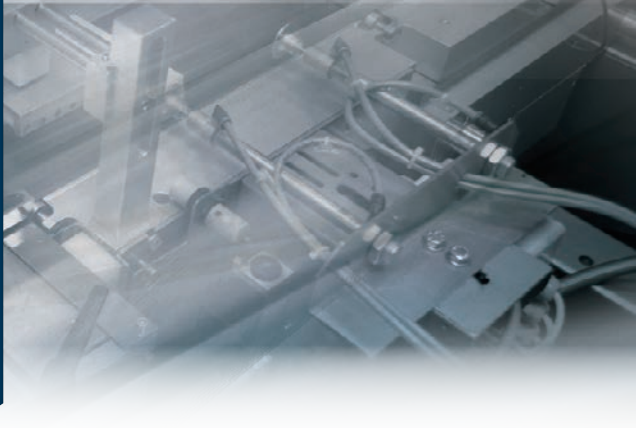
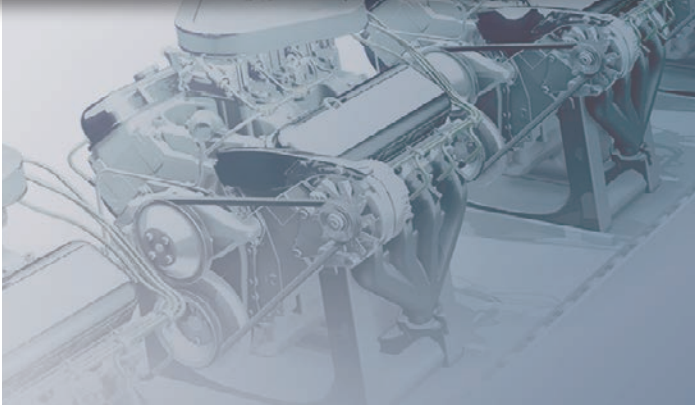


# FA Controller Catalog



Controllers ideal for all machines

# Controllers ideal for all machines

- New technology for smart manufacturing
- Collaboration between humans and machines

**Innovation**

- Integrated systems for optimized manufacturing
- Production data available in real-time
- In-line quality inspection: zero defects

**Productivity**

- Environmentally safe products

**Innovation**

- Non-stop processes, 24/7 operation
- Extended product lifecycle

**Reliability**



Omron has developed automation technology through the development of sensors, switches, PLC, programmable terminals, servo drives, inverters and other products. Now devices connected via standard networks change into new solutions for various machine environments.

- Quick product changeovers
- Openness and third party connectivity
- Scalable systems for optimum solutions

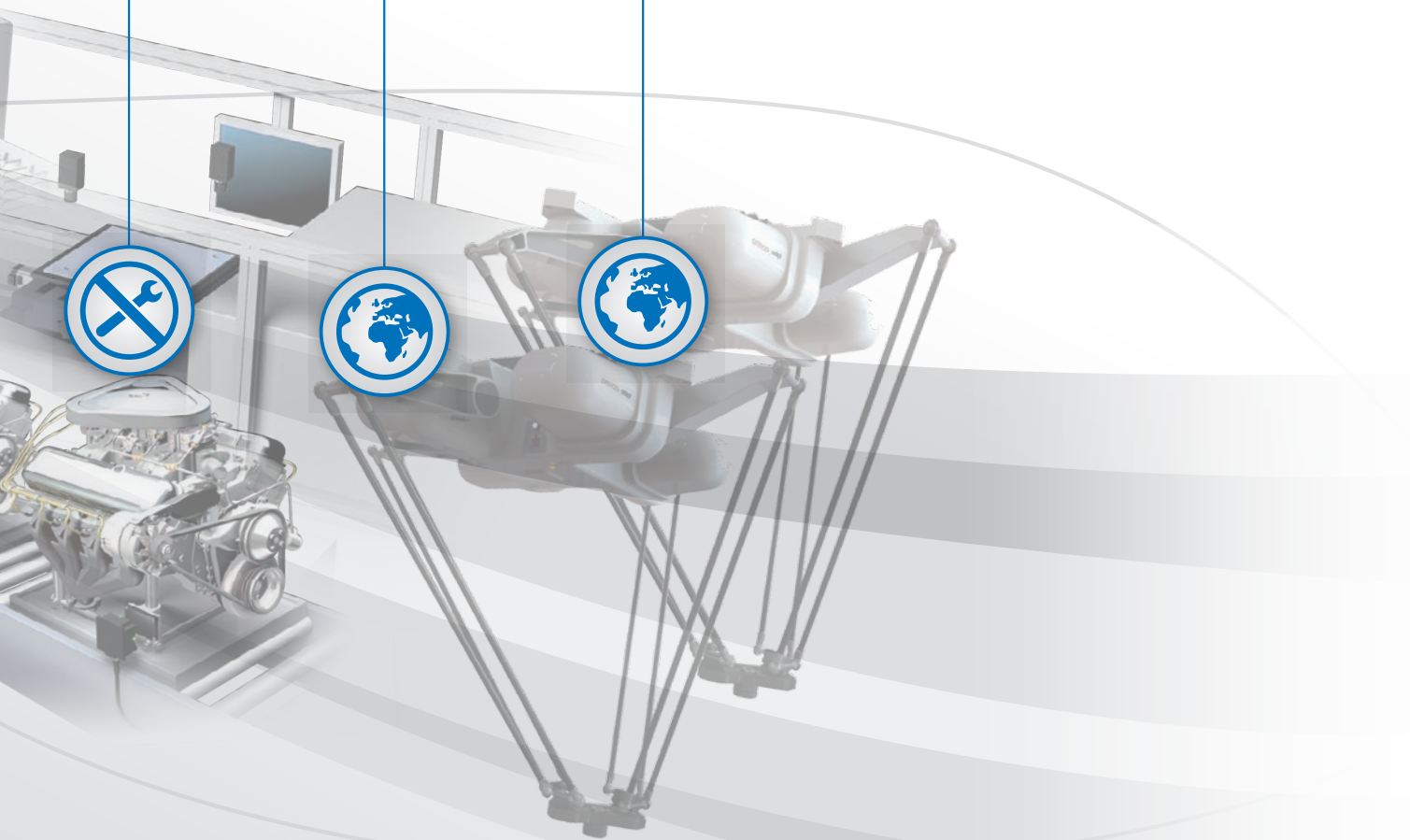
**Flexibility**

- Products meet global standards
- Local support for training, repairs and spare-parts supply

**Globalization**

- Engineering environment compliance with global standards

**Globalization**



## Controllers ideal for all machines

The cost-effective CP Series and complete, robust NJ/NX/NY Series support from simple machine control through to large production line control and plant management.

