

# **FA Communications Software**

# **CX-Compolet / SYSMAC Gateway**

Flexible & High Speed PLC-Accessing Softwares



» High Speed

» Direct Data link Access

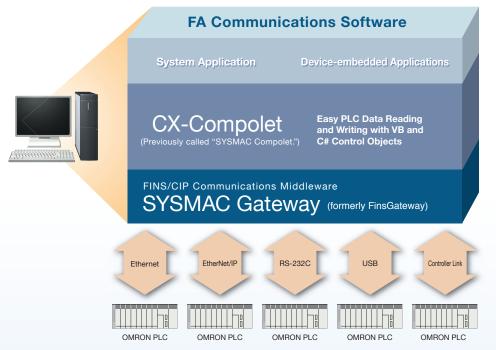
» Flexible

# OMRON's FA Communications Software High-speed, and Direct Data Link Access

The need for faster transmission of more and more information between personal computers and PLCs is coupled with the need for frequent changes to specifications, such as address allocations in PLCs, a demand for software standardization to eliminate dependence on specific applications and networks, and a demand for cost reductions.

OMRON provides the functions to solve these problems. Data links are now possible using Ethernet. Data links can even be accessed via a LAN port on a notebook computer. And FA Communications Software can be used to access PLC data by using only tag names to enable more flexible and higher-speed access of PLC data from personal computers, and that lowers costs by eliminating the need for a special board for data links.

## Windows 10 (32bit / 64bit version\*) / Visual Studio 2017 (32bit/64bit version\*) supported



#### **Product Positioning**

#### **CX-Compolet**

CX-Compolet software enables easily reading and writing PLC data using Visual Basic and C#. It is the successor to SYSMAC Compolet.

#### SYSMAC Gateway

SYSMAC Gateway can be used as the communications driver on most networks. It is the successor to FinsGateway and has inherited all FinsGateway functionality.

Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products.

Microsoft, Visual Basic, Visual Studio, ActiveX and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

 $\label{thm:microsoft} \mbox{Microsoft product screen shots reprinted with permission from Microsoft Corporation.}$ 

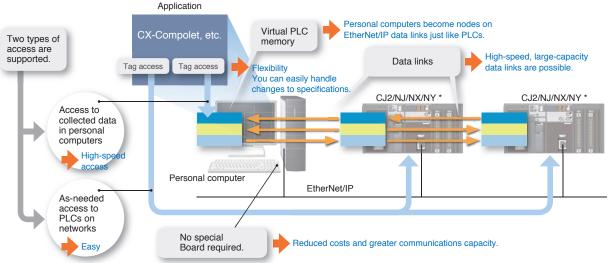
iPhone and iPad are registered trademarks of Apple Inc.

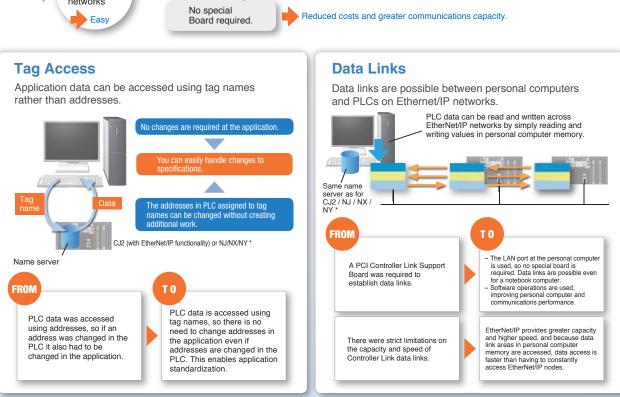
Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.

<sup>\*</sup> This software runs on WOW64 (Windows-On-Windows 64). Refer to the sample program included with the product to run applications as 64-bit processes.

# Lets You Create Applications with Flexible, to PLCs from Personal Computers.







Note: The Network Configurator included in the CX-One Package or Sysmac Studio is required to set tag data links.

Tag access is available with CJ2-series and NJ/NX-series CPU Units, NY-series Industrial PC with EtherNet/IP functionality

But. the tag data link with internal port of NY series is impossible.

<sup>\*</sup> NY-series is only Industrial PC Platform NY-series IPC Machine Controller.

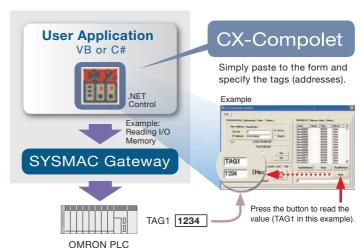
## Easily Create Programming to Read and Write PLC Data using VB or C#.

# **CX-Compolet**

## .NET Control Objects ActiveX Control Objects are also included.

CX-Compolet is a package of software components that make it easy to program reading and writing OMRON PLC data.

- Read and write I/O memory in the PLC, change the operating mode, read error logs, and perform other operations.
- Supports Microsoft Visual Studio 2005/ 2008/ 2010/ 2012/2013/2015/2017.
- For the CJ2 (with EtherNet/IP functionality) or NJ/NX/NY, I/O memory in the PLC can be accessed by using tag names rather than addresses.
- Array and structure variable access is possible.
- Read and write variables corresponding to the data types of CIP that conform to ODVA specifications.



