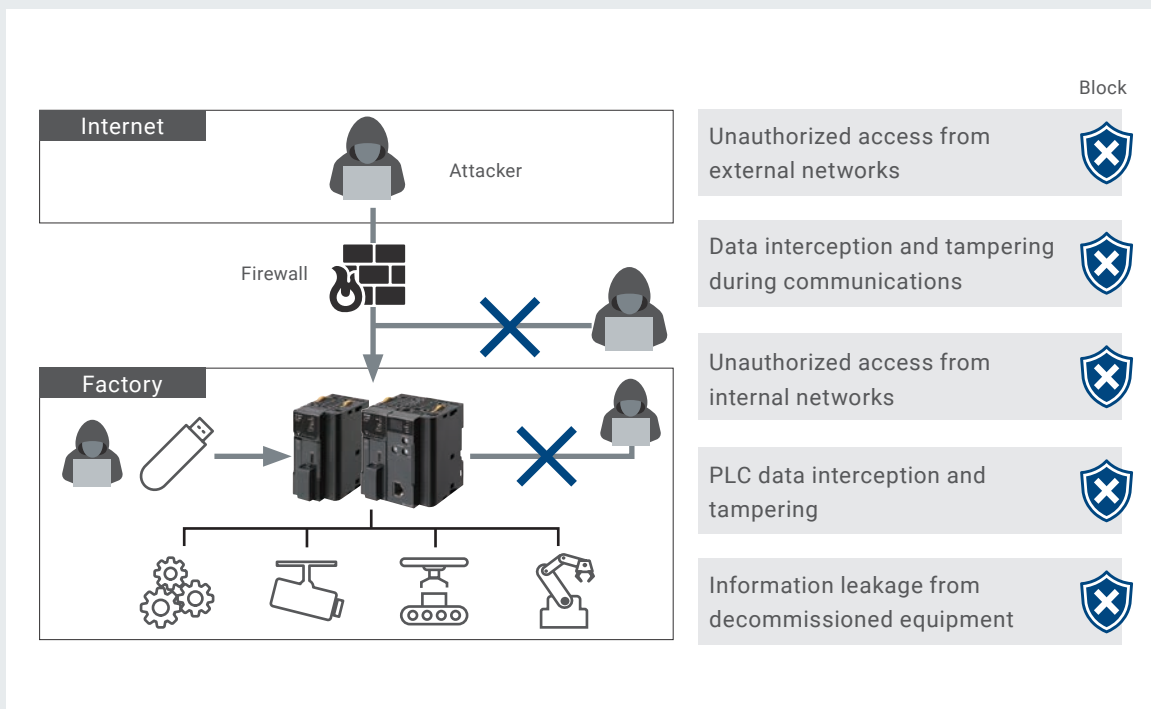
Note: A battery is required when using the clock function and the unit may be subjected to extended power interruptions.

Proven CJ reliability now meets long-term global availability

Secure system design with comprehensive security features

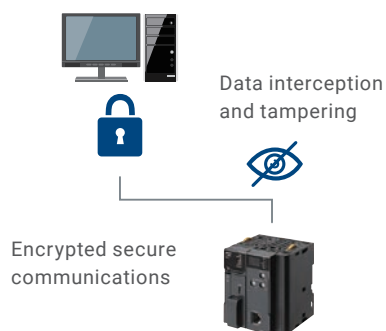
The system complies with China's mandatory GB standards, and support for the EU Cyber Resilience Act (CRA) is planned. Comprehensive security features help build highly secure and reliable systems.

Multi-layer protection with comprehensive security features

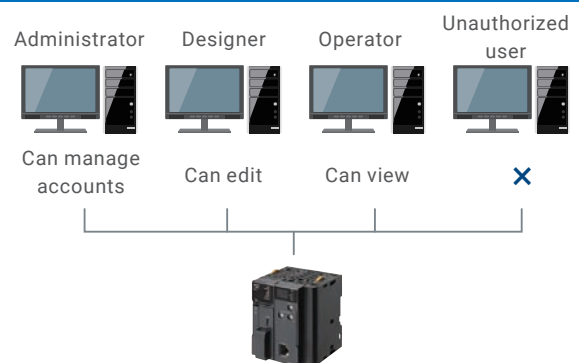


Key security features

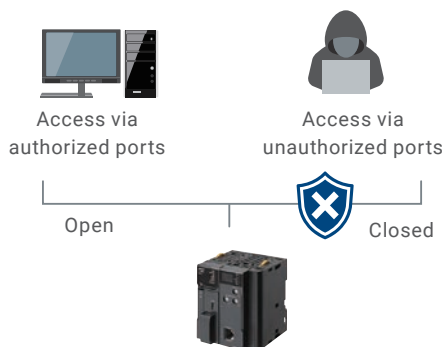
Secure Communications



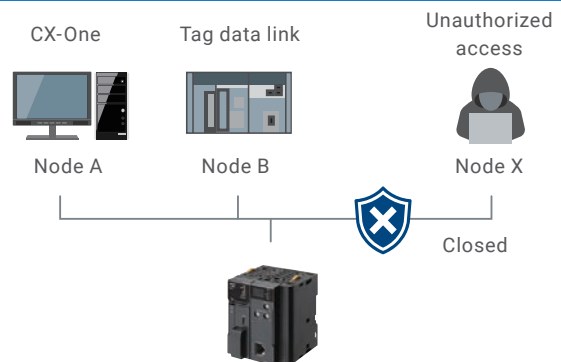
User Authentication



Opening and Closing the Port



IP packet filtering



Standard interfaces for reliable procurement

Globally standardized USB Type-C and SD card interfaces ensure easy availability, and quick maintenance regardless of region.