The controllers not only help reduce programming, set-up and maintenance times, but also enable fast and accurate fine-tuning control, quality traceability, predictive maintenance, preventive maintenance, and remote maintenance.



The Machine Automation Controller integrates logic, motion, safety, vision, information, visualization and networking under one software: Sysmac Studio. This one software provides a true Integrated Development Environment (IDE) that also includes a custom 3D motion simulation tool.

The machine controller comes standard with built-in EtherCAT and EtherNet/IP. The two networks with one connection purpose is the perfect match between fast real time machine control and data plant management.



Omron's Industrial PC Platform includes the Industrial Box PC, Industrial Panel PC, and Industrial Monitor.

Choose from three different types of products to suit your system:

- Industrial PC comes equipped with Windows operating systems
- IPC Machine Controller combines the precision and utility of the Sysmac platform with the versatility and range of Windows programs
- IPC RTOS Controller comes equipped with real-time operating systems for realtime control





## Programmable Multi-Axis Controller

The Programmable Multi-Axis Controller was developed by combining Omron ILO+R+S (Input, Logic, Output, Robot, and Safety) control technology with proven technology from Omron's Delta Tau Data Systems, Inc., delivering world-beating\* output speeds allied to exceptional precision.

Providing the high-speed processing capability to perform precise linear motor drive control and nanometer positioning that require ultra fast responses, it is appreciated by manufacturers of semiconductor manufacturing equipment and other products employing leading-edge technologies.



## CS/CJ series

This series supports a wide variety of communication interface including Ether-Net/IP™.

The FA Integrated Tool Package CX-One makes programming and debugging faster and easier. The PLC is suitable for small to medium machines - from simple stand-alone applications up to networked, high-speed machines. It is built to give you innovation without growing pains.



## CP series

The CP Series provides a complete product line-up to automate compact machines and perform any other simple automation tasks, quickly and easily. Connect the HMI, servo drives, inverters, temperature controllers and other devices to create a more cost-effective system.



\*1. Motion control performance of 16.6 μs/1 axis or 50 μs/8 axes (Omron survey as of July 2016)

# A fully integrated platform



N-Smart Sensor



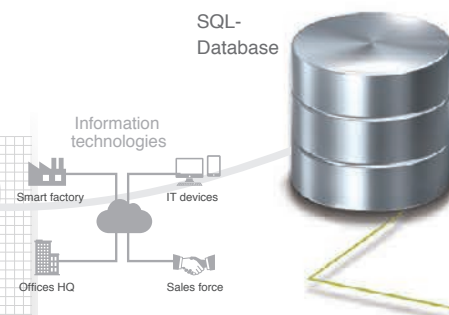
ZW-7000  
Displacement  
Sensor

FH Vision  
System

The Machine Automation Controller integrates logic, motion, safety, vision, information, visualization and networking under one software: Sysmac Studio.

## Features

- Complete integration of motion and logic
- A large selection of CPU Units for up to 256 axes
- Fully conforms with IEC 61131-3 standards
- PLCopen Function Blocks for Motion Control
- Linear and circular interpolation
- Electronic gear and cam synchronization
- Integrated Development Environment provided by Sysmac Studio



## Standard networks

- NX102-□□□□ and NJ501-1□00 CPU Units with built-in international standard (IEC 62541) OPC UA communication functionality
- Built-in EtherCAT and EtherNet/IP ports
- EtherCAT: High-speed network to connect a wide range of machine automation devices such as I/O, sensors and drives. Fast, highly accurate control in synchronization with the EtherCAT cycle. Up to 512 slaves
- EtherNet/IP: Based on standard protocols (TCP/IP and UDP/IP). Allows for mixing Ethernet devices and Ethernet applications

## Safety integration

- Flexible system lets you integrate safety into machine automation through the use of Safety over EtherCAT (FSoE). Sysmac Studio reduces programming time