#### Situation

Creating and Modifying VB/C# Communications Programming Is Too Much Work

#### **Problem** Solution Having to program communications Processing such as communications frame assembly is prepared frame assembly, reception response interpretation, and monitoring is too much work. Having to change communications processing, e.g., for Ethernet and serial communications, is too much work. Customers who are developing VB/C# applications PLC addresses are changed. Handling PLC address changes including communications with is particularly time consuming. PI Cs For a block of data of the same data type, it is too much work to have to specify the addresses one by one rather

than being able to view them as one group and access that data as an

Data is accessed by using tag names rather than by using addresses, so programming does not have to be changed even if

Array variables are supported, so data can be easily specified by simply changing the element subscript with the same tag name.

#### Procedure

After installation, the NJ

Compolet Icon will be

Simply Paste to a Form and Enter a Line of Code.



Position the N.I. Compolet Icon in the form

element



3 Arrange the command buttons, text boxes etc in the form



Set the remote PLC in the properties.



In the Command Button Code Dialog Box, enter the PLC tag name on one line. (The tag name below is "PV.")

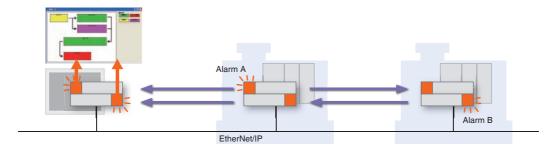
Text1=NJ Compolet1.ReadVariable "PV")

<sup>\*</sup> When combined with the CJ2 (with EtherNet/IP functionality) or NJ/NX/NY.

### Application Example

#### Easily Program Device Alarm Monitoring.

- Using the control components provided by CX-Compolet frees the application designers from having to program the communications portions of the
  application.
- Data for device alarms and other data are sent to the applications using non-solicited EtherNet/IP communications events.
- Standardization is made easy by specifying data using tag names (such as "Alarm A" and "Alarm B") in the applications.



#### Main CX-Compolet Functions

| Interface   | Function  | Description   |  |  |
|-------------|---|---|--|--|
|             | Communications with OMRON PLCs                              | Specifies the PLC to communicate with, and reads network information.   |  |  |
| Properties  | Reading and writing I/O memory                              | Read and writes data in memory areas, such as the DM Area or CIO Area. For example, DM word 100 can be specified by using "D100" or by using a tag name.  |  |  |
|             | Operating status  | Reads and changes the operating mode.   |  |  |
| 1 Toperties | Area information  | Reads information such as the program area size and number of DM Area words.  |  |  |
|             | Error information   | Reads the value and error message when an error occurs.   |  |  |
|             | Other OMRON PLC information                                 | Reads the model and reads and changes the clock.  |  |  |
|             | Getting tag information                                     | Gets the NJ/NX/NY-series / CJ2 (with EtherNet/IP functionality) tag name list.  |  |  |
|             | Reading and writing I/O memory                              | Reads and writes memory, such as consecutive words in the DM Area or CIO Area. For example, it is possible to specify the data type (integer, single, etc.) or change the data type (BCD, BIN, SBIN).                       |  |  |
|             | Creating I/O tables   | Creates the I/O tables for the present configuration.   |  |  |
|             | Force-setting, force-resetting and clearing bits            | Force-sets, force-resets, and clears bits.  |  |  |
| Methods     | Communications with OMRON PLCs                              | Specifies the PLC to communicate with.  |  |  |
|             | FINS service execution                                      | Sends FINS commands and gets the responses that are received.   |  |  |
|             | Uploads the event log from the PLC *                        | Uploads the specified category of the event log from the PLC.  The date/time and type (system event, access event, or user-defined event) of the past errors stored in the PLC can be uploaded collectively or by category. |  |  |
|             | Getting processing time of reading or writing value of tags | Gets statistical information (minimum value, maximum value, average value) of processing time for reading or writing values of tags. (Version 1.74 or higher)   |  |  |
| Events      | Scheduled events  | Events occur at regular intervals.  |  |  |

<sup>\*</sup> Supported only by the NJ/NX-series Machine Automation Controllers and NY-series Industrial PC.
The event log of the Communications Coupler Units, NX Units, EtherCAT slaves, or CJ-series Units cannot be uploaded.
Refer to the Troubleshooting Manuals of the CPU Units for details of the event log.

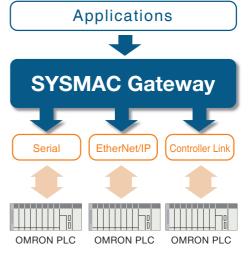
# An OMRON PLC Driver with Virtual PLC Memory Functionality

# **SYSMAC Gateway**

# **Communications Driver and Virtual PLC Memory**

SYSMAC Gateway provides an OMRON PLC communications driver and virtual memory. OMRON's FA Communications Software uses the SYSMAC Gateway communications middleware as a common platform.

