

FA Integrated Tool Package

## CX-One Ver.4

One software for your complete machine



» Easy, Intuitive Programming Software

» **Structured Text for Simple programming**

» Easy Input - Easy Designing - Easy Validation

# ST programming for further easy and simple programming and configuration of PLC systems

The CX-One is an integrated package of Support Software including setup applications for networks, PTs, Servo Drives, Inverters, and Temperature Controllers as well as programming software of PLCs.

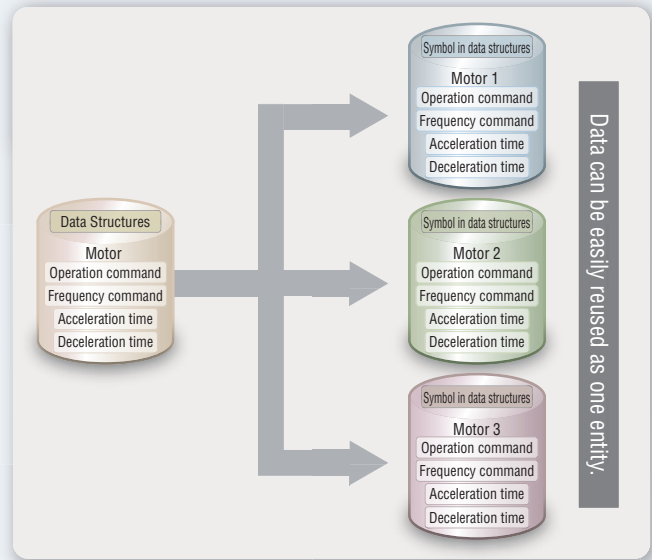
Data structures, the timer data type, and the counter data type can be used in ST and SFC programs.

## Data Structures

A data structure is a user-defined data type that groups various data together. By grouping the data, the large volumes of data handled by a program are made easier to understand and can be registered or changed much easier.

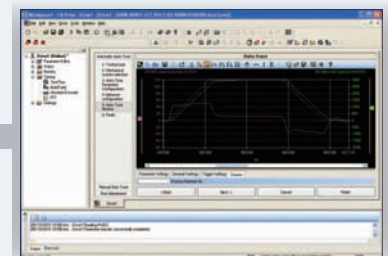
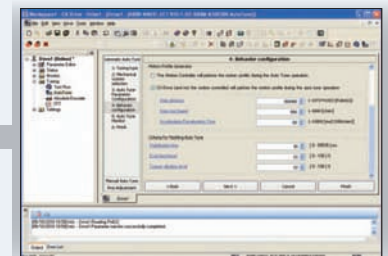
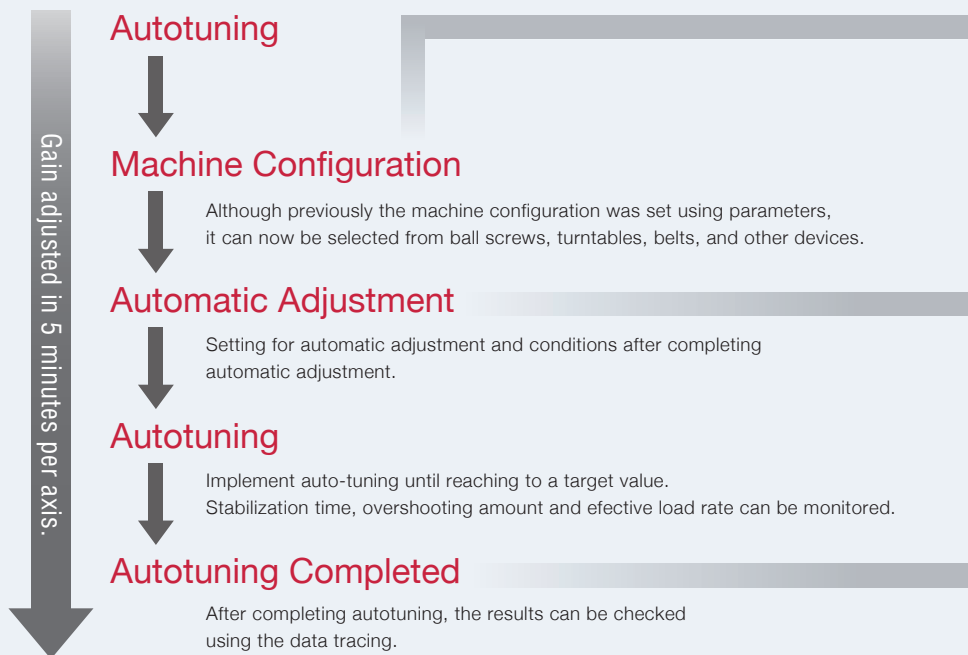
## Timer and Counter Data Types

Timer and counter data types can be treated as symbols in ST and SFC programs. You can thus use them as symbols in arrays to build programs that can be easily reused.



## Quickly adjust the gain using a wizard.

The autotuning feature provided with the CX-Drive makes it easy to adjust the Servo Drive gain. You can use a wizard to complete gain adjustment in approximately five minutes or less per axis simply by selecting the machine configuration and entering the target set time.



**Support for New Operating System**

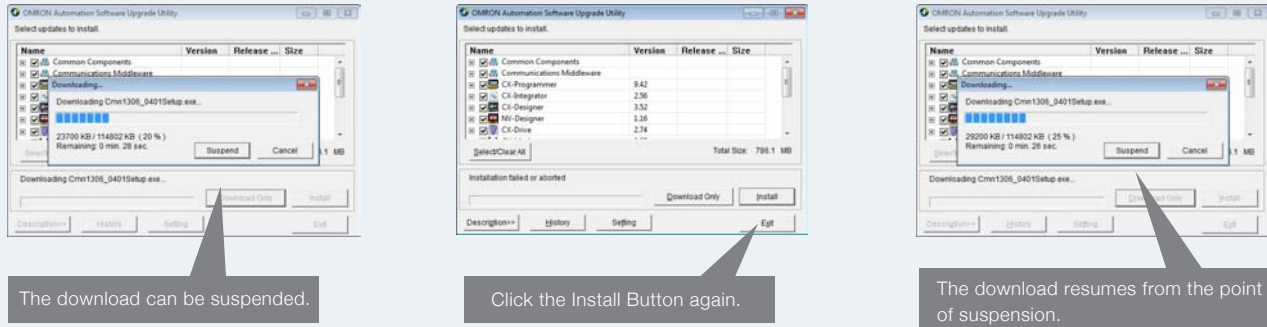
## Windows 8 is supported

In addition to Windows XP\*, Vista, and 7, Windows 8 is now supported. The CX-One runs on the Windows 8 desktop.  
 \*The Windows XP 64-bit edition is not supported.

**NEW**

## Resume Function for Automatic Update

The auto update function using OMRON Automation Upgrade Utility allows you to suspend and resume downloading the version upgrade program. When a download is arbitrarily interrupted or connecting to the server fails during a download, the download can be resumed from the point where it was suspended.

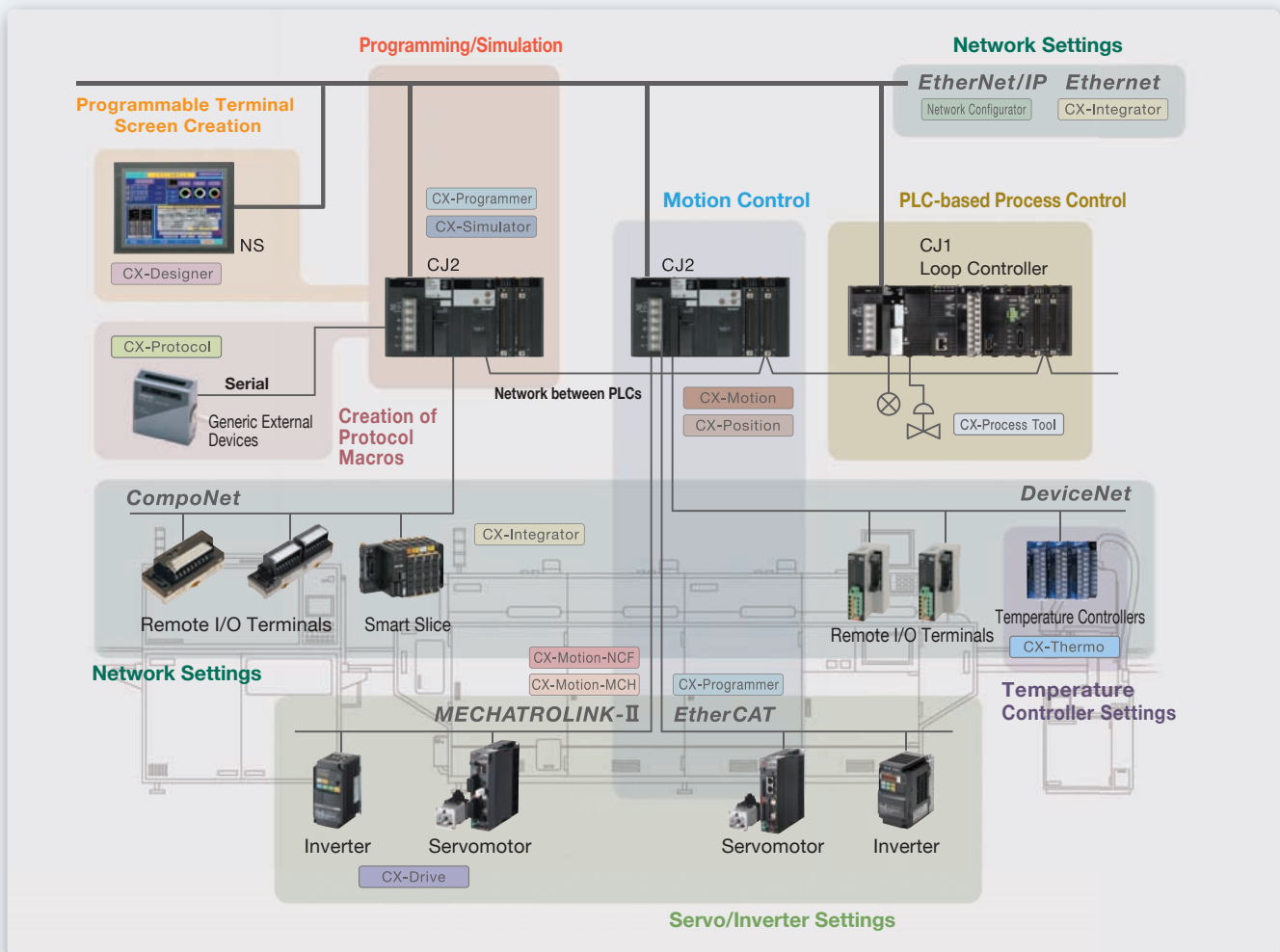


The download can be suspended.