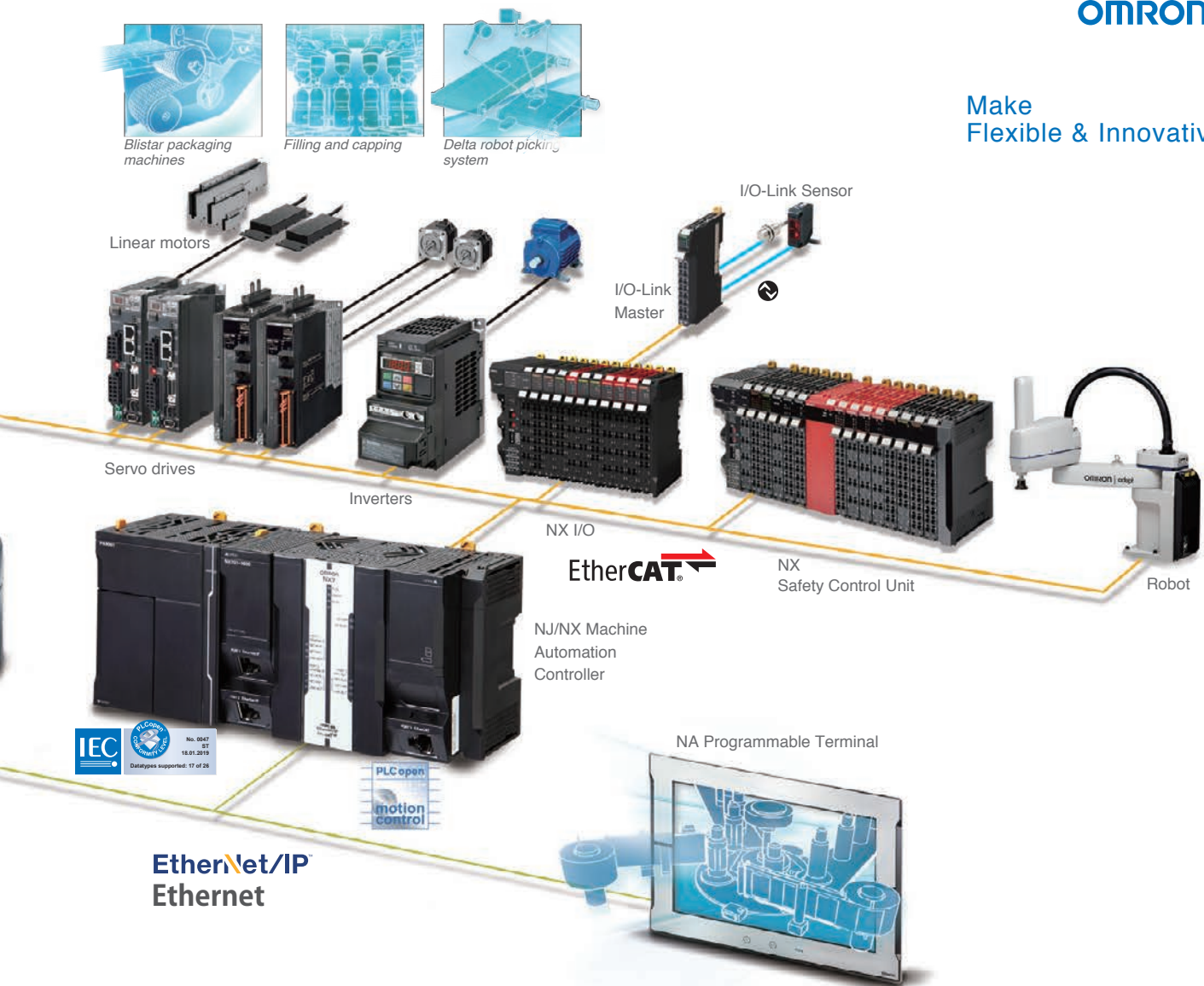
## CPU Unit with advanced functionality

- Database Connection: Logs real-time data from production lines directly into SQL Databases. This enables predictive/preventive maintenance and quality traceability
- Robot Integrated CPU Unit: Integration of Logic, Motion, OMRON Robot and Kinematics in one CPU.
- SECS/GEM: Built-in SECS/GEM communications functions
- NC Integrated Controller: Realize high-accuracy synchronization motion control (MC) and numerical control (NC) functions by ONE controller. G-Code available.

## NX1P Machine Automation Controller

- Advanced motion control and networks for onsite IoT in a compact entry model
- Built-in I/O. Up to 8 NX Units can be mounted

Make Flexible & Innovative



**Sysmac Studio**

Integrates configuration of the NJ/NX Machine Automation Controller and EtherCAT slaves, programming, debugging, and monitoring




**Sysmac Library**

The Sysmac Library is a collection of software functional components that can be used in programs for the NJ/NX Machine Automation Controllers. Please download it from following URL and install to Sysmac Studio.



[http://www.ia.omron.com/sysmac\\_library/](http://www.ia.omron.com/sysmac_library/)

**What's new**



**Compact size controller that integrates production line and IT systems NX1**

- Fast and accurate control by synchronizing all machine devices with the PLC and Motion Engines
- Three built-in industrial Ethernet ports
- OPC UA server functionality
- Up to 12 axes of control via EtherCAT
- Up to 32 local NX I/O Units
- Built-in power supply in compact size



**NJ/NX Series Controller Catalog**

· P089

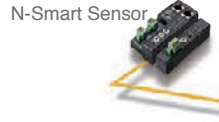
**NX1 Catalog**

· P129

**NX1P Catalog**

· P115

# Openness meets Automation Control



Omron's Industrial PC Platform includes the Industrial Box PC, Industrial Panel PC, and Industrial Monitor. Choose from three different types of products to suit your system.

## Features

- Industrial Box PC: Powerful, reliable, scalable
- Industrial Panel PC: Combines the functionality of the Industrial Box PC and Industrial Monitor
- Industrial Monitor: Display and touch interface for the industrial PC platform
- Powerful performance – maximize output
- Rock-solid build – improve uptime
- Real-time OS inside – reliable machine control

## Industrial PC

- Windows IPC. Powerful, reliable, scalable - and tough as they come

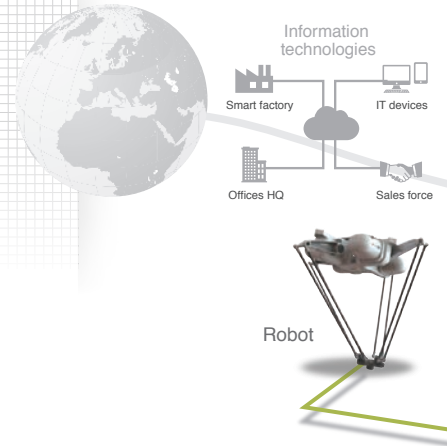
## IPC Machine Controller

- Combines the precision and utility of the Sysmac platform with the versatility and range of Windows programs
- Automation Software Sysmac Studio: Integrates configuration of the machine automation controller and EtherCAT slaves, programming, debugging, and monitoring
- Collection of software functional components Sysmac Library: Simplicity for advanced control. Available to download from Omron website and install to the Sysmac Studio  
[http://www.ia.omron.com/sysmac\\_library/](http://www.ia.omron.com/sysmac_library/)



## IPC RTOS Controller

- Real-time operating systems. Enables you to program own real-time control of your machine functionality and at the same time executing advanced data processing tasks



## What's new

Based on Intel® Xeon® processors



Industrial Box PC



Make Flexible & Innovative



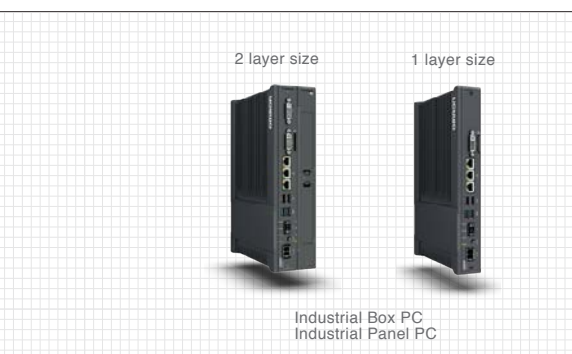
Blister packaging machines



Filling and capping



Delta robot picking system



2 layer size

1 layer size

Industrial Box PC  
Industrial Panel PC

Industrial PC Platform Catalog

·P118

NY Series with Intel® Xeon® processor Flyer

·P133



# High-speed, high-precision motion controller

## Programmable Multi-Axis Controller



Programmable  
Multi-Axis Controller  
CK3M



Programmable  
Multi-Axis Controller  
CK3E

OMRON and OMRON's Delta Tau Data Systems, Inc. (DT) worked together to develop the multi-axis controllers with global leading motion control technology from DT. The multi-axis controller achieves sophisticated fine-tuning control, including high-speed synchronous control of various factory automation (FA) devices, thanks to built-in EtherCAT connectivity which is used for production lines and equipment all over the world.