Optimized system configurations with the ideal PLC for basic control

Right-sized CPU selection for your application

Five models with built-in Ethernet and five models without Ethernet are available.
Select the optimal CPU Unit based on your equipment scale and application requirements.

Program capacities from 5K to 10K steps for every application



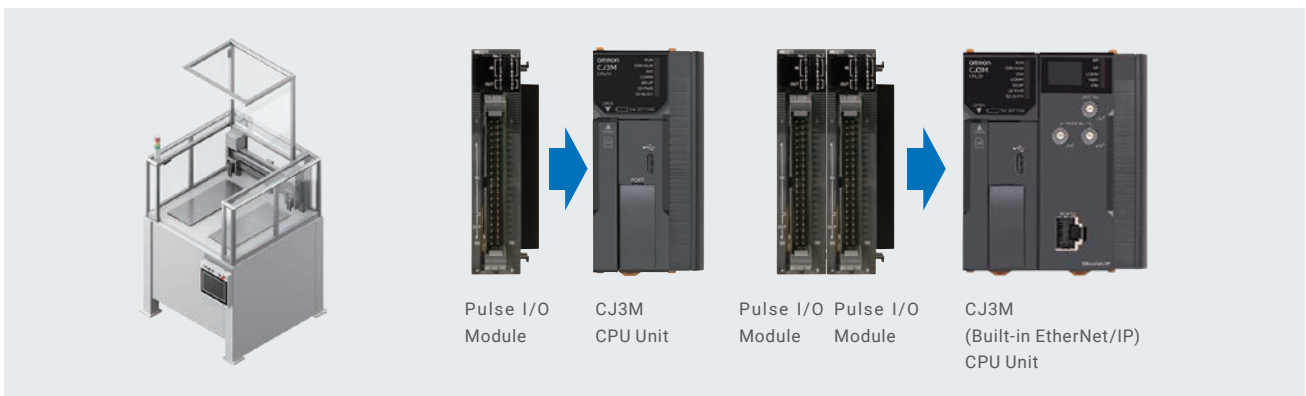
System configurations optimized for your application

A wide range of I/O Units are available, allowing you to freely combine the functions you need and build the optimal system configuration for your equipment.



Ideal for simple positioning applications

By adding a Pulse I/O Block, positioning control for up to four axes can be implemented easily.



Comparison with the CJ2M Series

	CJ3M	CJ2M
Appearance		
I/O capacity	5,120 points	2,560 points
Maximum Number of Expansion Racks	7 max.	3 max.
Maximum Number of Connectable Units	Basic I/O Units: 80 Units Special I/O Units: 80 Units CPU Bus Units: CPU1 □ 16 Units, CPU3 □ 15 Units	Basic I/O Units: 40 Units Special I/O Units: 40 Units CPU Bus Units: CPU1 □ 16 Units, CPU3 □ 15 Units
Number of connected CJ1W-EIP21S	CPU1 □ : 8 Units, CPU3 □ : 7 Units	2 Units
User Memory	5K/10K/20K/50K/100K steps	5K/10K/20K/30K/60K steps
FB Program Area	40K steps	20K steps
EM Area	32k words/bank × 1 to 10 banks max.	32k words/bank × 1 to 4 banks max.
Data Tracing	220k words	8k words
Permissible Communications Band	12,000 pps	3,000 pps
Memory Card	SD card	CF card
USB port	USB 2.0-compliant Type-C connector	USB 2.0-compliant Type-B connector
Dimensions	CPU1 □ : W31×D75×H90 CPU3 □ : W62×D75×H90	CPU1 □ : W31×D75×H90 CPU3 □ : W62×D75×H90

Replacing the CJ2M Series with the CJ3M Series

For replacement details, refer to the Replace Guide From CJ2M to CJ3M (Cat. No. P178).

Replacing the CS Series with the CJ3M Series

For replacement details, refer to the Replace Guide From CS1G/H to CJ3/CJ2 (Cat. No. P164).

Replacing the NS Series with the NS-B Series

The NS-B Series is available as a replacement solution for the NS Series Programmable Terminals.
For replacement details, refer to the Replace Guide From NS to NS-B (Cat. No. V474).

Ordering Information

CJ3M CPU Units

Product name	Specifications					Current consumption (A)		Model
	I/O capacity	Program capacities	Data memory capacity	LD instruction execution time	EtherNet /IP function	5 V	24 V	
CJ3M (Built-in EtherNet/IP) CPU Units 	5,120 points	100K steps	352K words (DM: 32K words, EM: 32K words ×10 banks)	0.04 μs	1 port	0.91	0.003	CJ3M-CPU35
		50K steps						CJ3M-CPU34
		20K steps	64K words (DM: 32K words, EM: 32K words ×1 banks)					CJ3M-CPU33
		10K steps						CJ3M-CPU32
		5K steps						CJ3M-CPU31
CJ3M CPU Units 		100K steps	352K words (DM: 32K words, EM: 32K words ×10 banks)		—	0.26	0.003	CJ3M-CPU15
		50K steps						CJ3M-CPU14
		20K steps	64K words (DM: 32K words, EM: 32K words ×1 banks)					CJ3M-CPU13
		10K steps						CJ3M-CPU12
		5K steps						CJ3M-CPU11

For details on the CJ3M and information regarding I/O units, etc., please refer to the "Programmable Controller CJ3M" datasheet (Catalog No. P180).

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Note: Do not use this document to operate the Unit.

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