Click the Install Button again.

The download resumes from the point of suspension.

## CX-One Tools



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- Easy Programming
- Reusable Designs
- Position Control
- Network
- Debugging
- Component Tools
- FA Communications Software
- Online Web Services
- Ordering Information
- CX-One Lite

Input without Wasted Effort !

Use Mnemonics to Input Instructions Directly or Use 1-key Inputs

## A Smart Input Function greatly reduces the work required to input programs

A new method is available that lets you input instructions directly using mnemonics.

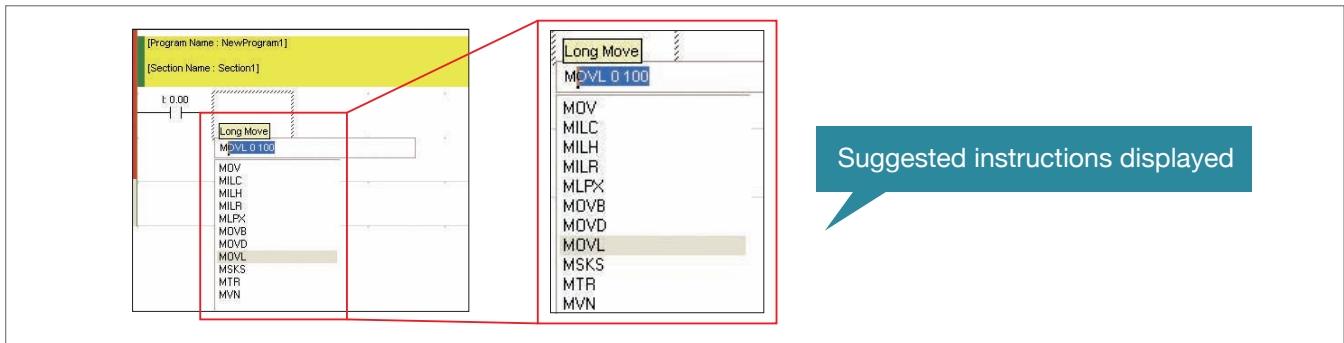
Other functions include automatic addresses for operands, including input bits and output bits, automatic insertion of connecting lines for output and application instructions, and other smart input functions that greatly reduce the work required to input ladder diagrams.

\*This function is supported only for ladder diagrams.

### Instruction and Address Input Assistance

When you begin typing an instruction from the keyboard while in the Ladder Editor Window, suggested instructions are displayed.

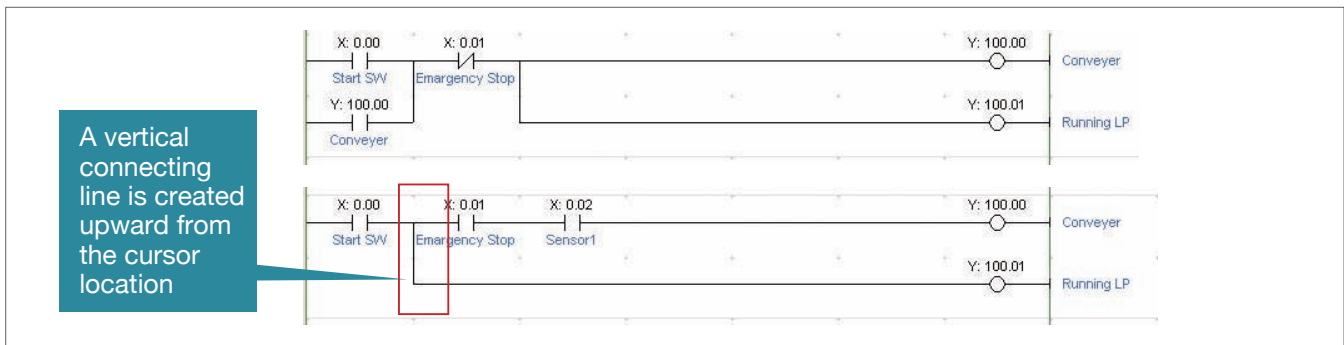
All you have to do is select the instruction from the list for easy input even if you do not remember the mnemonic.



### Automatic Insertion of Connecting Lines

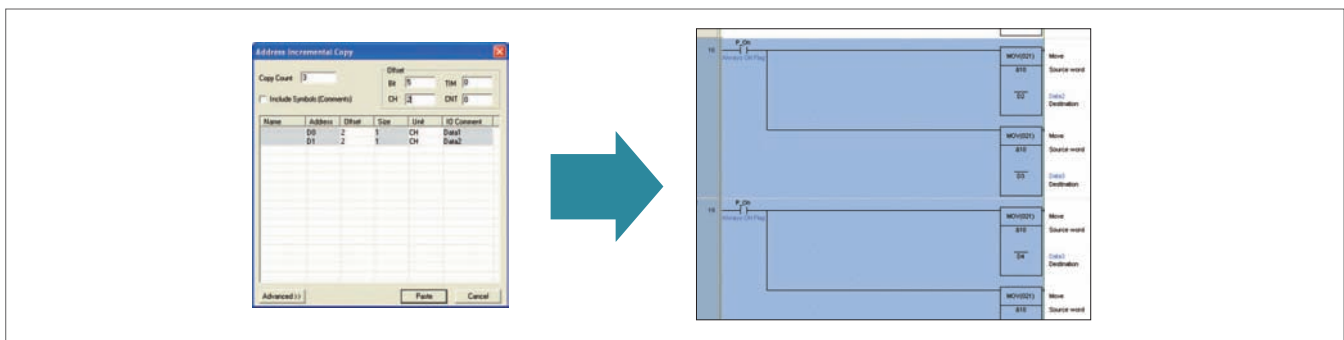
When an output or application instruction is input, the required connecting line is inserted automatically starting at the cursor location.

This greatly simplifies the work required to insert lines.



### Address Incremental Copy

To create the same group of ladder instructions more than once, the address incremental copy function can be used to reuse the instructions simply by inputting an address offset. Also, address offsets can be set individually and I/O comments can be created automatically.



## Auxiliary Bit Input from Lists

Clock Pulse Flags, Condition Flags, and other special bits in the Auxiliary can be selected from lists, eliminating the need to remember addresses.

Address	Name	Comment
0	CF113	P_On Always ON Flag
1	CF114	P_Off Always OFF Flag
2	CF102	P_1s 1.0 second clock p...
3	CF103	P_0_02s 0.02 second clock ...
4	CF100	P_0_1s 0.1 second clock p...
5	CF101	P_0_2s 0.2 second clock p...
6	CF104	P_1min 1 minute clock puls...
7	CF006	P_EQ Equals (EQ) Flag
8	CF005	P_GT Greater Than (GT) ...
9	CF007	P_LT Less Than (LT) Flag

## Address Incrementing

The address of the next operand, including input bits and output bits, is incremented by one and displayed as the default. This enables easily inputting consecutive addresses.

## Quick-key Input of Both Instruction and Operands, and Consecutive Input of Instructions

When an instruction is displayed with a default operand, just press the Shift + Enter Keys to confirm input of both the instruction and operand. To input the same instruction consecutively, just press the Ctrl + Enter Keys. We've eliminated the number of steps for key operations wherever possible.

**Quick-key Input of Both Instruction and Operands**

**Consecutive Input of Instructions**

Easily program numeric calculations and text string operations with structured text.

## Structured Text for Simple and easy-to-understand Programming

### Structured Text (ST)

Numeric calculations, conditional branching, and text string processing, all of which can be difficult with ladder diagrams, can be easily programmed using ST.

#### Calculating the Length and Angle from X,Y Coordinates Using Numeric Calculations and Conditional Branching



```

(* *****
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));
ELSIF 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;
  ELSIF y_coordinate < 0.0 THEN
    Angle_degree := 270.0;
  ELSE
    Angle_degree := 0.0;
  END_IF;
END_IF;

```

#### Ladder Diagram

- Work memory is required to temporarily hold the calculation results.
- The control data for each instruction must be understood and suitable numeric values must be set.
- The calculations cannot be written as formulas.

#### Structured Text

- Work memory, which is required for the ladder diagram, is not required.
- The calculations can be written in numeric form.
- It is not necessary to understand the special ladder instructions of each manufacturer or the control data for the instructions.

#### Collecting Date Information from the PLC Using Text String Operations



```

(* *****
STSample: Gets year/month/Day information from PLC.
***** *)

Year := LEFT(WORD_TO_STRING(Year_Month), 2);
Month := RIGHT(WORD_TO_STRING(Year_Month), 2);
Day := LEFT(WORD_TO_STRING(Day_Time), 2);

Month_Date_Year := CONCAT ('20', Year, 'Year', Month, 'Month', Day, 'Day');

```

#### Ladder Diagram

- Work memory is required to join the text strings.
- Text string processing is complex and difficult to understand.

#### Structured Text

- Work memory, which is required for the ladder diagram, is not required.
- Text string processing can be handled in a high-level programming language.