### Features

- CAD/CAM for easy motion control
- Flexible function development capability enables high-precision curve machining
- G-Code/ANSI C/original programming language
- EtherCAT for flexible system configuration
- Advanced motion control

### CK3M Programmable Multi-Axis Controller

■ A next generation motion controller CK3M provides PMAC's superior motion control capability, multi-vendor connectivity, and flexible development capability. The modular design allows you to freely combine the CK3M with expansion units to enable a variety of applications.

### CK3E Programmable Multi-Axis Controller

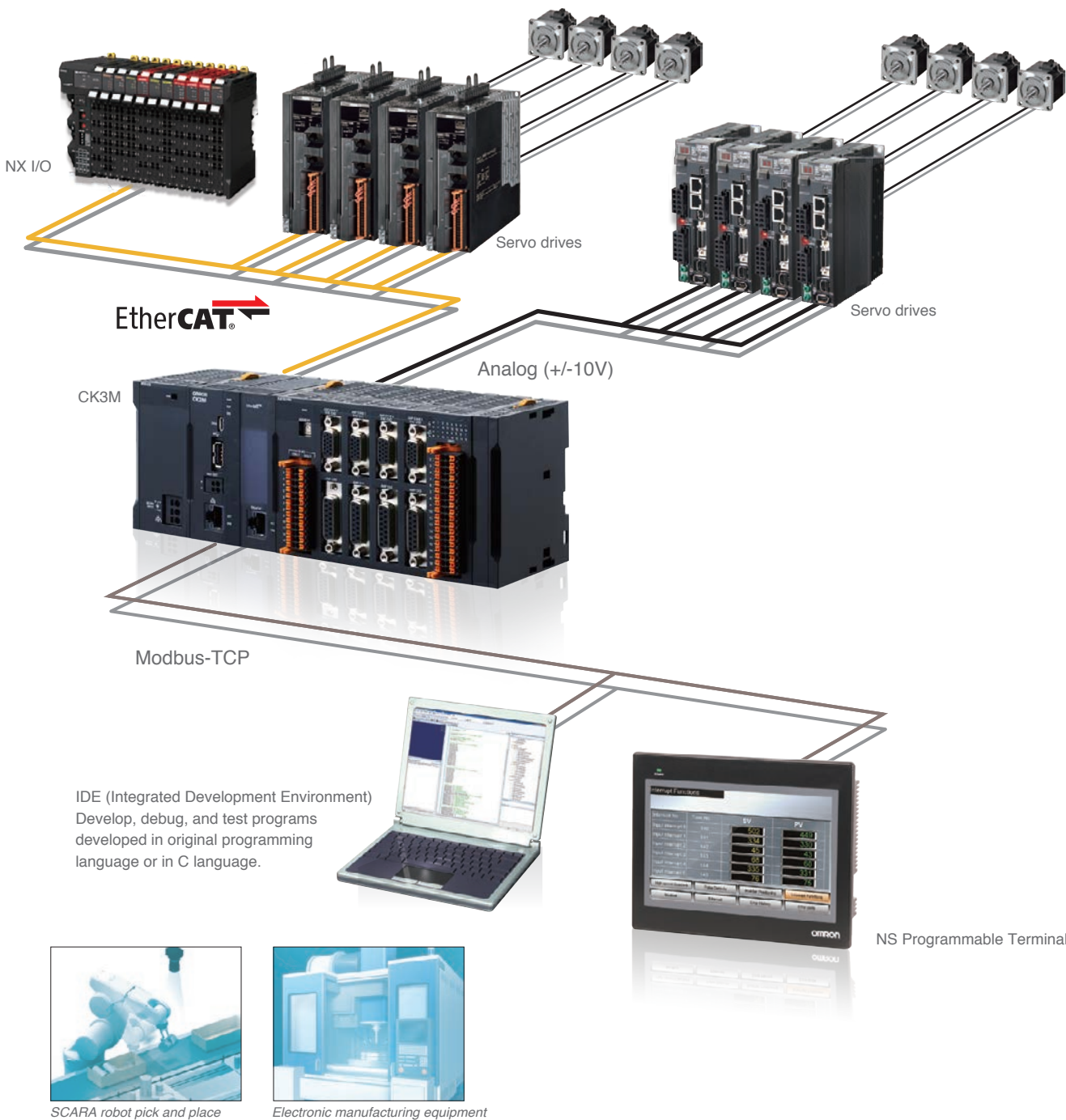
■ You can build a system capable of controlling up to 32 axes of motion and incorporate customized control algorithms into the system. The compact design saves space in machines and control panels. EtherCAT® connects servo drives, I/O, and other devices to the CK3E, reducing the number of cables.

## What's new

### Programmable Multi-Axis Controller

The Programmable Multi-Axis Controller has been developed by US-based Delta Tau Data Systems, Inc. to deliver the world's highest level\* of motion control performance. Providing the high-speed processing capability to perform precise linear motor drive control and nanometer positioning that require ultra fast responses, the Programmable Multi-Axis Controller is appreciated by manufacturers of semiconductor manufacturing equipment and other products employing leading-edge technologies. Through working together with Delta Tau Data Systems which joined the Omron Group on September 1 2015, Omron will further advance automation technologies in an ever-changing manufacturing environment to help manufacturers improve productivity and manufacturing quality.

Make Flexible & Innovative



CK3M Programmable Multi-Axis Controller Catalog

R196

CK3E Programmable Multi-Axis Controller Flyer

R188

Industrial PC Platform Catalog

P118

PMAC Series Catalog

R192



\* Motion control performance of 16.6 μs/1 axis or 50 μs/8 axes (Omron survey as of July 2016)

# A wide range of PLC and I/O brings innovation to your machines and reduces costs

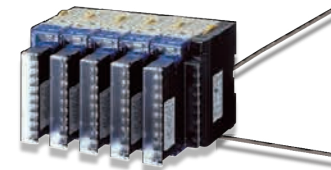
Faster and larger networks, a wide variety of communication interfaces



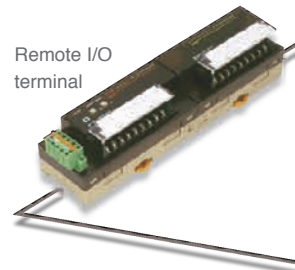
The PLC is suitable for small to medium machines - from simple stand-alone applications up to networked, high-speed machines. It is built to give you innovation without growing pains.