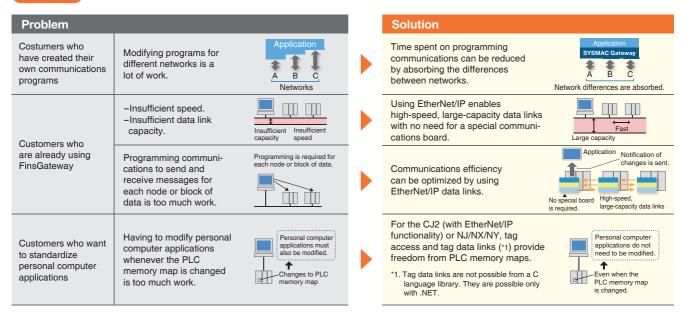
- In addition to FINS communications, operation of SYSMAC Gateway has been verified on EtherNet/IP.
- Virtual PLC event memory is provided to enable a personal computer to participate as a data link node.
- Changes to memory can be detected in applications at the personal computer.
- The status of SYSMAC Gateway (EtherNet/IP communications) can be checked in task tray.



Note: Communications are possible via USB and Ethernet too.

#### Situation

Developing or Modifying PLC Applications Is Too Much Work



#### Task Tray Notification and Troubleshooter

Statuses of EtherNet/IP communications (network, tags, operation history) are displayed.

Explicit Message Task Monitor allows you to check the load for CIP message communications processing within SYSMAC Gateway, helping you analyze causes of communications problems related to processing loads.

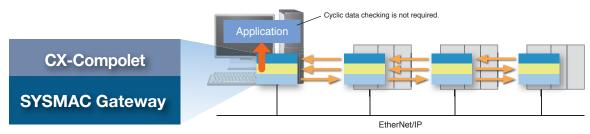
#### Event Log Utility

This utility provides the functionality to upload and display the event log information recorded in the NJ/NX-series Machine Automation Controllers, Industrial PC Platform NY-series IPC Machine Controller.

#### Application Example

#### Using Events to Provide Notification of Changes in Data

- The application is notified using events only when preset conditions are met.
- Eliminating programming for checking cyclic data changes reduces the load on the personal computer processor.
- Notification of data changes is provided immediately, eliminating wasted communications time.



#### Main SYSMAC Gateway Functions

| Item                 | Description  |  |
|----------------------|--|--|
| Supported protocols  | SYSWAY, SYSWAY-CV, Peripheral Bus (Toolbus), FINS, and CIP   |  |
| Supported PLCs       | NX, NJ, NY, CJ2, CJ1, CS1, CP1, C, and CVM1 / CV   |  |
| Supported networks   | Ethernet (FINS, Data link), EtherNet/IP (CIP, Data link), RS-232C (SYSWAY, SYSWAY-CV, Data link), USB, Controller Link (FINS, Data link), and SYSMAC LINK (FINS) |  |
| Virtual event memory | CIO, Auxiliary (A), Holding (H), Work (W), DM, and EM1 to EM1F   |  |
| Tag access           | For the CJ2 (with EtherNet/IP functionality) or NJ/NX/NY, access by tag name is enabled.   |  |

#### **CIP Service Specifications**

| Item     | Description                          |                                     |  |
|----------|--------------------------------------|-------------------------------------|--|
|          | Number of connections                | 384                                 |  |
|          | Allowable communications bandwidth   | 5,000pps*2                          |  |
| Tag data | Refresh period (RPI)                 | 1 to 10,000ms (unit:1ms)*3          |  |
| links*1  | Link data capacity                   | 184, 832words max.                  |  |
|          | Data size per connection             | 722words (1,444bytes) max.          |  |
|          | Manager (alice)                      | CIP connectionless (UCMM) and CIP   |  |
|          | Message send function (client)       | connection (Class 3) communications |  |
| Explicit | Manager was in a firmation (as were) | CIP connectionless (UCMM) and CIP   |  |
| messages | Message receive function (server)    | connection (Class 3) communications |  |
|          | Data size                            | 502bytes                            |  |
|          | CIP routing                          | Not supported.                      |  |

- \*1. Tag data links between SYSMAC Gateway and the NJ/NX-series CPU Unit or Industrial PC Platform NY-series IPC Machine Controller can be created within the CJ-series specifications for variable with basic data type, a rary variable, and structure variable. SYSMAC Gateway memory allocation of structure variable is the same as the CJ-series. But, the tag data link with internal port of NY series is impossible.
- \*2. Reference value. The performance depend on your personal computer and the execution status of Windows applications.
- \*3. The RPIs that can be set depend on the number of connections.