Data Structures, Timer Data Type, and Counter Data Type

## Support for data structures, a timer data type, and a counter data type makes reusing program designs much easier

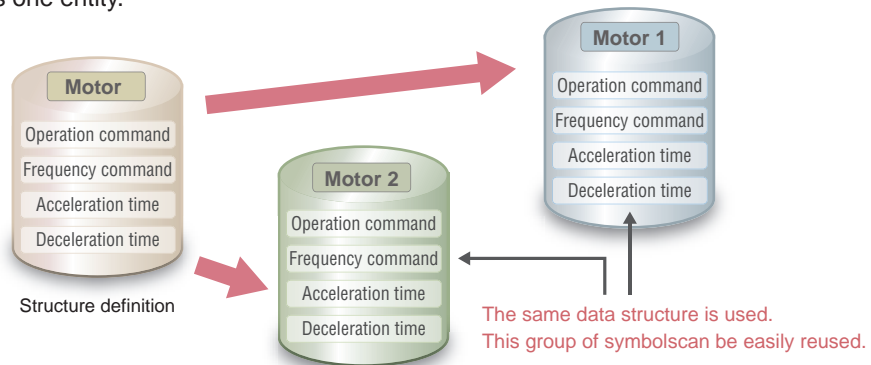
Applicable Models : CJ2

### Data Structures

A data structure is a user-defined data type that groups various data together. By grouping the data, large volumes of data handled by a program are made easier to understand and can be registered or changed much easier.

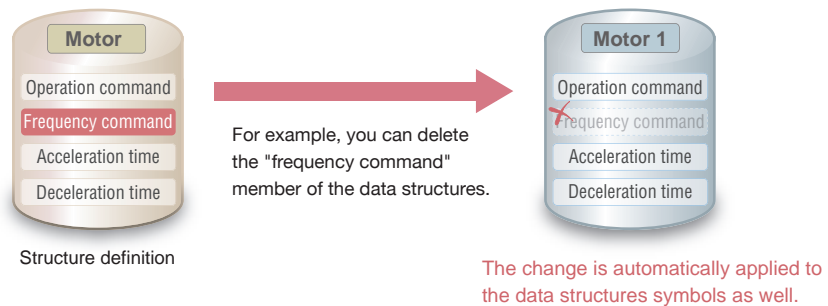
#### ■ Data can be easily reused as one entity.

If the same pattern is repeated in the data, you can define a data structure to enable easily reusing the data in programming.



#### ■ Data can be easily changed.

Even if there are changes to the data, the definition of the data structures can be modified to automatically change the data structures symbols in the symbol table as well.

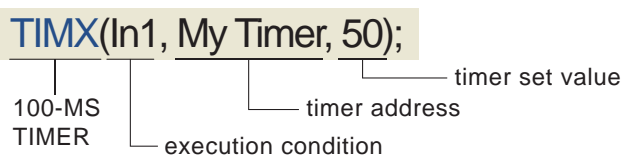


### Timer and Counter Data Types

The timer and counter data types can now be used in ST. This enables using timers in ST to perform wait processing.

#### ■ Example of Processing after a Specified Period of Time Elapses

```
TIMX(In1, MyTimer, 50);
IF MyTimer.CF = TRUE THEN
    Result := Work1 + Work2;
END_IF;
```



The addition is executed when the Completion Flag (CF) of MyTimer turns ON in 5 seconds.

Improved Functionality for Position Control

## Preliminary Verification of Memory Operation for Position Control

Applicable Models : CJ1W-NC□□4/NC□81

### Use Memory Operation Previews for Smoother Startup

Verifying operation before transferring the memory operation data to the Unit enables smoother startup and reduces the work involved in system verification.

Display graphs of positions or speeds against time. Easily compare results to data tables using sequence numbers displayed in the graph.

### Display Axis Movement Patterns for Two Interpolated Axes or for All Axes

You can verify movements by axis for each task. (Up to four axes can be displayed for each task.) Just click to switch the frame of reference for confirming operating patterns between one/two-axis interpolation, all axes, and pulse output instructions.

#### Displaying Two Interpolated Axes

Displaying the movement for two-axis interpolation enables visually verifying the interpolated operation, which is very difficult to imagine with table data.

A pointer moves on the movement pattern when it is replayed. This enables preliminary verification of movements.

#### Displaying All Axes

Displaying timing changes side by side for changes in position or speed over time for all of the axes lets you verify the timing of operations.



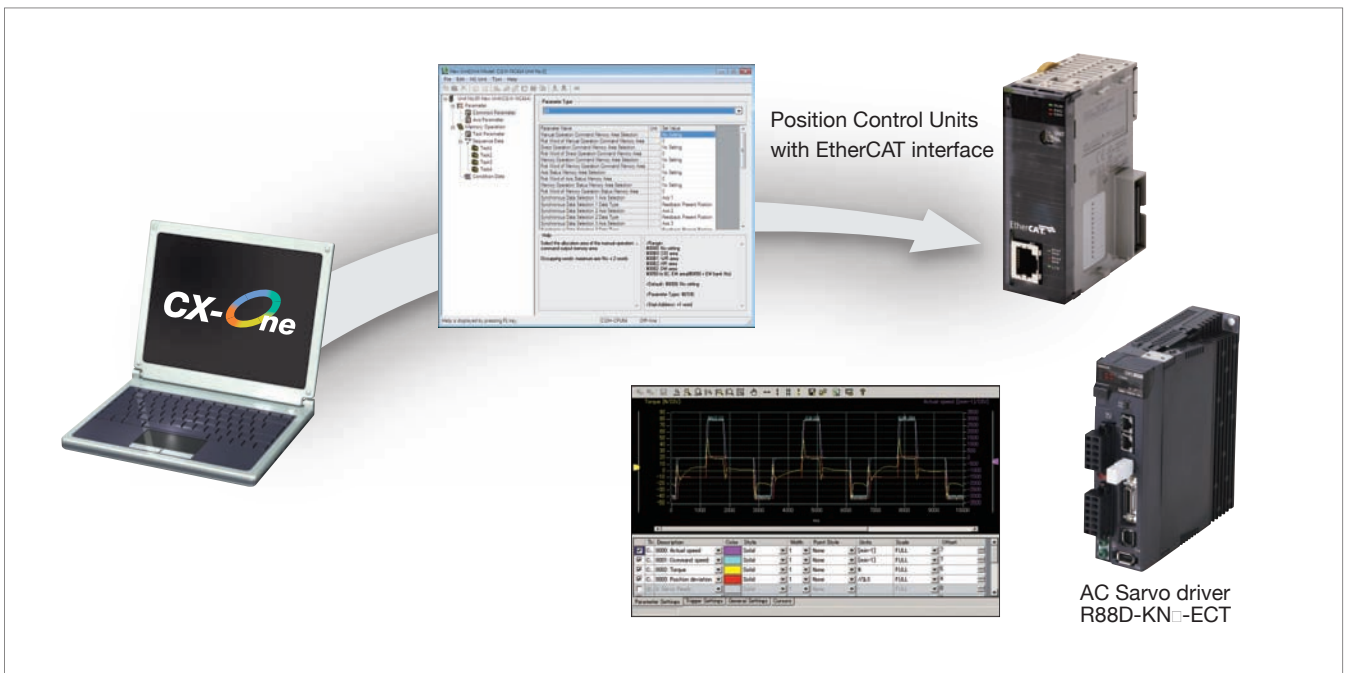
# Position Control Unit and Communications Setup Integrated into the CX-Programmer

## Easily Achieve Position Control without Wading Through User Manuals

Applicable Models : CJ1W-NC□B1

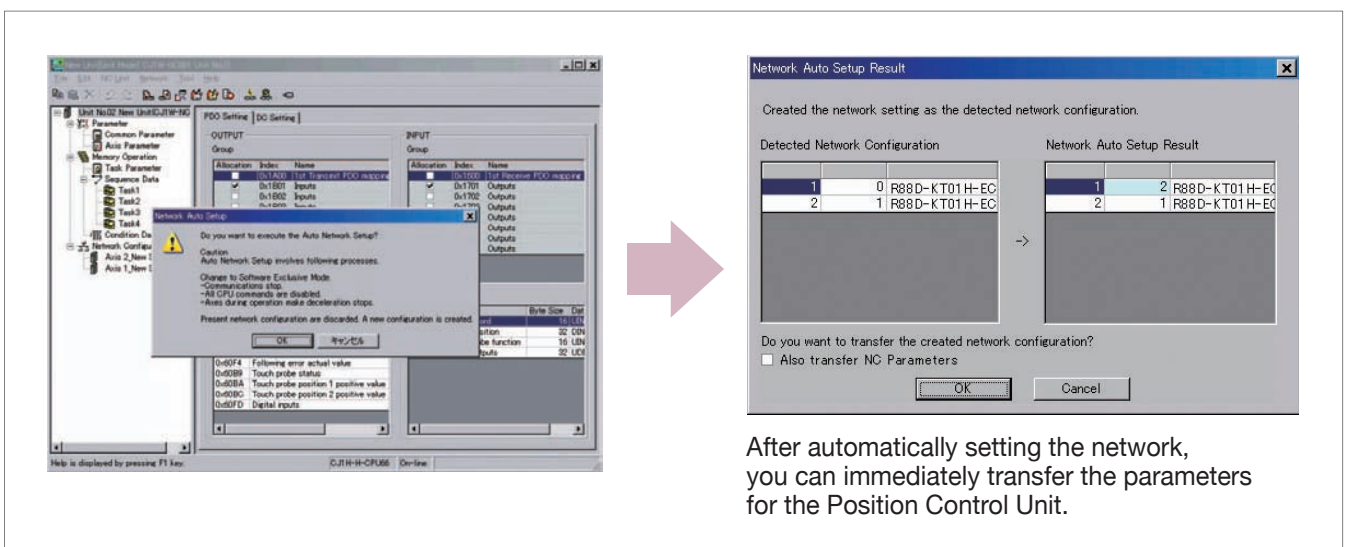
### Setup the Position Control Units and Servo Drives from One Connection

Just connect the computer to a CPU Unit port to set up the Position Control Units with EtherCAT interface and EtherCAT communications. You can also directly start the CX-Drive Support Software to set the Servo Drives connected to the Position Control Units.



### Automatic Network Setup

The communications parameters for Position Control Units with EtherCAT interface can be set simply by selecting a menu command.



After automatically setting the network, you can immediately transfer the parameters for the Position Control Unit.