### Features

- Supports open networks including EtherNet/IP, EtherCAT, FL-net, DeviceNet and CompoNet
- Efficient programming with variables and EtherNet/IP setting with variable names make the configuration more flexible
- A wide range of CPU units and I/O units to suit your needs



Temperature controller



Remote I/O terminal

**DeviceNet**  
**CompoNet**

### Open to the world

- Data communication via standard Ethernet port with EtherNet/IP Data Link function
- Increased EtherNet/IP performance to 12,000 pps\*1
- High-speed I/O link based on EtherCAT enables distributed control using multiple CPU units

### Advanced motion control

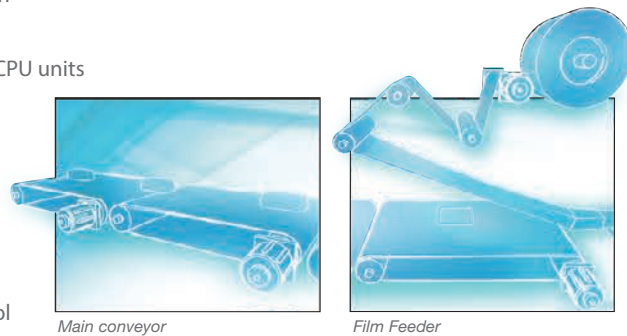
- Multi-axes synchronous control
- Can replace expensive motion controllers

### High-speed

- Faster program execution and immediate I/O refreshing for flexible machine control

### Highly flexible

- Adapt the PLC unit to your needs with the wide variety of compatible CJ1 I/O Units



Main conveyor

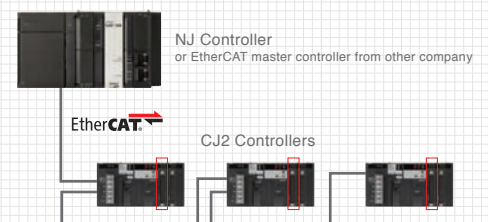
Film Feeder

### Pick up

CJ-series EtherCAT Slave Unit

High-speed I/O link

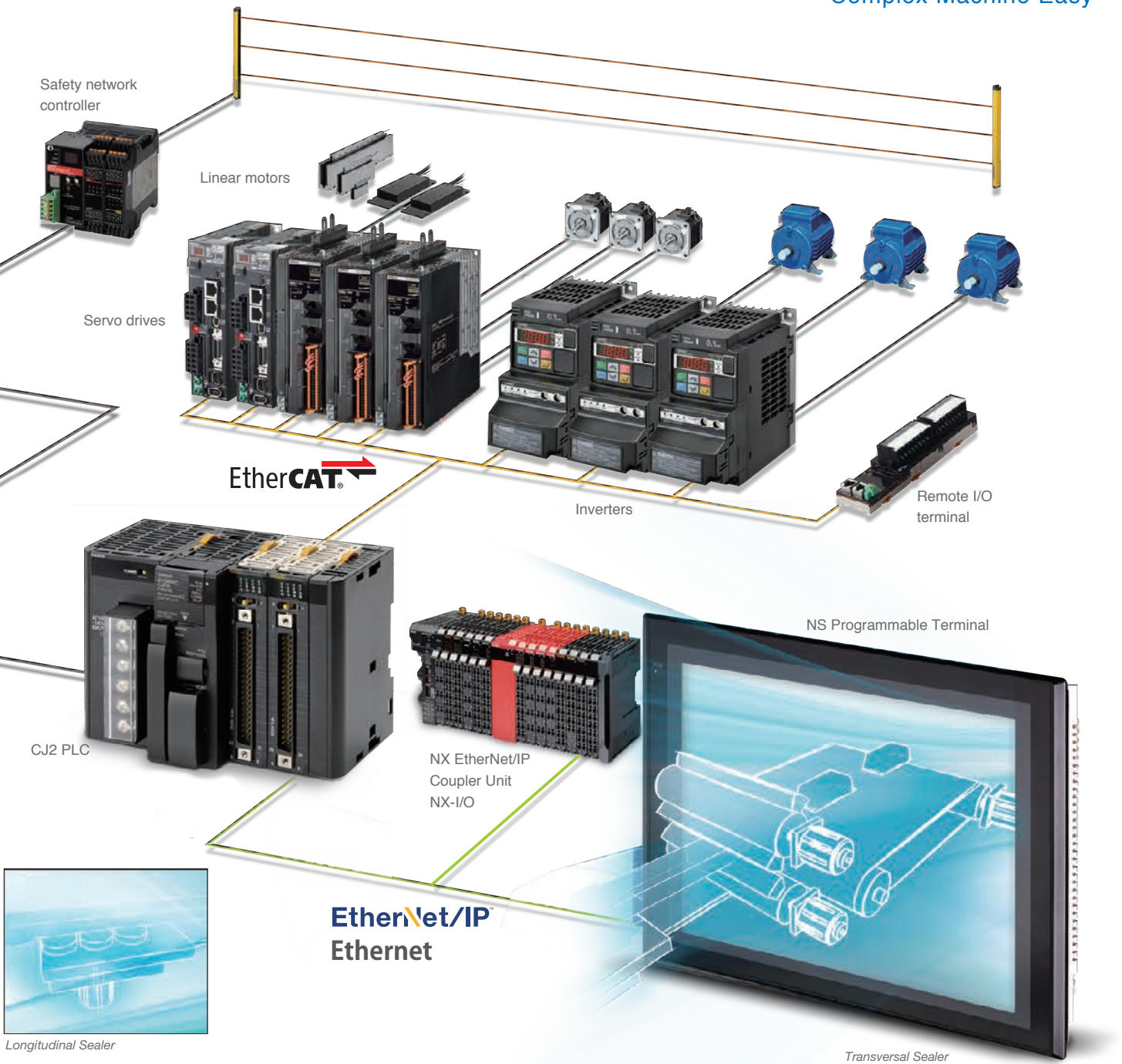
EtherCAT enables distributed control using multiple controllers. The modularized system facilitates design and installation.



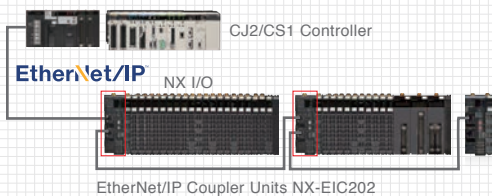
CJ-series EtherCAT Slave Units CJ1W-ECT21

\*1. CJ2H (built-in EtherNet/IP) and CJ/CS-series EtherNet/IP Unit

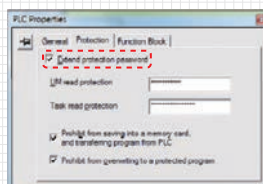
Make Complex Machine Easy



CJ2/CS1 with NX EtherNet/IP Coupler Unit  
**Flexible system with a variety of NX I/O**  
 Flexible distributed I/O system can be built using NX I/O in the CJ2/CS1 system. This allows you to save space and to flexibly respond to changes in machine specifications.