#### ■ The Main APIs You Can Set with the SDK

#### **CIP Communication**

| Basic operation                |   |  |
|--------------------------------|---|--|
| CIPApp_openConnectionExplicit  | Opens an explicit message connection (Class3/UCMM). |  |
| CIPApp_closeConnectionExplicit | Closes the explicit message connection.             |  |
| CIPApp_sendRequestExplicit     | Sends an explicit message.                          |  |
| CIPApp_receiveExplicit         | Receives an explicit message.                       |  |

| Operation to manipulate send / receive data |   |  |  |
|---|---|--|--|
| CIPUtil_constructNetworkPath                | Constructs the Network Path for the explicit message to send.                                     |  |  |
| CIPUtil_construct RequestPathWithCIA        | Constructs the RequestPath for the explicit message to send, with class / instance / attributeID. |  |  |
| CIPUtil_construct RequestPathWithTagName    | Constructs the RequestPath for the explicit message to send, with a tag name.                     |  |  |

| Getting internal information |                                      |  |
|------------------------------|--------------------------------------|--|
| CIPPort_getStatus            | Gets the network port status.        |  |
| CIPPort_getConnectionStatus  | Gets the datalink connection status. |  |

Note: There are 12 other APIs.

#### Fins Communication

| Fins_sendData                               | Sends a FINS message.                |  |  |  |
|---|--------------------------------------|--|--|--|
| Fins_receiveData                            | Receives a FINS message.             |  |  |  |
|   |                                      |  |  |  |
| Getting internal information                |                                      |  |  |  |
| Fins_getNetworkInfo                         | Gets the network infromation.        |  |  |  |
|   |                                      |  |  |  |
| Operation to manipulate send / receive data |                                      |  |  |  |
| FinsHead_compose                            | Constructs the FINS message header.  |  |  |  |
| FinsHead_composeResponse                    | Constructs the FINS response header. |  |  |  |

Note: There are 13 other APIs.

#### Datalink / Event memory access

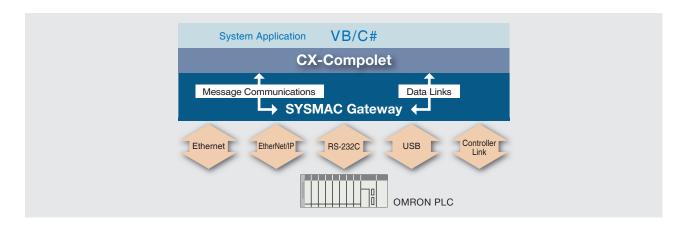
Em\_getConditionList

| Memory read / write                                |  |  |  |  |
|--|--|--|--|--|
| Em_readMemory                                      | Reads date from event memory.                          |  |  |  |
| Em_writeMemory                                     | Writes data to event memory.                           |  |  |  |
| event send / receive                               |  |  |  |  |
| Em_sendEvent                                       | Sends events.  |  |  |  |
| Em_receiveEvent                                    | Receives events.                                       |  |  |  |
| Setting or clearing message-driven event reception |  |  |  |  |
| Em_setCondition                                    | Sets normal event-occurrence condition.                |  |  |  |
| Em_clearCondition                                  | Clears normal or wide-area event-occurrence condition. |  |  |  |
| Getting internal information                       |  |  |  |  |

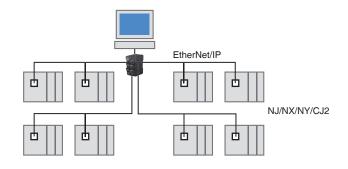
Note: There are 30 other APIs.

Gets the setting list of normal event conditions.

# **CX-Compolet and SYSMAC Gateway can access** the PLCs in the following configurations.

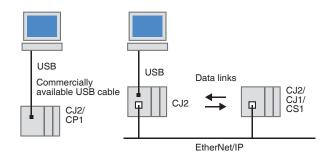


#### **■ EtherNet/IP**

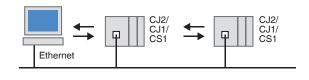


For systems linked with databases, the Database Connection CPU Unit is available. Please contact your OMRON sales representative for details.

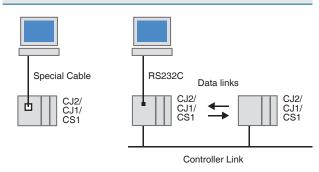
#### USB



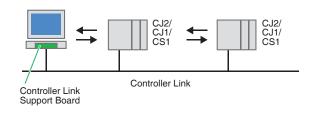
#### **■ Ethernet (FINS)**



#### RS-232C

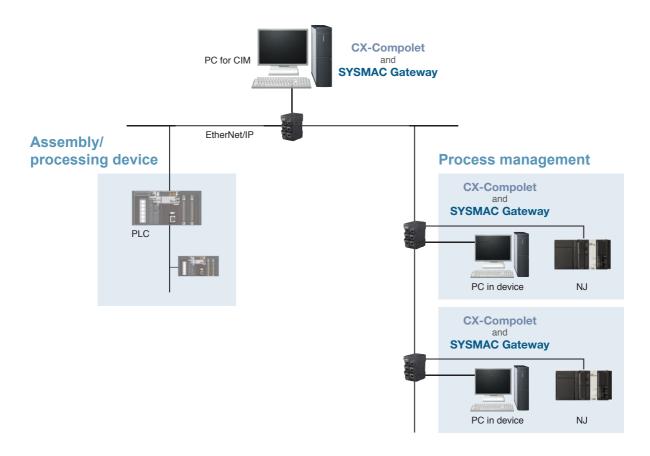


#### Controller Link



Note: The above configurations are only examples. Communications are also possible with PLCs other than those shown here. For details, refer to Correspondence between Main PLC Models and Connected Networks.