USB and EtherNet/IP Ports are available for CJ2 CPU Units

## Easier Connection to PLCs

CX-Programmer

Applicable Models: CJ2

### Easy connection with USB

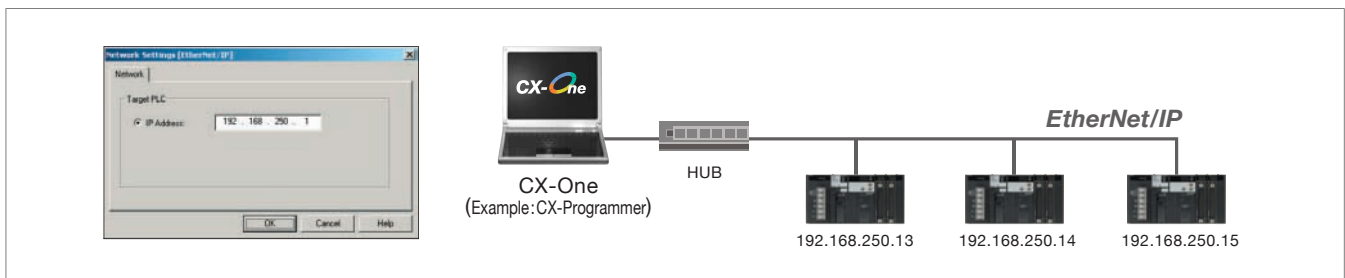
A standard USB cable can be easily connected to the USB port on the front of the CPU Unit.



### Easy Connection with EtherNet/IP

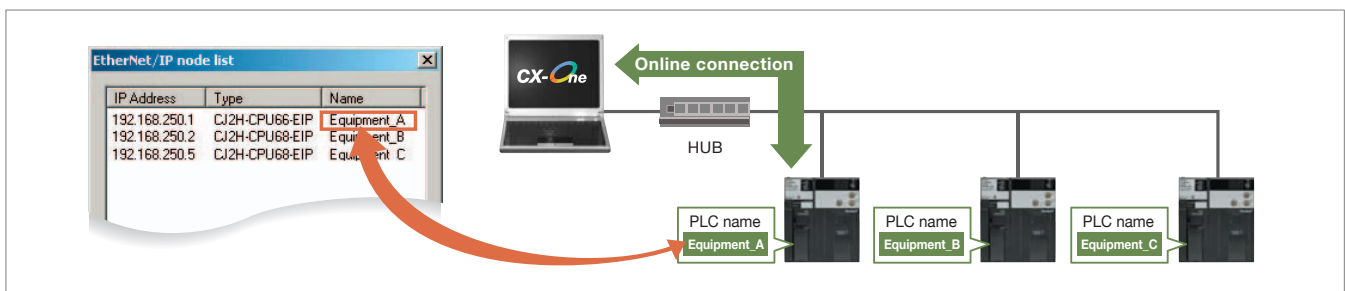
Easy connection by specifying the computer LAN (Ethernet) port and IP address only.

\*CJ2(built-in EtherNet/IP) CPU Units only.



### Prevent Connection Errors by Verifying PLC Names

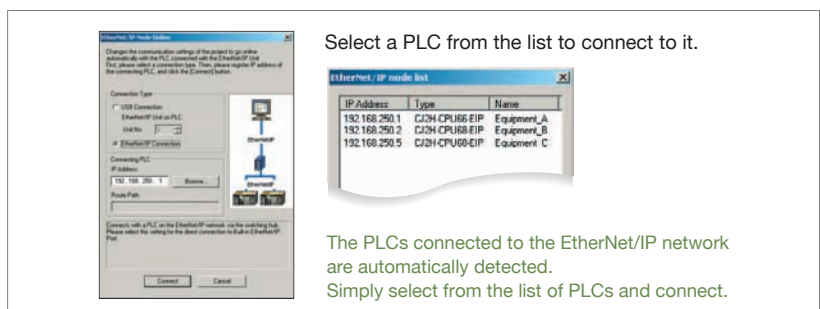
The CJ2 CPU Unit can record a PLC name. Errors in transfers can be prevented ahead of time because the PLC name can be compared with what is in the project file when connecting online.



### Browse and Connect from the EtherNet/IP Connection List

Even if the IP address is unknown, you can browse a list of PLCs connected to the EtherNet/IP and select one to connect to it. With this, remote debugging and maintenance can be conducted smoothly on site.

\*CJ2(built-in EtherNet/IP) CPU Units only.



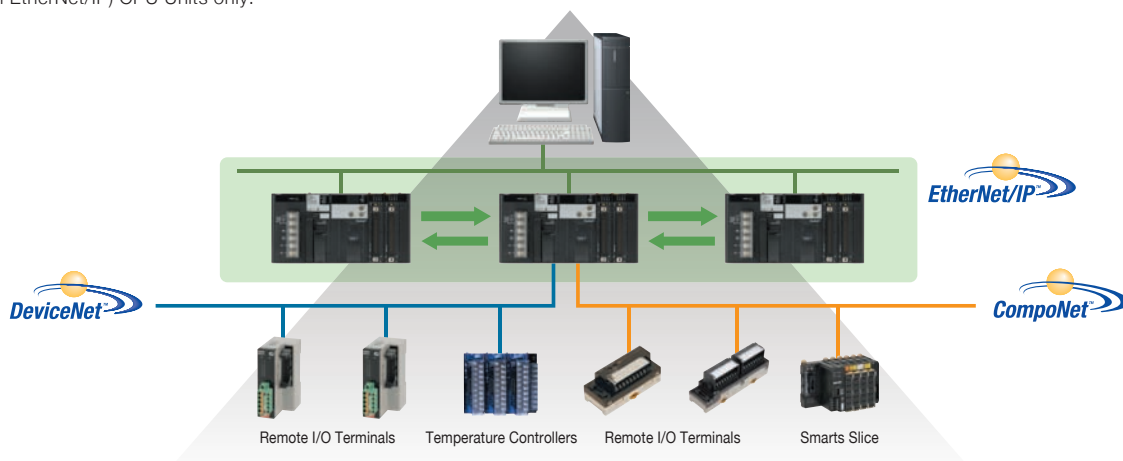
## Integration of Network Construction and Parameter Settings

# Easy Setting of Tag Data Links for EtherNet/IP

In addition to creating data links with the EtherNet/IP Datalink Tool using I/O memory addresses, you can also use network symbols for tags to easily create the data links.

With EtherNet/IP, high-speed, high-volume data links can be created with different cycle specifications for each applications, regardless of the number of nodes.

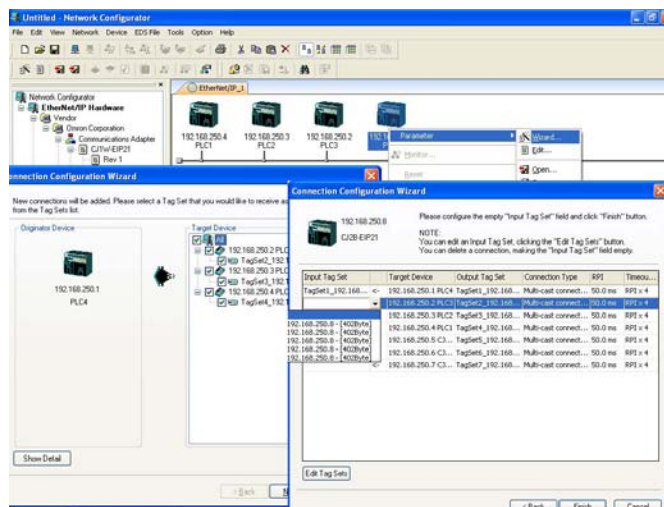
\*CJ2(built-in EtherNet/IP) CPU Units only.



## EtherNet/IP Tag Data Link Setting Wizard

A wizard can be used to easily set the tag data links for Ethernet/IP by importing the network symbols for tags from the CX-Programmer.

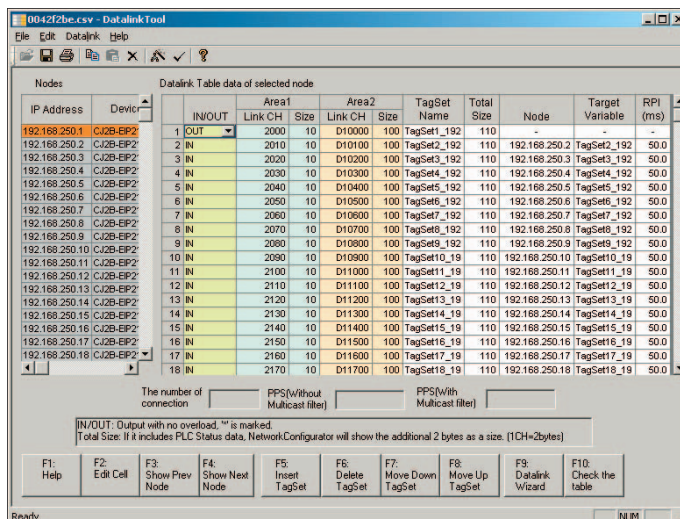
Network Configurator



## EtherNet/IP Datalink Tool

EtherNet/IP data links can be easily created by setting I/O memory addresses in data link tables.

Network Configurator



Easy Programming

Reusable Designs

Position Control

Network

Debugging

Component Tools

FA Communications Software

Online Web Services

Ordering Information

CX-One Lite

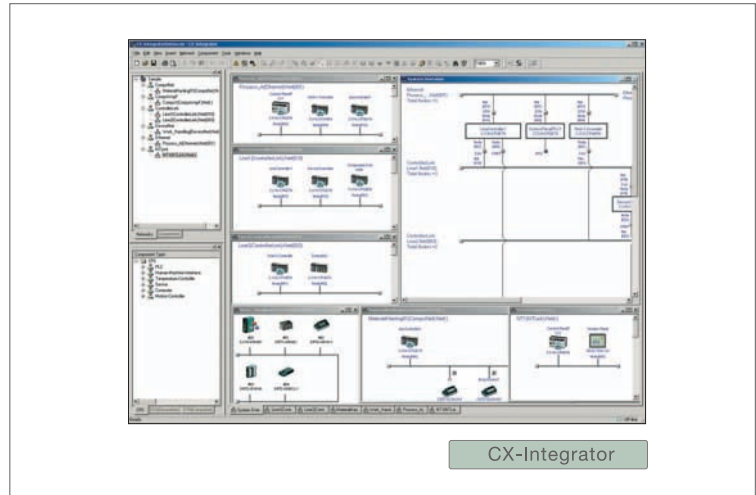
Comprehensive Debugging for Networks

## Time Required for Onsite Startup and Debugging Has Been Significantly Reduced

With CX-One version 3.0, debugging is efficient with simultaneously monitoring and management of multiple networks and PLCs.