CS/CJ/CP-series CPU Unit  
**16-character password to keep your assets secure**  
 The number of characters in each password for UM read protection and task read protection is increased from 8 to 16. This improves the security of your design assets.



**CJ2 Catalog**  
• P059

**CS1 Catalog**  
• P047

# More cost-effective automation for compact machines

Simple, Compact, Economical



The CP Series provides a complete product line-up to automate compact machines and perform any other simple automation tasks, quickly and easily.

## Features

- 10 to 60 I/O base models, expandable to 320 I/O points
- Digital, analog and temperature sensor I/O expansion units
- Up to 4 high-speed pulse outputs and up to 4 high-speed counter inputs
- Excellent communication capabilities for both serial and Ethernet networking
- Powerful instructions common within the CJ Series

## Easy positioning, quick results

- Easy control: Speed control, positioning, origin search and interrupt feeding
- Modbus Master feature for easy inverter control

## Saving programming time

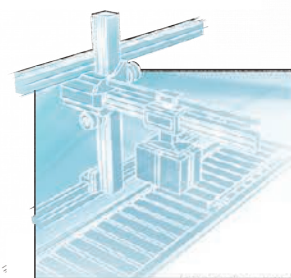
- Ladder diagram, Function Blocks or Structured Text programming

## Versatile communication

- USB or Ethernet port\*1 – no special cables needed
- Communication with Temperature Controller E5□C without special programs
- Optional boards for RS-232C, RS-485 or Ethernet\*2

## More options – greater possibilities!

- Analog I/O unit with a resolution of 1/12,000 for high-accuracy inspections
- One multi-input unit for both temperature and analog control of a packaging machine or molding machine
- Analog option boards helps save space

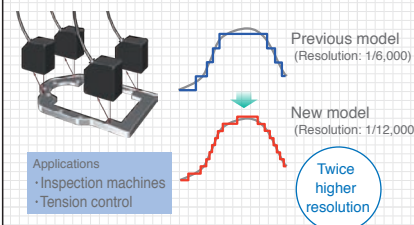


Palletizer

## Pick up

Analog I/O Unit  
**Improve control/inspection accuracy**

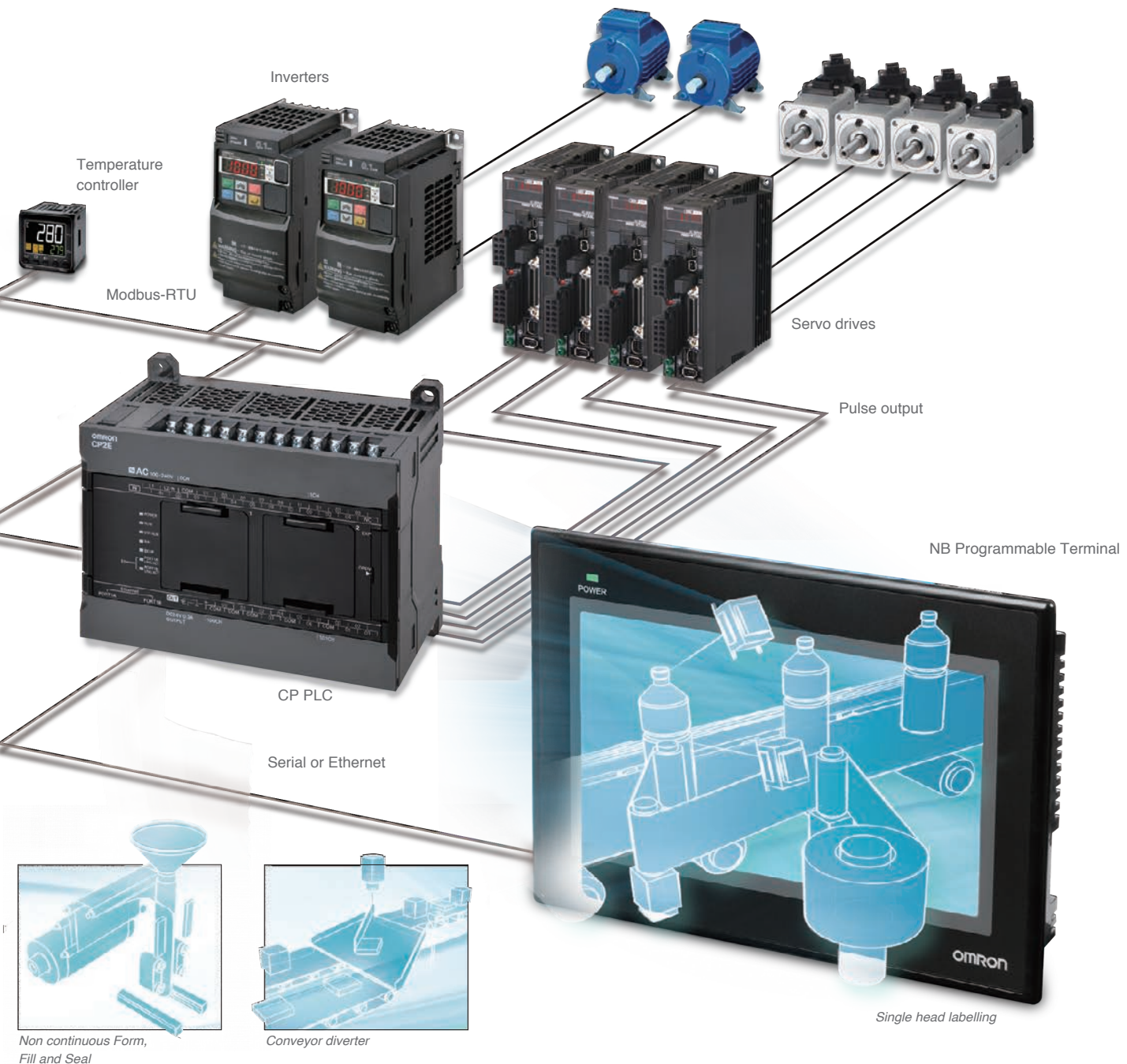
High-accuracy analog I/O control with a resolution of 1/12,000.  
 CP1W-AD042/DA042/MAD42/MAD44



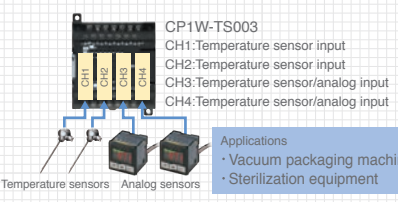
\*1. CP2E and CP1L-EM/EL only

\*2. CP1H/CP1L only

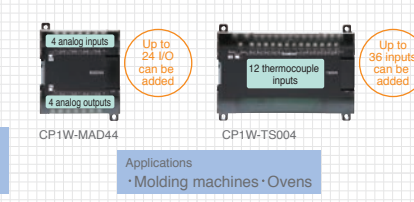
Make Complex Machine Easy



**Temperature Sensor Unit**  
**Multi-inputs: thermocouple/analog inputs**  
 The CP1W-TS003 has two inputs that can be used for temperature sensor or analog inputs. Both temperature sensor and analog inputs can be achieved with only one unit.