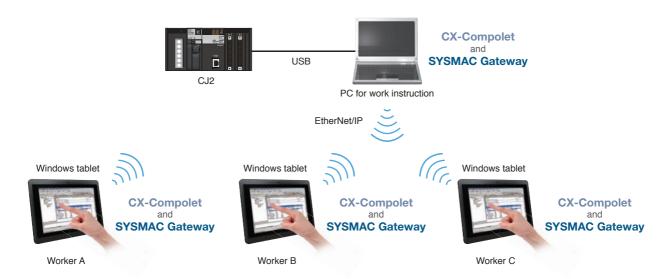
• No special hardware for control network is required.



### **Application Example 2**

# Use of wireless LAN in notebook computer

● You can operate easily with a notebook computer because of EtherNet/IP data link communications without special hardware.



#### **Ordering Information**

#### **CX-Compolet**

|  | Specifications   |   |                    |            |                |
|--|--|---|--------------------|------------|----------------|
| Product  |  |   | Number of licenses | Media      | Model          |
| to create programs for communications between a computer and controllers.  Supported execution environment: .NET Framework (2.0, 3.0, 3.5, 4.0, 4.5.1 or 4.6)  Development environment: Visual Studio 2005/2008/2010/2012/2013/ 2015/2017 Development languages: | Product includes CX-Compolet and SYSMAC Gateway functions.                       | 1   | CD-ROM             | WS02-CPLC1 |                |
|  |  | additional licenses for   | 3                  | _          | WS02-CPLC1-L3  |
|  | Development environment:<br>Visual Studio 2005/2008/2010/2012/2013/<br>2015/2017 |   | 5                  |            | WS02-CPLC1-L5  |
|  |  |   | 10                 |            | WS02-CPLC1-L10 |
|  | Visual Basic, C# Supported communications:                                       | CX-Compolet (standalone)<br>(SYSMAC Gateway functions<br>are not included.) | 1                  | CD-ROM     | WS02-CPLC2     |

\* One license is required per computer (execution environment).

Note 1: When .NET Framework version1.1 (Visual Studio 2003) is used for develoment, only the specifications of CX-Compolet version 1.5 are available.

#### SYSMAC Gateway (Communications Middleware)

|                    | Specifications   |                    |        |                |
|--------------------|--|--------------------|--------|----------------|
| Product            | 5,53,63,63,63  | Number of licenses | Media  | Model          |
| SYSMAC Gateway *1  | Communications middleware for personal computers running Windows.  Supports CIP communications and tag data links (EtherNet/IP) in addition to FinsGateway functions.  (Fins Gateway functions are included.)  Supported communications: RS-232C, USB, Controller Link, SYSMAC LINK, Ethernet, EtherNet/IP | 1                  | CD-ROM | WS02-SGWC1     |
|                    | Additional licenses (This product provides only additional licenses for WS02-SGWC1. Purchase of WS02-SGWC1 is required.)   | 10                 |        | WS02-SGWC1-L10 |
| SYSMAC Gateway SDK | Software development kit for creating communications programs using SYSMAC Gateway.  Development languages: C, C++   | 1*2                | CD-ROM | WS02-SGWC1S    |

<sup>\*1</sup> One license is required per computer (execution environment).

Purchase the WS02-SGWC1 separately if an execution environment is required.

#### System Requirements (CX-Compolet / SYSMAC Gateway)

| Item   | Requirement  |   |  |
|--|--|---|--|
| Operating system (OS)<br>Japanese or English<br>system | Microsoft Windows Server 2003 (32bit) Microsoft Windows XP SP3 (32bit) Microsoft Windows Vista (32bit) | Microsoft Windows Server 2008(32bit/64bit*) Microsoft Windows Server 2008 R2(64bit*) Microsoft Windows Server 2012(64bit*) Microsoft Windows Server 2012 R2(64bit*) Microsoft Windows Server 2016(64bit*) Microsoft Windows 7(32bit/64bit*) Microsoft Windows 8(32bit/64bit*) Microsoft Windows 8.1(32bit/64bit*) Microsoft Windows 8.1(32bit/64bit*) |  |
| Personal compute                                       | Windows computers with Intel x86 processor   | Windows computers with Intel 32bit (x86) processor or 64bit (x64) -based processor  |  |
| Hard disk  | At least 400 MB of available space   |   |  |

<sup>\*</sup> This software runs on WOW64 (Windows-On-Windows 64). Refer to the sample program included with the product to run applications as 64-bit processes.