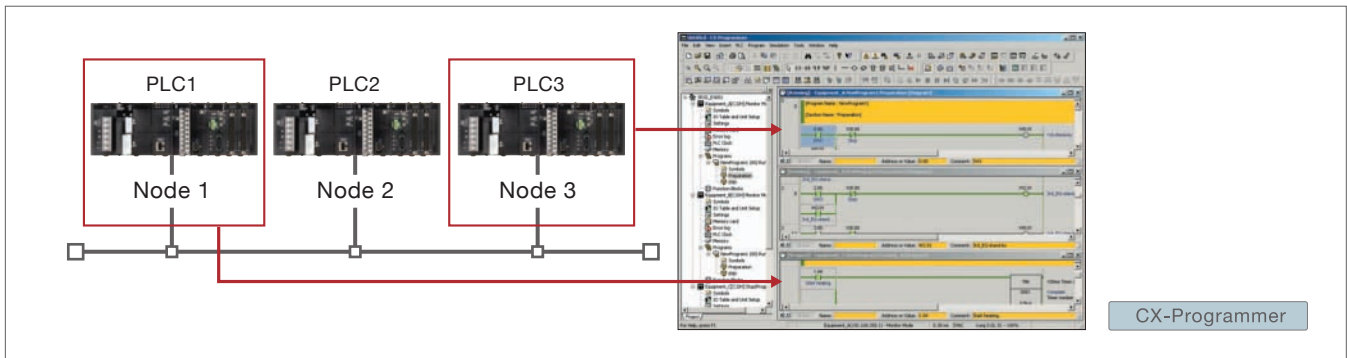
### Management of Multiple Networks

The operation of networks with configurations consisting of multiple networks including PLC networks such as EtherNet/IP and Controller Link, field networks such as DeviceNet and CompoNet, and networks for Programmable Terminals and Serial Devices, can be restored simultaneously from the CX-One. Onsite start up and debugging can be conducted efficiently and without errors because PLCs and devices can be selected from the window to transfer programs and parameter data to the computer during operation.



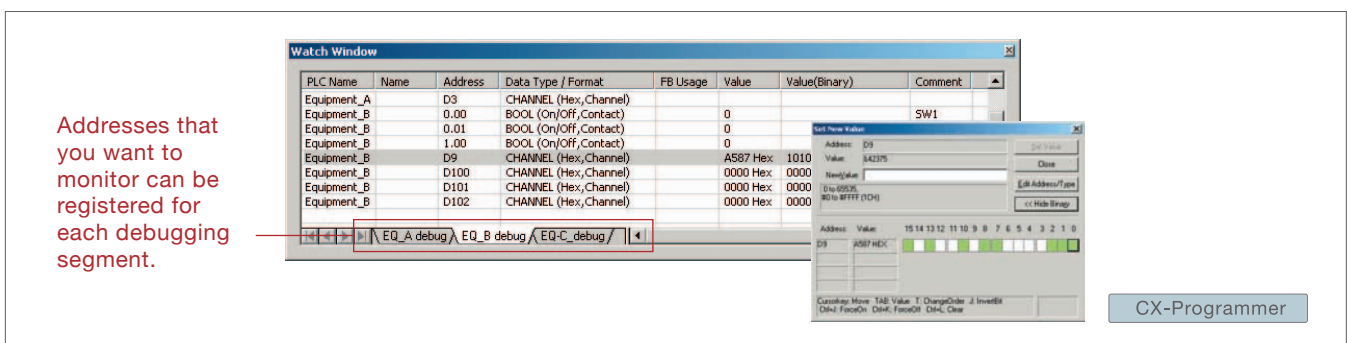
### Ladder diagram Monitoring for Multiple PLCs

Multiple PLCs can be monitored by displaying them in series on the screen. This way it is easy to debug data links between PLCs and monitor the inputs and outputs of different PLCs.



### Group Monitoring of Multiple PLC Input/Outputs in the Watch Window

The desired I/O data can be selected for multiple PLCs, such as input bits, output bits, and word I/O data, and monitored simultaneously. There are also functions such as the Binary Monitor and Forced Set/Reset functions that enables graphical monitoring the ON/OFF status of word data. All of these monitoring functions are easy to use.

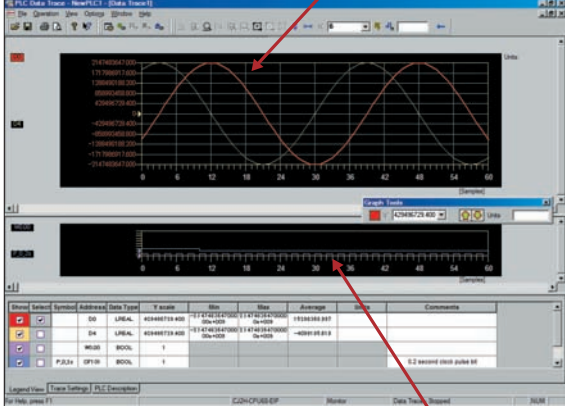


## Time Require for Debugging and Maintenance Has Been Reduced with the Comprehensive Data Trace Function

Functionality and operability has been significantly upgraded compared to the previous data trace function. The new data trace function provides comprehensive debugging, such as I/O comment display of sampled addresses, specification using symbols, checking the measurement time between two selected points, and layering waveforms. Furthermore, data sampled from the CPU Unit's trace memory can be saved to a file on the computer at a specified frequency. This can be used as for long-term logging of data.

**Data Trace Function**

Sampled values from a specific word will be displayed.



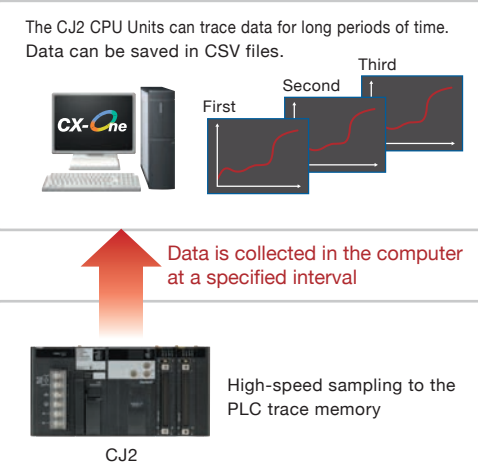
The traced waveforms can be displayed as layers.

Sampled value from a specific input bit will be displayed.

**Continuous Data Trace Logging**

Applicable Models : CJ2

The CJ2 CPU Units can trace data for long periods of time. Data can be saved in CSV files.



First Second Third

Data is collected in the computer at a specified interval

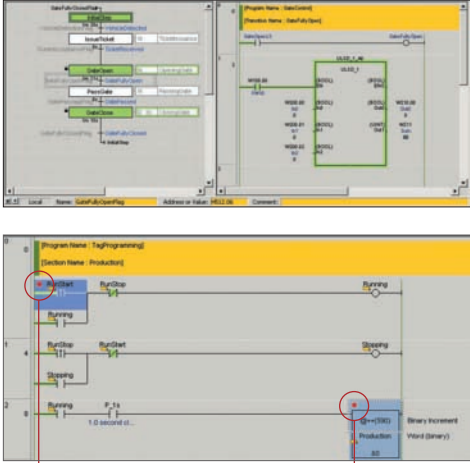
High-speed sampling to the PLC trace memory

CJ2

## Simulation Debugging

Programs can be debugged using a computer without the actual PLC. A wide range of languages, such as ladder diagram, sequential function charts (SFC), structured text (ST), and programs within function blocks are supported. Furthermore, programs can be edited online, bits can be force-set/reset, breakpoints can be set, and a PLC error simulator can be used.

**Simulation of SFC, Ladder Diagrams, and Function Blocks**



**Forced set/reset**

Can be used for SFC steps and transitions.

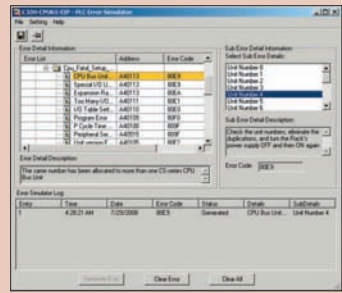
**Breakpoints**

Breakpoints can be inserted anywhere in the program, such as for input bits, output instructions, special instructions, or function blocks.

Breakpoints

**Error Simulation**

It is easy to debug errors that are difficult to generate with the actual PLC. Debug contents can be saved and used in test document.



## No Size Restrictions for Online Editing of Function Blocks and Sequential Function Charts

Applicable Models : CJ2

There are no size restrictions for the function blocks and SFC that can be edited online.

Products Are Highly Compatible and Easy to Use Because They Are from a Comprehensive PLC Manufacturer

## The CX-Designer Simplifies the Processes from Screen Design to Debugging for the NS-series Programmable Terminals

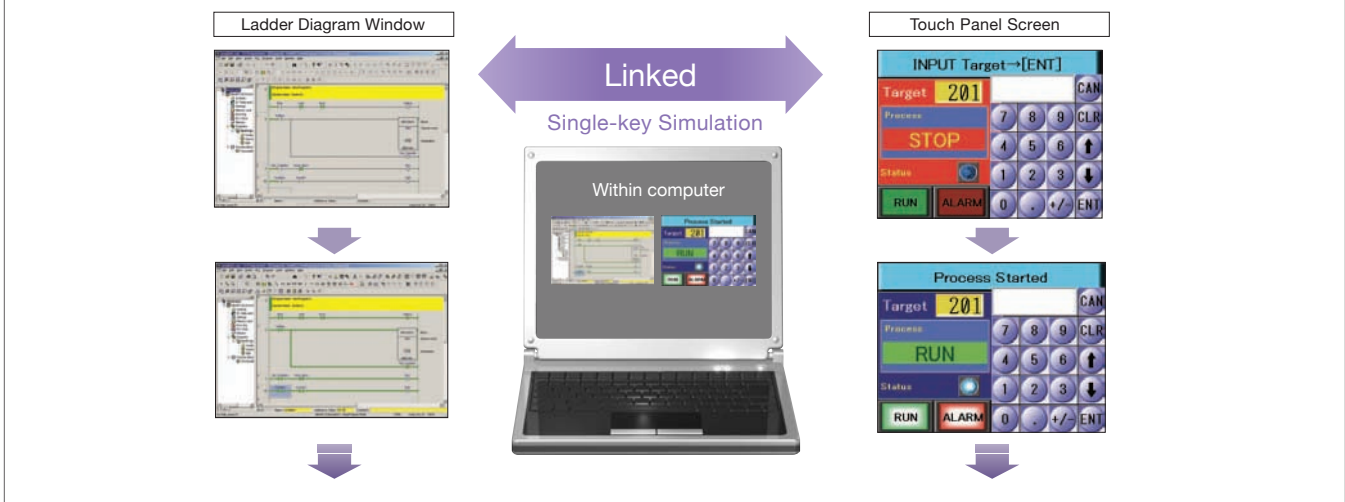
The time required for designing can be significantly reduced because of the compatibility with CJ-series PLCs. The process of designing screens is easier with expanded function.