**Analog I/O Unit/Temperature Sensor Unit**  
**For a wide variety of applications**  
 The unit with multiple analog I/O or with multiple temperature sensor inputs provides more scalability and flexibility.



**CP Catalog**  
 • P082

**CP2E Pamphlet**  
 • P144




# Controllers Selection

Omron offers a wide range of FA Controllers to suit your automation applications - from simple control to complex, highly accurate control.

## NJ/NX series




Series		NX Series			
Product name		NX701 CPU Units	NX102 CPU Units	NX1P2 CPU Units	
Model		NX701-□□□□	NX102-□□□□	NX1P2-□□□□	
Appearance					
Specifications	CPU Unit features	Ideal for large-scale, fast, and highly-accurate control with up to 256 axes	Compact controller with up to 8 axes motion control.	Compact package-type machine automation controller	
	Support software		Sysmac Studio		
	Instruction execution times	LD instructions	0.37 ns or more	3.3 ns	3.3 ns
		Math instructions (for long real data)	3.2 ns or more	70 ns or more	70 ns or more
	Program capacity		80 MB	5 MB	1.5 MB
	Variables capacity		4 MB: Retained during power interruptions 256 MB: Not retained during power interruptions	4 MB: Retained during power interruptions 256 MB: Not retained during power interruptions	32 KB: Retained during power interruptions 2 MB: Not retained during power interruptions
	I/O capacity / maximum number of configuration Units (Expansion Racks)		---	Up to 32 NX I/O Units connectable	Built-in I/O: 40 points max. Up to eight NX I/O Units connectable
	Number of motion axes		128, 256	0, 2, 4, 8 *2	0, 2, 4 *2
	EtherCAT slaves		512	64	16
	Number of controlled robots		---	---	---
Functions	Database connection	Provided (NX701-1□□20)	Provided (NX102-□□□20)	---	
	SECS/GEM communications functions	---	---	---	
	Numerical Control (NC) functions	---	---	---	
External memory		Memory Cards			
CJ Special I/O Units and CPU Bus Units		---			

## Industrial PC Platform

Product name	Industrial PC		IPC Machine Controller	
Type	Industrial Box PC		Industrial Box PC	Industrial Panel PC
Model	NYB		NY51□-1	NY53□-1
Appearance				
Features	Compact design that offers flexibility, expandability and easy maintenance for applications in factory automation environments		Combines the functionality of the Industrial Box PC and Industrial Monitor	
Operating system	No operating system Windows 10 IoT Enterprise 2016 LTSC - 64 bit Windows 10 IoT Enterprise 2019 LTSC - 64 bit		Two operating systems: Windows and Real-Time OS	
Function module	---		Machine Automation Control Software	
Number of axes	---		16, 32, 64	
CPU type	Intel® Xeon® E3-1515M v5 Processor 6th generation CPU with Fan Unit for active cooling Intel® Core™ i7-7820EQ Processor 7th generation CPU with Fan Unit for active cooling Intel® Core™ i5-7300U Processor 7th generation CPU with fanless cooling Intel® Celeron® 3965U Processor 7th generation CPU with fanless cooling Intel® Atom® Apollo Lake x5-E3940 Processor		Intel® Core™ i7-7820EQ Processor 7th generation CPU with Fan Unit for active cooling Intel® Core™ i5-7300U Processor 7th generation CPU with fanless cooling Intel® Celeron® 3965U Processor 7th generation CPU with fanless cooling Intel® Atom® Apollo Lake x5-E3940 Processor	
RAM memory	8GB, 16GB, 32GB (ECC supported) *1 2GB, 4GB, 8GB, 16GB, 32 GB (non ECC)		8 GB, 32 GB (non-ECC type)	
Storage	HDD, SSD, CFast, SD memory card		HDD, SSD, SD memory card	
Display size	---		12.1 inches, 15.4 inches, 18.5 inches	
Built-in ports	Ethernet, USB 2.0/3.0, DVI		Ethernet, EtherNet/IP, EtherCAT, USB 2.0/3.0, DVI	
Interface option	RS-232C, DVI-D, NY Monitor Link, GigE LAN		RS-232C, DVI-D, NY Monitor Link	
Expansion slots	1 PCIe slot		1 PCIe slot	
RAID	Hardware-RAID (RAID1)		---	

Note. Not all combination are possible, please visit the product selector on the global website to make your selection.  
 \*1. Only for models with Intel® Xeon® Processor. \*2. For the 32 bit version, consult your OMRON sales representative. \*3. Not recommended for new projects.



NJ Series									
NJ501 CPU Units						NJ301 CPU Units		NJ101 CPU Units	
NJ501-1□□□	NJ501-R□□□	NJ501-4□□□	NJ501-1□□20	NJ501-1340	NJ501-5300	NJ301-1□□□		NJ101-□□□□	NJ101-□□20
									
Ideal for large-scale, fast, and highly-accurate control with up to 64 axes						Ideal for small-scale control with up to eight axes		Ideal for simple machines	
Sysmac Studio						Sysmac Studio		Sysmac Studio	
1.1 ns (1.7 ns or less)						1.6 ns (2.5 ns or less)		3.0 ns (4.5 ns or less)	
24 ns or more						35 ns or more		63 ns or more	
20 MB						5 MB		3 MB	
2 MB: Retained during power interruptions 4 MB: Not retained during power interruptions						0.5 MB: Retained during power interruptions 2 MB: Not retained during power interruptions			
2,560 points/40 Units (3 Expansion Racks)						2,560 points/40 Units (3 Expansion Racks)			
16, 32, 64			16		16 *4		4, 8		0, 2
192							192		64
---		8 robots max. *3	8 robots max. *3	---		---		---	
---		8 robots max.	---		---		---		---
---		Provided (NJ501-R□□20)	Provided (NJ501-4320)	Provided		---		---	Provided
---				Provided		---		---	
---						Provided		---	
Memory Cards									
Mountable *5									




\*1. Available by running your application on Windows

\*2. Motion control axes and 4 single-axis position control axes.