| Comparison between SYSMAC Gateway SDK and CX-Compo |           |                         | d CX-Compolet                       | Yes : Supported, No : Not Supported        |
|--|-----------|-------------------------|-------------------------------------|--|
| Communications<br>Method                           | Protocols | Specifying memory areas | SYSMAC Gateway SDK<br>(WS02-SGWC1S) | CX-Compolet+SYSMAC Gateway<br>(WS02-CPLC1) |
|  | FINS      | Physical address        | Yes                                 | Yes  |
| Message<br>Communications                          | CIP       | Physical address        | Yes *1                              | Yes  |
|  |           | Tag names               | No                                  | Yes  |
| Tag Data Links<br>(EtherNet/IP)                    | CIP       | Physical address        | Yes *2                              | Yes  |
| (Lineriveum)                                       |           | Tag names               | No                                  | Yes  |
| Development languages                              |           | C, C++                  | Visual Basic, C#                    |  |

<sup>\*1</sup> Please use after understanding the CIP Communications Specifications.

<sup>\*2</sup> SYSMAC Gateway SDK doesn't include the license of SYSMAC Gateway.

Note 1: USB Port on the PC can not be shared between SYSMAC Gateway and CX-One in Windows Vista or higher.

Note 2: System requirements for Windows computers are the same as those recommended by Microsoft. Note 3: The compatible functions of SYSMAC Compolet V2 are supported by Windows XP only.

<sup>\*2</sup> Data is transferred through the event memory.

#### Correspondence between Main PLC Models and Connected Networks

| Correspondence between Main PLC Models and Connected Networks  Yes: Supported, No: Not Supported  |                             |                              |                               |  |                                   |                 |  |  |                                  |
|---|-----------------------------|------------------------------|-------------------------------|--|-----------------------------------|-----------------|--|--|----------------------------------|
|   | Personal computer RS-232C   |                              |                               | USB  | Etherne                           | Controller Link |  |  |                                  |
| PLC   |                             | SYSWAY<br>(Host Link C Mode) | SYSWAY-CV<br>(Host Link FINS) | CompoWay/F<br>(master at<br>personal computer) | Peripheral Bus                    | FINS            | Ethernet<br>(FINS)   | EtherNet/IP  | FINS                             |
| NX7/NJ1 (unit version 1.10 or later)*1 NJ5/NJ3 (unit version 1.03 or later)*2 NX1(unit version 1.30 or later)*3 NX1P (unit version 1.13 or later)*4 NY50-1 (unit version 1.12 or later)*4 NX701-2/NY50-2 (unit version 1.18 or later)*5 |                             | No                           | No                            | No   | No                                | No              | No   | Yes* <sup>6</sup>                                      | No                               |
| CJ2 with  | n EtherNet/IP functionality | Yes                          | Yes                           | No   | Yes<br>(Peripheral Bus – CS/CJ)   | Yes             | Yes  | Yes<br>(Specification using<br>tag names is possible.) | Yes*7                            |
| CJ1   |                             | Yes                          | Yes                           | No   | Yes<br>(Peripheral Bus – CS/CJ)   | No              | Yes*7 (Communications Units are not required for CJ1M PLCs with Ethernet functionality.) | Yes* <sup>7,*8</sup>                                   | Yes*7                            |
| CS1   |                             | Yes                          | Yes                           | No   | Yes<br>(Peripheral Bus - CS/CJ)   | No              | Yes <sup>*7</sup>  | Yes*7,*8   | Yes*7                            |
| CP1   |                             | Yes*9                        | Yes*9                         | No   | Yes*9<br>(Peripheral Bus – CS/CJ) | Yes             | Yes*10   | No   | Yes* <sup>7</sup><br>(CP1H only) |
| С   | C200HX/HG/HE, CQM1H         | Yes                          | No                            | No   | Yes<br>(Peripheral Bus – C)       | No              | No   | No   | Yes <sup>*7</sup>                |
| Series  | CPM1/CPM2                   | Yes                          | No                            | No   | Yes<br>(Peripheral Bus – C)       | No              | No   | No   | No                               |
| CVM1/CV   |                             | Yes                          | Yes                           | No   | Yes<br>(Peripheral Bus – CV)      | No              | Yes* <sup>7</sup>  | No   | Yes*7                            |
| CompoWay/F Slaves, such as<br>Temperature Controllers   |                             | No                           | No                            | Yes  | No                                | No              | No   | No   | No                               |

Note: Including models whose production were/will be discontinued.

- Note: Including models whose production were/will be discontinued.

  \*1. To connect the NX701-1 CONTroller, CX-Compolet / SYSMAC Gateway version 1.70 or higher is required.

  \*2. To connect the NJ3/5 Controller, CX-Compolet / SYSMAC Gateway version 1.31 or higher is required.

  \*3. To connect the NX1 Controller, CX-Compolet / SYSMAC Gateway version 1.72 or higher is required.

  \*4. To connect the NX1P/NY5 C-1 Controller, CX-Compolet / SYSMAC Gateway version 1.71 or higer is required.