**Applicable Models :**  
NS Series NSJ Series

### Integrated Simulation with the PLC Ladder Diagrams

Test functions for the CX-Designer and CX-Programmer are linked through the CX-Simulator on a computer. This enables screens and ladder diagrams to be checked simultaneously, significantly improving the debugging efficiency. A new Integrated Simulation Button has been added to the CX-Programmer. Furthermore, work efficiency has been significantly improved with the function that enables work windows to be pinned in front, and a flexible zoom function.

Screens and Ladder Diagrams Can Be Simultaneously Checked on a Computer



### CJ2 Data Structure Supported, Enhanced designing efficiency and design work reduction in overall system

Special function which can be used for a system with Omron PLC CJ2 and NS-series programmable terminal. Just drag the data structures on the CX-Programmer and drop it on the CX-Designer.

- Data structures can be shared between the PLC ladder program and screen editor of programmable terminal.

Note1: To use CJ2 data structure, prepare CX-Designer Ver.3.2 or higher and NS system program Ver.8.4 or higher.

Note2: This function can be used when the PLC and programmable terminal are connected via EtherNet/IP.

Name	Data Type
Motor	
Operation_Command	INT
Frequency_Reference	UINT
Acceleration_Time	UDINT
Deceleration_Time	UDINT

Name	Data Type
Motor_1	Motor
P_0_01s	BOOL
P_0_02s	BOOL
P_0_1ms	BOOL
P_0_1s	BOOL
P_0_2s	BOOL
P_1min	BOOL

## Communications Components and the Smart Active Parts(SAP)Library Significantly Reduces the Time Required to Create Ladder Diagrams and Screens

There are over 3,000 Smart Active Parts that can directly access OMRON PLCs and components. Simply select and paste a part from the SAP library onto the screen. Detailed screens and ladder diagrams do not need to be created.

**SAP Library of Temperature Controller Components**

**Screen Designing Tools CX-Designer**

Drag and drop

Transfer

Immediate creation of Temperature Controller Settings and Monitor Screens

CJ2, E5AN, EJ1, MX

### Using Software Components, Error Checking and Parameter Setting Can Be Done without a Computer

There are many software components in the Software Function SAP Library that can be easily incorporated into the NS-series Programmable Terminals. Simply select and paste software components on the screen. Device errors can be checked and parameters set without a computer.

**FROM Computer Software**

**TO EASY Tools (Software Function SAP Library)**

PLC CPU Unit Monitor Screen, NCF Unit Setting Screen, DeviceNet Monitor Screen

## The Troubleshooter SAPs Can Be Used Onsite without Computers or Manuals

There is a troubleshooter SAP library that covers all PLC Units. If there is a PLC error, the troubleshooter SAP library explains the cause and how to implement countermeasures in a way that it is easy to understand.

**Position Control Unit Troubleshooter SAP**

**Basic I/O Unit Troubleshooter SAP**

### Improved Troubleshooter SAP Library

In addition to the DeviceNet Units and Position Control Units, the CX-Designer also includes Basic I/O Unit, Analog I/O Units, Serial Communications Units, High-speed Counter Units, Controller Link Unit, and ID Sensor Units. Including the EtherNet Units and Motion Control Units is planned in future development stages.

Easy Programming, Reusable Designs, Position Control, Network, Debugging, Component Tools, FA Communications Software, Online Web Services, Ordering Information, CX-One Lite

Easily Built Intelligent Motion Control

# Optimum Motion System Support for Applications with Motion Networks or Generic Interfaces

Support from system starting to Maintenance. Also Provides EtherCAT Compatibility

## CX-Drive



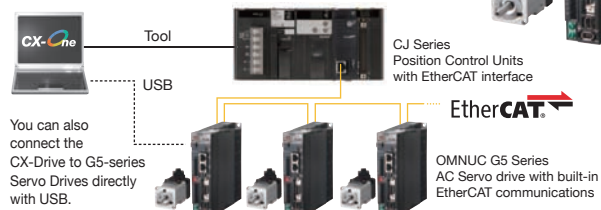
### Easy Setup and Adjustment

#### Parameters

Servo Drive or Inverter parameters can be set as easily as with a digital operator. With an EtherCAT system, Servo Drive parameters can be set and status can be monitored through the PLC.

#### Simple Gain Adjustment

You can use a wizard to complete gain adjustment in five minutes or less per axis simply by entering the machine configuration and the target set time.



### Measurement, Analysis, and Monitoring

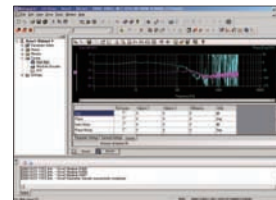
#### Simple FFT

You can measure the frequency characteristics of the system and diagnose resonant frequencies. Apply the notch filter to resonant frequency to achieve higher responsivity.

#### Status Monitoring

Data traces can be used to monitor the speed or torque as easily as with an oscilloscope.

### Simple FFT



### Simple Gain Adjustment



Stand alone CX-Drive (WS02-DRVC1) version is Ver.2.92.

Applicable Models : Servo G5/G/W Series  
SMARTSTEP 2/SMARTSTEP Junior/SMARTSTEP A Series \*

Inverter MX2/MX2-V1/RX/RX-V1/JX/MX Series  
3G3JV/3G3MV/3G3RV/3G3RV-V1

\* Discontinuation models in March 2013.

Easy Management of Parameters While Connected to PLCs

## CX-Motion-NCF



### Settings can be modified while connected

Easily set, transfer, and verify parameters.

### Wiring can be checked while connected

Monitor status and present values.  
Simultaneously monitor the Servo Drives for up to four axes.

### Operation can be checked while connected

Execute servo locks, jogging, and error resetting. Display error codes and ON/OFF status for each axis. Monitor present values and busy status.

### Parameters that can be edited



Position Control Unit axis settings and Servo Drive Parameters

Position Control Units with MECHATROLINK-II interface

Applicable Models : CS1W/CJ1W-NCF71/NC271/NC471

Even Easier to Start Up a System **CX-Motion-MCH**



### Programming Is Easy

Easily set, transfer, and verify tasks and axis parameters.  
Perform syntax checks for motion programs.

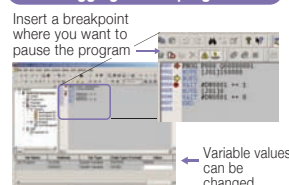
### Debugging Programs Is Easy

Execute servo locks, jogging, stepping, origin searches, origin returns, force-setting the origin, error resetting, absolute origin setting, and teaching. Display error codes and I/O ON/OFF status for each axis.  
Use breakpoints to easily debug programming.

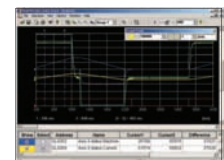
### Checking Operation Is Easy

Use data tracing to trace variables in the Motion Control Unit.  
Display the results in graphs to easily check operation and make adjustments.

### Debugging motion programs



### Data trace results



Motion Control Units with MECHATROLINK-II interface

Applicable Models : CS1W/CJ1W-MCH71



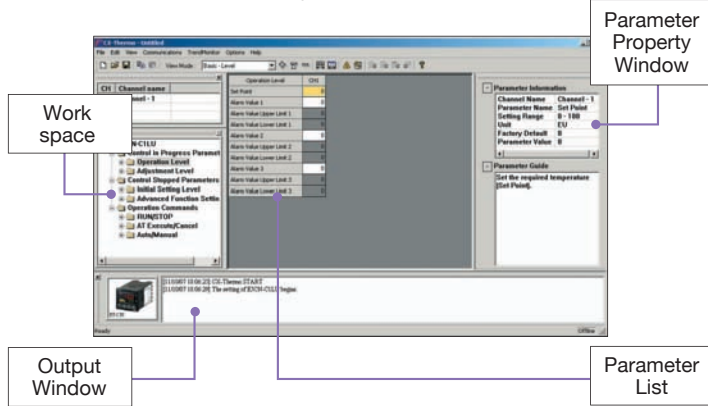
From Parameter Settings to Temperature Data Management

# The CX-Thermo/CX-Process Tool Software Supports High-level Temperature Control

## Setting Temperature Controller Parameters Is Easier **CX-Thermo**



Parameters can be easily set from a list



### Easy Parameter Settings

Parameters can be set even for Temperature Controllers that do not support communications. Parameters can be saved, and then copied, or reused and edited (Parameters can be exported in CSV or HTML format.)

### Displays Only What Is Used

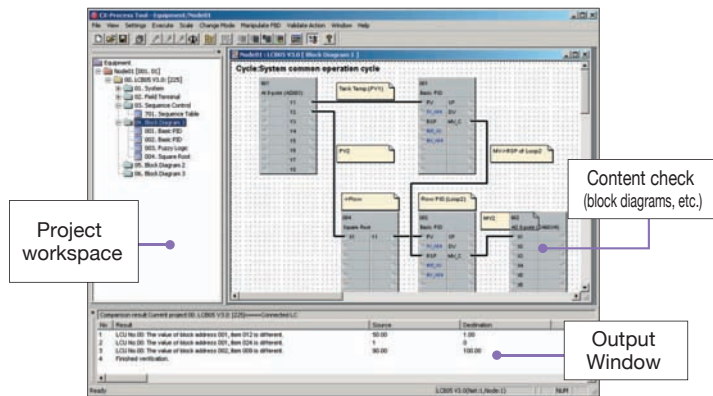
To avoid unintentional use of parameters, unused parameters can be masked (i.e., hidden)

**Applicable Units :**  
 E5CC/E5EC/E5AC/E5DC/E5GN/E5CN/  
 E5CN-H/E5CN-HT/E5EN/E5EN-H/E5EN-HT/  
 E5AN/E5AN-H/E5AN-HT/E5ER/E5ER-T/  
 E5AR/E5AR-T/EJ1/E5ZN  
 The DeviceNet type is excluded

## Programming for the Process Controller Is Easier **CX-Process Tool**



Control Programs Can Be Constructed By Pasting Function Blocks



### Control Can Be Customized

Control programs can be constructed by pasting function blocks and connecting them. They can be used for simple PID control, program control, and cascade control.