  \*5. To connect the NX701-Z OO/NY5 C-Z OO Controller, CX-Compolet / SYSMAC Gateway version 1.73 or higher is required.

  \*6. Tag data links between SYSMAC Gateway and the NJ/NX-series CPU Unit or Industrial PC Platform NY-series IPC Machine Controller can be created within the CJ-series specifications for variable with basic data type, array variable, and structure variable. SYSMAC Gateway memory allocation of structure variable is the same as the CJ-series.

  But, the tag data link with internal port of NY series is impossible.

  \*7. A separate Communications Unit is required.

  \*8. Specification using tag names is not possible.

A separate Communications Only is required.
 Specification using tag names is not possible.
 It cannot be used for CP1E E-type.
 The CP1W-CIF41 is required for the CP1H / CP1L other than CP1L-EW/EL. The CP1W-CIF41 version 2.0 or later is required for the CP1E N-type. It cannot be used for CP1E E-type.

#### Correspondence between supported OS and Development environment & CX-Compolet / SYSMAC Gateway

|                         |        | • | <u> </u>                             |  |  |  |
|-------------------------|--------|---|--------------------------------------|--|--|--|
|                         |        |   | Supported CX-Compolet/SYSMAC Gateway |  |  |  |
|                         | Client | Windows XP (32bit)                      | Ver.1.00 or higher                   |  |  |  |
|                         |        | Windows Vista (32bit)                   | Ver.1.00 or higher                   |  |  |  |
|                         |        | Windows 7 (32bit)                       | Ver.1.10 or higher                   |  |  |  |
|                         |        | Windows 7 (64bit)                       | Ver.1.20 or higher                   |  |  |  |
|                         |        | Windows 8 (32bit/64bit)                 | Ver.1.50 or higher                   |  |  |  |
| Supported OS            |        | Windows 8.1 (32bit/64bit)               | Ver.1.40 or higher                   |  |  |  |
| Cupportou CC            |        | Windows 10 (32bit/64bit)                | Ver.1.70 or higher                   |  |  |  |
|                         | Server | Windows Server 2003 (32bit)             | Ver.1.10 or higher                   |  |  |  |
|                         |        | Windows Server 2008 (32bit)             | Ver.1.10 or higher                   |  |  |  |
|                         |        | Windows Server 2008/R2 (64bit)          | Ver.1.20 or higher                   |  |  |  |
|                         |        | Windows Server 2012/R2 (64bit)          | Ver.1.50 or higher                   |  |  |  |
|                         |        | Windows Server 2016 (64bit)             | Ver.1.72 or higher                   |  |  |  |
| Development environment |        | Visual Studio 2005                      | Ver.1.00 or higher                   |  |  |  |
|                         |        | Visual Studio 2008                      | Ver.1.00 or higher                   |  |  |  |
|                         |        | Visual Studio 2010                      | Ver.1.10 or higher                   |  |  |  |
|                         |        | Visual Studio 2012                      | Ver.1.50 or higher                   |  |  |  |
|                         |        | Visual Studio 2013                      | Ver.1.40 or higher                   |  |  |  |
|                         |        | Visual Studio 2015                      | Ver.1.70 or higher                   |  |  |  |
|                         |        | Visual Studio 2017                      | Ver.1.72 or higher                   |  |  |  |

- Note1: From SYSMAC Gateway version 1.60, te1: From SYSMAC Gateway version 1.60, the unit revision has been changed to revision 3. When EtherNet/IP tag data links are set for SYSMAC Gateway unit revision 1 (SYSMAC Gateway version 1.2 or lower) or revision 2 (SYSMAC Gateway version 1.3 to 1.5), the settings need to be changed to revision 3 with Network Configurator for EtherNet/IP.

  2: When EtherNet/IP tag data links are set to use SYSMAC Gateway unit revision 3 (version 1.60 or higher) as a node, Network Configurator for EtherNet/IP version 3.57 or higher is required. (Network Configurator for EtherNet/IP is included in
  - included in
    - CX-Compolet WS02-CPLC1 version
    - 1.60 or higher

      SYSMAC Gateway WS02-SGWC1
  - SYSMAC Gateway WS02-SGWC1 version 1.60 or higher
     Sysmac Studio version 1.12 or higher
     CX-One version 4.33 and CX-One auto update (November 2014 or later)

    If you need to upgrade to the latest version of CX-Compolet, consult you OMRON representative.