### Easy Creation of an HMI

Screens for the NS-series PTs (NS runtime screen) are automatically generated from the function block programs. Standard control screens and tuning screens do not need to be created manually.

**Applicable Units :**  
 CJ1G-CPU4 P/CPU4 P-GTC,  
 CS1W-LCB01/LCB05/LCB05-GTC,  
 CS1W-LC001 \*,CS1D-CPU6 P  
 \* Discontinuation models in March 2012.

## CX-Thermo/CX-Process Tool Support Software

### Adjusting Parameters While Monitoring Trends

PID parameters can be adjusted while monitoring the present value (PV), setting point (SP), and manipulated variable (MV). Trend data can be saved in CSV format.  
 (CX-Thermo Trend Viewer, CX-Process Tool Support Software Tuning Screen)

### Controlling with a Reliable Control Algorithm (See note.)

The execution of the autotuning (AT) function that calculates the PID constants and the fine tuning (FT) function that improves controllability exactly as required are made easy with an intuitive user interface. The interference overshooting adjustment function is supported to adjust overshooting when interference occurs, and the gradient temperature control function achieves constant internal temperatures for multi-point temperature control with interference.

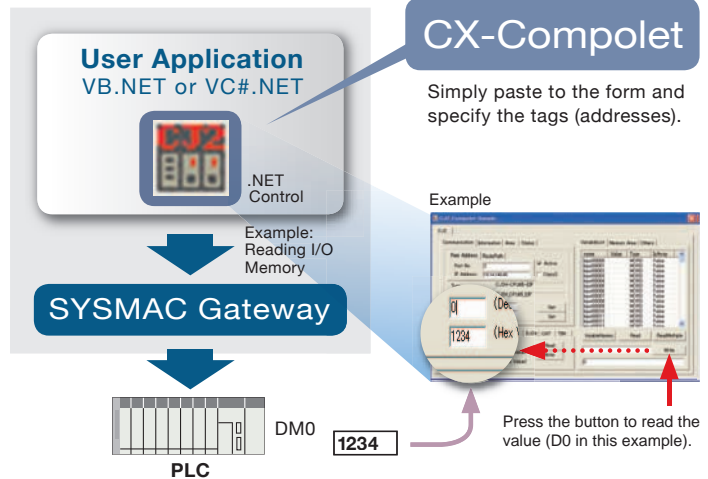
Note: Supported functions depends on the product being used. Refer to product manuals for details.

Easily write programs to read and write PLC data with VB or VC#.

## CX-Compolet

Easy to Use without Any Technical Knowledge

- Provides software components that help you easily and quickly develop PLC communications.
- Read and write PLC data without the need to consider differences between networks.
- Supports Microsoft Visual Studio .NET 2010.
- For the CJ2 with EtherNet/IP functionality, I/O memory in the PLC can be accessed by using tag names rather than addresses.
- Array and structure variable access is possible.

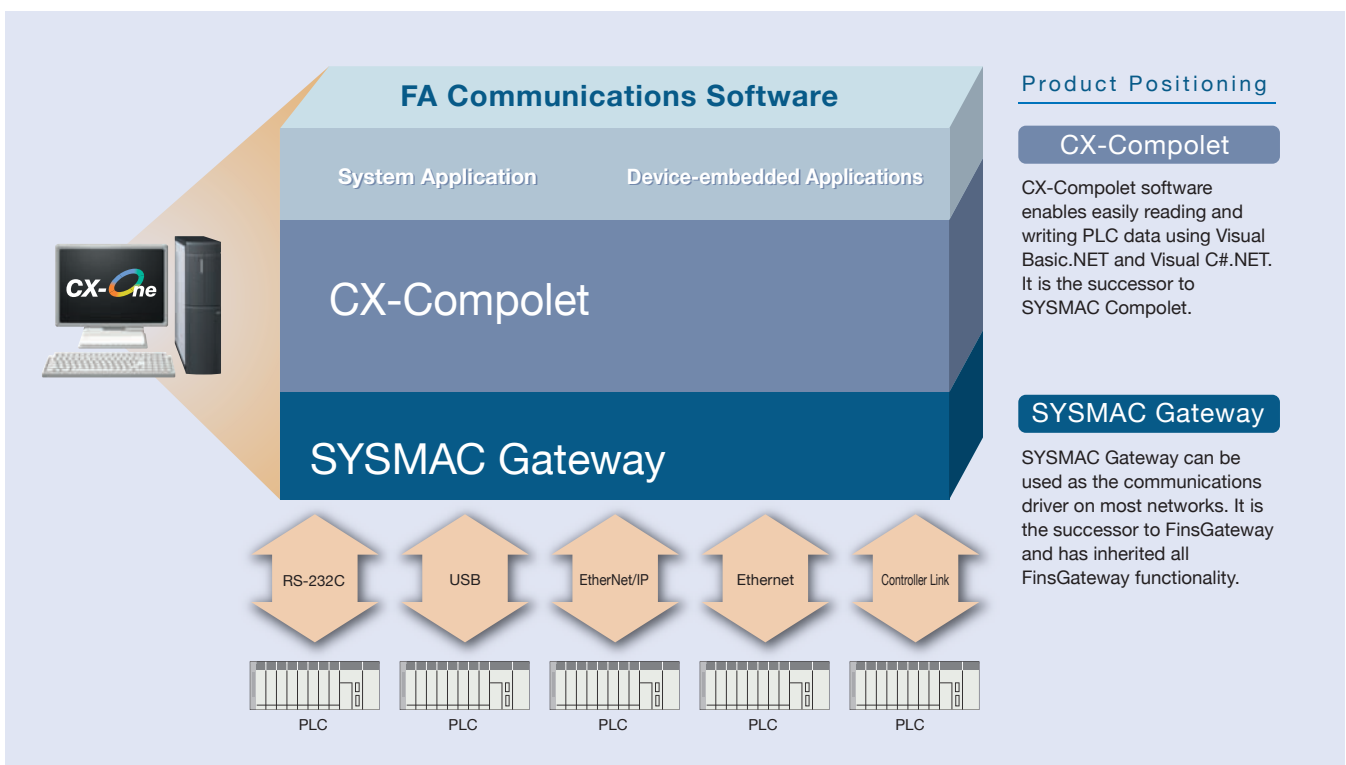
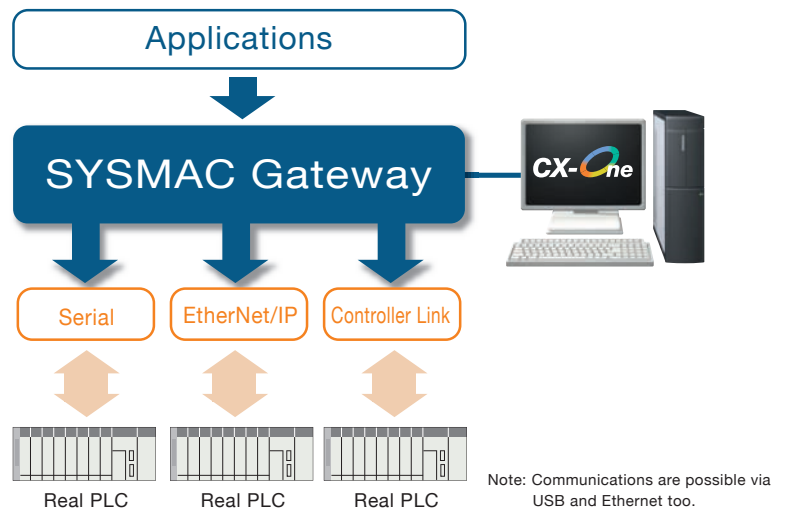


Communications Middleware to Connect a Computer and PLCs

## SYSMAC Gateway

Direct Connection of the Industrial Ethernet: EtherNet/IP  
**Direct Access to High-speed and High-capacity Networks**

- In addition to FINS communications, SYSMAC Gateway supports EtherNet/IP communications.
- Absorbs differences in the physical layer between RS-232C, USB, Ethernet, EtherNet/IP, and Controller Link.
- Just install the software on the computer to enable data communications for controls and information.



## Web Support Services for CX-One

OMRON'S CX-One offers many service options in the Internet environment so that engineers and online support is available from anywhere in the world 24 hours a day.

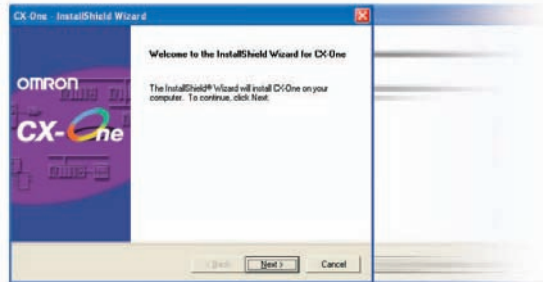
### Online User Registration

When you register online as a user of CX-One, all CX-One software components can be registered at once. The online registration website can be accessed from Japan, North America, South America, Central America, Europe, Africa, Asia, China, Taiwan, and Korea. You can access the Internet services from anywhere once you have registered.