#### Correspondence between supported OS & Connected Networks

Yes: Supported, No: Not Supported

|              |        | Ethernet                       |                 |             |         | Controller Link |     | SYSMAC |      |
|--------------|--------|--------------------------------|-----------------|-------------|---------|-----------------|-----|--------|------|
|              |        |                                | Ethernet (FINS) | EtherNet/IP | RS-232C | USB             | PCI | ISA    | LINK |
| Supported OS | Client | Windows XP (32bit)             | Yes             | Yes         | Yes     | Yes             | Yes | Yes    | Yes  |
|              |        | Windows Vista (32bit)          | Yes             | Yes         | Yes     | Yes             | Yes | Yes    | Yes  |
|              |        | Windows 7 (32bit)              | Yes             | Yes         | Yes     | Yes             | Yes | No     | No   |
|              |        | Windows 7 (64bit)              | 165             |             |         |                 | No  |        |      |
|              |        | Windows 8 (32bit/64bit)        | Yes             | Yes         | Yes     | Yes             | No  | No     | No   |
|              |        | Windows 8.1 (32bit/64bit)      | Yes             | Yes         | Yes     | Yes             | No  | No     | No   |
|              |        | Windows 10 (32bit/64bit)       | Yes             | Yes         | Yes     | Yes             | No  | No     | No   |
|              | Server | Windows Server 2003 (32bit)    | Yes             | Yes         | Yes     | Yes             | Yes | Yes    | Yes  |
|              |        | Windows Server 2008 (32bit)    | Yes             | Yes         | Yes     | Yes             | Yes | No     | No   |
|              |        | Windows Server 2008/R2 (64bit) | res             |             |         |                 | No  |        |      |
|              |        | Windows Server 2012/R2 (64bit) | Yes             | Yes         | Yes     | Yes             | No  | No     | No   |
|              |        | Windows Server 2016 (64bit)    | Yes             | Yes         | Yes     | Yes             | No  | No     | No   |

#### **Technical Guide**

| Guide name                           | Man.No. | Description  |
|--------------------------------------|---------|--|
| CX-Compolet Application Design Guide | V240    | Describes design procedure of applications using CX-Compolet and SYSMAC Gateway, |
| for CIP communications               |         | operation check procedure, and troubleshooting communications errors.            |

### Third party products

We will introduce software that supports CX-Compolet/SYSMAC Gateway and can be easily connected to OMRON NJ-series.

#### InduSoft, Inc.

#### InduSoft Web Studio

Powerful HMI, SCADA and OEE/Dashboard development software designed for deployment anywhere.

#### Features:

- Mobile accessibility via three types of thin clients, including Enhanced Studio Mobile Access, which offers access to process information on Android, iPhone and iPad.
- Over 240 native communication drivers, as well as support for OPC and direct integration to SYSMAC Gateway (former FINS Gateway).
- All the tools required to develop SCADA, HMI, and OEE/Dashboard applications, including: alarms, trending, reporting, and events.



Contact Us:

InduSoft, Inc. info@indusoft.com https://www.indusoft.com/

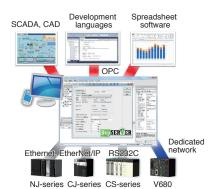
#### TAKEBISHI CORPORATION

**DeviceXPlorer OPC Server** (Industrial Communications Software)

You will access to OMRON PLCs from SCADA, CAD, and other general-purpose package software.

#### Features:

- Accessible to OMRON PLCs including new NJ series.
- Ideal for 24-hour continuous operation! Communications parameters can be changed while the system is running.
- OPC UA interface is the first software in Asia.
- \* World's first OPC server supporting NJ series as of July 2012.



Contact Us:

TAKEBISHI CORPORATION fa-support@takebishi.co.jp https://www.faweb.net/en/

#### Wellintech Co., Ltd

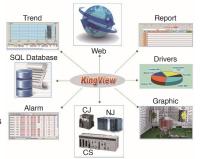
#### KingView

(High-Performance software for Industrial Supervisory Control And Data Acquisition)

KingView allows you to develop Windows based control, monitoring, analyze and data collection applications.

#### Features:

- Made by the SCADA manufacturer, who is the first to develop the NJ series driver worldwide, and is available in English, Chinese and Japanese. \*
- Automatically read the variables of the NJ series and create on KingView.
- Communicate with series of OMRON PLCs.
- \* World's first SCADA supporting NJ series as of November 2011.



Contact Us :

Wellintech Co., Ltd marketing@wellintech.com http://www.kingview.com/

Note1: OMRON can not guarantee the contents on this page. Please contact each company for details.

Note2: Do not use this document to operate the Unit.

# OMRON Corporation Industrial Automation Company Kyoto, JAPAN

Contact: www.ia.omron.com

#### Regional Headquarters

**OMRON EUROPE B.V.** 

Wegalaan 67-69, 2132 JD Hoofddorp

The Netherlands

Tel: (31)2356-81-300/Fax: (31)2356-81-388

#### OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2), Alexandra Technopark, Singapore 119967

Tel: (65) 6835-3011/Fax: (65) 6835-2711

#### **OMRON ELECTRONICS LLC**

2895 Greenspoint Parkway, Suite 200 Hoffman Estates, IL 60169 U.S.A. Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

#### OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120, China Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

#### **Authorized Distributor:**

© OMRON Corporation 2009-2020 All Rights Reserved. In the interest of product improvement, specifications are subject to change without notice.

CSM\_13\_4

Cat. No. V302-E1-14

0520 (0109)