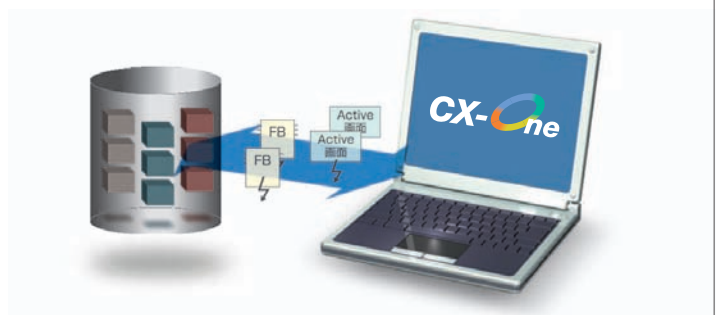
### Automatic Update

With the automatic update function of CX-One, the latest update information for your computer environment can be searched for and applied using the network environment. Your CX-One can be constantly updated to the latest state. It is also possible to update only the necessary tools.



### Download Services

Control devices that were made available after you purchased the Support Software can be used if you download the latest Smart Libraries from the Internet. A customized library can be made by downloading the Smart FB Library and Smart Active Parts for the hardware that you require. Programming is also easy by selecting and pasting the necessary parts.



# Ordering Information

## Ordering Information

Product name	Specifications			Model	Standards
		Number of licenses	Media		
FA Integrated Tool Package CX-One Ver. 4.□	<p>The CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components.</p> <p>CX-One runs on the following OS. Windows XP (Service Pack 3 or higher), Vista, 7 or 8. Note: Except for Windows XP 64-bit version.</p>	1 licenses	DVD	<b>CXONE-AL01D-V4</b>	–
		3 licenses	DVD	<b>CXONE-AL03D-V4</b>	–
		10 licenses	DVD	<b>CXONE-AL10D-V4</b>	–
		30 licenses	DVD	<b>CXONE-AL30D-V4</b>	–
		50 licenses	DVD	<b>CXONE-AL50D-V4</b>	–

Note: The CX-One is also available on CD (CXONE-AL□□C-V4).

Site licenses are available for users who will run CX-One on multiple computers. Ask your OMRON sales representative for details.

## System Requirements

Item	Requirement
Operating system (OS) (See note1,2.)	Microsoft Windows XP (Service Pack 3 or higher), Vista, 7 or 8
CPU	Processor recommended by Microsoft.
Memory (See note3.)	Memory recommended by Microsoft.
Hard disk	Approx. 4.0 GB or more of available memory is required to install all of the CX-One.
Display	XGA (1024×768), High Color (16-bit) or higher
Disk drive	DVD-ROM drive
Communications ports	RS-232C port, USB port, or Ethernet port (See note4.)
Other	To register online as a user using the Internet, hardware for a connection (such as a modem) and access to the Internet are required.

Note1. CX-One Operating System Precaution :

- 1) System requirements and hard disk space may vary with the system environment.
- 2) Except for Windows XP 64-bit version.

2. The following restrictions apply when CX-One is used with Microsoft Windows Vista, 7 or 8 .

- 1) Some Help files cannot be accessed.

The Help files can be accessed if the Help program distributed by Microsoft for Windows is installed. Refer to the Microsoft homepage listed below or contact Microsoft for details on installing the file.

(The download page is automatically displayed if the Help files are opened while the user is connected to the Internet.)

<http://support.microsoft.com/kb/917607/en-us>

- 2) Restrictions apply to operation of some applications. Refer to the Setup Manual for details.

3. The amount of memory required varies with the Support Software used in CX-One for the following Support Software. Refer to user documentation for individual Support Software for details.

**CX-Programmer, CX-Designer, CX-Thermo, CX-Simulator, CX-Protocol, CX-Motion, CX-Drive, CX-Process Tool, and Faceplate Auto-Builder for NS.**

4. Refer to the hardware manual for your PLC for hardware connection methods and cables to connect the computer and PLC.

## Support Software in CX-One Version 4.

The following tables lists the Support Software that can be installed from CX-One

Support Software in CX-One	Outline
CX-Programmer	Application software to create and debug programs for CS/CJ/CP/NSJseries, C-series, and CVM1/C-series CPU Units. Data can be created and monitored for high-speed-type Position Control Units and Position Control Units with EtherCAT interface.
CX-Integrator	Application software to build and set up FA networks, such as Controller Link, DeviceNet, CompoNet, CompoWay, and Ethernet networks. The Routing Table Component and Data Link Component can be started from here. DeviceNet Configuration functionality is also included.
Switch Box Utility	Utility software that helps you to debug PLCs. It helps you to monitor the I/O status and to monitor/change present values within the PLC you specify.
CX-Protocol	Application software to create protocols (communications sequences) between CS/CJ/CP/NSJ-series or C200HX/HG/HE Serial Communications Boards/Units and general-purpose external devices.
CX-Simulator	Application software to simulate CS/CJ/CP/NSJ-series CPU Unit operation on the computer to debug PLC programs without a CPU Unit.
CX-Position	Application software to create and monitor data for CS/CJ-series Position Control Units.(except for High-speed type)
CX-Motion-NCF	Application software to create and monitor data for CS/CJ-series Position Control Units with MECHATOLINK-II (NC□71).
CX-Motion-MCH	Application software to create data and motion programs and to monitor data for CS/CJ-series Motion Control Units with MECHATOLINK-II (MCH71).
CX-Motion	Application software to create data for CS/CJ-series, C200HX/HG/HE, and CVM1/CV-series Motion Control Units, and to create and monitor motion control programs.
CX-Drive	Application software to set and control data for Inverters and Servos.
CX-Process Tool	Application software to create and debug function block programs for CS/CJ-series Loop Controllers (Loop Control Units/Boards, Process Control CPU Units, and Loop Control CPU Units).
Faceplate Auto-Builder for NS	Application software that automatically outputs screen data as project files for Ns-series PTs from tag information in function block programs created with the CX-Process Tool.
CX-Designer	Application software to create screen data for NS-series PTs.
NV-Designer	Application software to create screen data for NV-series small PTs.
CX-Configurator FDT	Application software for setting various units by installing its DTM module.
CX-Thermo	Application software to set and control parameters in components such as Temperature Control Units.
CX-FLnet	Application software for system setting and monitoring of CS/CJ-series FI-net Units.
Network Configurator	Application software to set up and monitor tag data links for CJ2 (Built-in EtherNet/IP) CPU Units and EtherNet/IP Units.
CX-Server	Middleware necessary for CX-One applications to communicate with OMRON components, such as PLCs, Display Devices, and Temperature Control Units.
Communications Middleware	Middleware necessary to communicate with CP1L CPU Units with built-in Ethernet port.
PLC Tools	A group of components used with CX-One applications, such as the CX-Programmer and CX-Integrator. Includes the following: I/O tables, PLC memory, PLC Setup, Data Tracing/Time Chart Monitoring, PLC Error Logs, File Memory, PLC clock, Routing Tables, and Data Link Tables.

# Ordering Information

## Related Products

### FA Communications Software

Product name	Specifications	Model	Standards
CX-Compolet *1	Software components that can make it easy to create programs for communications between a computer and controllers. This packaged product bundles SYSMAC Gateway. Development environment: Visual Studio .NET 2003/2005/2008/2010 Development languages: Visual Basic .NET, Visual C#.NET, Visual Basic Ver. 5/6 *2	<b>WS02-CPLC1</b>	–
SYSMAC Gateway *3	Communications middleware for personal computers running Windows. Supports CIP communications and tag data links (EtherNet/IP) in addition to FinsGateway functions.	<b>WS02-SGWC1</b>	–

Note: One license is required per computer. Refer to the CJ2 CPU Unit Catalog (Cat. No. V302) for details.

\*1. You can also purchase the CX-Compolet without the SYSMAC Gateway. Order WS02-CPLC2.

\*2. Only functions provided by Compolet V2 as ActiveX controls are supported for Visual Basic version 5 or 6. (Windows XP only.)

\*3. SYSMAC Gateway includes Fins Gateway. A software development kit called the SYSMAC Gateway SDK is also available to write communications programs for the SYSMAC Gateway.

### Correspondence between supported OS and Connected Networks

Product name	Ethernet		RS-232C	USB	Controller Link		SYSMAC LINK
	Ethernet(FINS)	EtherNet/IP			PCI	ISA	
Windows XP	Supported	Supported	Supported	Supported	Supported		Supported
Windows Vista	Supported	Supported	Supported	Supported	Supported		Supported
Windows 7	Supported	Supported	Supported	Supported	Supported *	Not supported	Not supported
Windows Server 2003	Supported	Supported	Supported	Supported	Supported		Supported
Windows Server 2008	Supported	Supported	Supported	Supported	Supported * Not supported		Not supported
Windows Server 2008 R2	Supported	Supported	Supported	Supported	Not supported		Not supported

Note: This software runs on 64-bit OS with WOW64 (Windows-On-Windows 64). Customer application must be run as 32bit process.

\* Except for 64-bit version

# CX-One Lite

## The Ideal Software Package for Compact PLCs

Simplified setting operations are ensured by Micro PLC Edition CX-Programmer (the ideal PLC programming software for small-scale systems), along with Support Software to set NS/NV-series PTs, Temperature Controllers, and Servo Drives.



## Features

- Simplified setting operations are ensured by Micro PLC Edition CX-Programmer (the ideal PLC programming software for small-scale systems), along with Support Software to set NS/NV-series PTs, Temperature Controllers, and Servo Drives.
- Total lead time until the system is up and running is reduced.

## Support Software in CX-One

The following tables lists the Support Software that can be installed from CX-One

Micro PLC Edition CX-Programmer *
CX-Integrator
Switch Box Utility
CX-Simulator
CX-Drive

CX-Designer
NV-Designer
CX-Thermo
Network Configurator
CX-Server

\* Applicable models: CP1□, CPM□□, SRM1

\* The CX-One and CX-One Lite cannot be simultaneously installed on the same computer.

## Ordering information

Product name	Specifications	Number of licenses		Media	Model	Standards
		Number of licenses	Media			
FA Integrated Tool Package CX-One Lite Ver.4.□	CX-One Lite is a subset of the complete CX-One package that provides only the Support Software required for micro PLC applications. CX-One Lite runs on the following OS. Windows XP (Service Pack 3 or higher), Vista 7 or 8. *Except for Windows XP 64-bit version.	1 license	CD		CXONE-LT01C-V4	—

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

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**CSM\_9\_1\_1013**

**Cat. No. R134-E1-14**

Printed in Japan  
1013 (0405)(w)