\*3. The number of robots that can be controlled depends on the number of axes used in the system.


\*4. The number of controlled axes of the MC Control Function Module is included.

\*5. For the details of mountable Units, refer to the user's manuals.


Product name	Industrial Monitor		
	Model	NYM12	NYM15
Appearance	  		
Description	Display and touch interface for the Industrial PC Platform		
Display device	TFT LCD		
Screen size	12.1 inches	15.4 inches	18.5 inches *
Resolution	Up to 1,280 x 800 pixels at 60 Hz		Up to 1,920 x 1,080 pixels at 60 Hz
Colors	16,770,000 colors		
Connectors	1 Power Connector, 1 DVI-D Connector, 2 USB Type-A Connector, 1 USB Type-B Connector		
Built-in options	NY Monitor Link		
Allowable power supply voltage range	19.2 to 28.8 VDC		

\* 18.5 also available with Nickel Plated front.




**CK3M series**

Series	CK3M Series
Model	CK3M
Appearance	
Features	Controls analog servo drives at high speeds of up to 50 μs/5 axes, enabling high-precision processing
Support software	Power PMAC IDE
Memory	RAM: 1 GB, Built-In flash memory: 1 GB
Built-in ports	Ethernet, EtherCAT, USB
Number of motion axes	24 (4 axes/axial interface unit x 4 units: 16, EtherCAT: 8)
Number of EtherCAT slaves	32

**CK3E series**

Series	CK3E Series
Model	CK3E
Appearance	
Features	You can build a system capable of controlling up to 32 axes of motion and incorporate customized control algorithms into the system.
Support software	Power PMAC IDE
Memory	DDR3 memory: 1GB, Flash memory: 1GB
Built-in ports	Ethernet, EtherCAT
Number of motion axes	8, 16 or 32
Number of EtherCAT slaves	32

**CS/CJ series**

Series	CJ Series		CS Series	
	CJ2H	CJ2M	CS1H/G	CS1D
Model				
Appearance				
CPU Unit features *1	A large data memory capacity, multi-function Ethernet port, tag access functionality, and a USB port. Ideal for high-speed, high-precision machines	Based on the long track record of the CJ1M and adds greater cost performance and flexibility. Ideal for general-purpose machine control	From machine control to information management multiple-application Controllers with a wide range of functions	Redundant CPU Units, Power Supply Units, Communications Units, and Expansion I/O Cables
	High-speed I/O Units, synchronized control, USB port, built-in EtherNet/IP port, data structures and arrays, Function Blocks (Ladder diagrams/Structured Text)	High-speed I/O Units, USB port, built-in EtherNet/IP port, data structures and arrays, FB Program Area, Function Blocks (Ladder diagrams/Structured Text), Serial Communications Option Boards	Up to 5,120 points of I/O, Inner Board capability, Function Blocks (Ladder diagrams/Structured Text)	Up to 5,120 points of I/O, redundant CPU Units and Power Supply Units, Inner Board capability
Support software	CX-One	CX-One	CX-One	CX-One
Instruction execution times (basic instructions)	0.016 μs	0.04 μs	CS1G: 0.04 μs CS1H: 0.02 μs	0.02 μs
Max. no. of I/O points	2,560	2,560	960 to 5,120	960 to 5,120
Program capacity	50K to 400K steps	5K to 60K steps	10K to 250K steps	10K to 400K steps
Data memory capacity	160K to 832K words	64K to 160K words	64K to 448K words (EM Area: 1 to 13 banks)	64K to 832K words (EM Area: 1 to 25 banks)
Built-in features	Built-in I/O	—	—	—
	Interrupt inputs	—	32 points *2	—
	High-speed counter	—	8 inputs *2	—
	Pulse outputs *1	—	4 inputs *2	—
External memory	Memory Cards	Memory Cards	Memory Cards	Memory Cards
CJ Special I/O Units and CPU Bus Units	Mountable	Mountable	Mountable (units for CS series )	Mountable (units for CS series )

\*1. These features are not supported by all of the CPU Unit models in the relevant series. Refer to specific product catalogs for details.

\*2. Applicable when a Pulse I/O Block is mounted.

CP series

Series	CP Series			
Model	CP1H	CP1L	CP2E	
Appearance				
CPU Unit features *	<p>Four axis position control and comprehensive model</p> <p>Pulse outputs for up to 4 axes, CP1W Expansion Units can be mounted, easy Modbus-RTU, Serial Communications Option Boards, Ethernet Option Board, CJ-series Special I/O Units and CPU Bus Units can be mounted, Function Blocks (Ladder diagrams/Structured Text), LCD Option Board, analog adjuster, seven-segment LED display (2 digits)</p>	<p>High performing model with embedded Ethernet for two axis position control</p> <p>Pulse outputs for up to 2 axes, models with USB port, models with Ethernet communications port, CP1W Expansion Units can be mounted, easy Modbus-RTU, Serial Communications Option Boards, Ethernet Option Board, Function Blocks (Ladder diagrams/Structured Text), LCD Option Board, analog adjuster, Analog I/O Option Boards</p>	<p>A network model equipped with an Ethernet port and an essential model for basic control are available.</p> <p>Pulse outputs for up to 4 axes, models with 2 Ethernet ports, models with RS-232C ports, CP1W Expansion Units can be mounted, easy Modbus-RTU, Function Blocks (Ladder diagrams/Structured Text), Analog I/O Option Boards</p>	
Support software	CX-One	CX-One	CX-One	
Instruction execution times (basic instructions)	0.10 μs	0.55 μs	0.23 μs	
Max. no. of I/O points	320 points (40 built in + 280 expansion)	180 points (60 built in + 120 expansion)	180 points (60 built in + 120 expansion)	
Program capacity	20K steps	5K or 10K steps	4K to 10K steps	
Data memory capacity	32K words	10K or 32K words	4K to 16K words	
Built-in features	Built-in I/O	20 or 40 points	10 to 60 points	14 to 60 points
	Interrupt inputs	6 or 8 inputs	2, 4 or 6 inputs	6 or 8 inputs
	High-speed counter	4 inputs	4 inputs	2 inputs
	Pulse outputs *	4 outputs	2 outputs	2 or 4 outputs
External memory	Memory Cassettes	Memory Cassettes	—	
CJ Special I/O Units and CPU Bus Units	Mountable	—	—	

\* These features are not supported by all of the CPU Unit models in the relevant series. Refer to specific product catalogs for details.

# Service and support



OMRON technical offices across the World



**Automation Center**  
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## PRESENCE

## COMPETENCE

OMRON



### Design

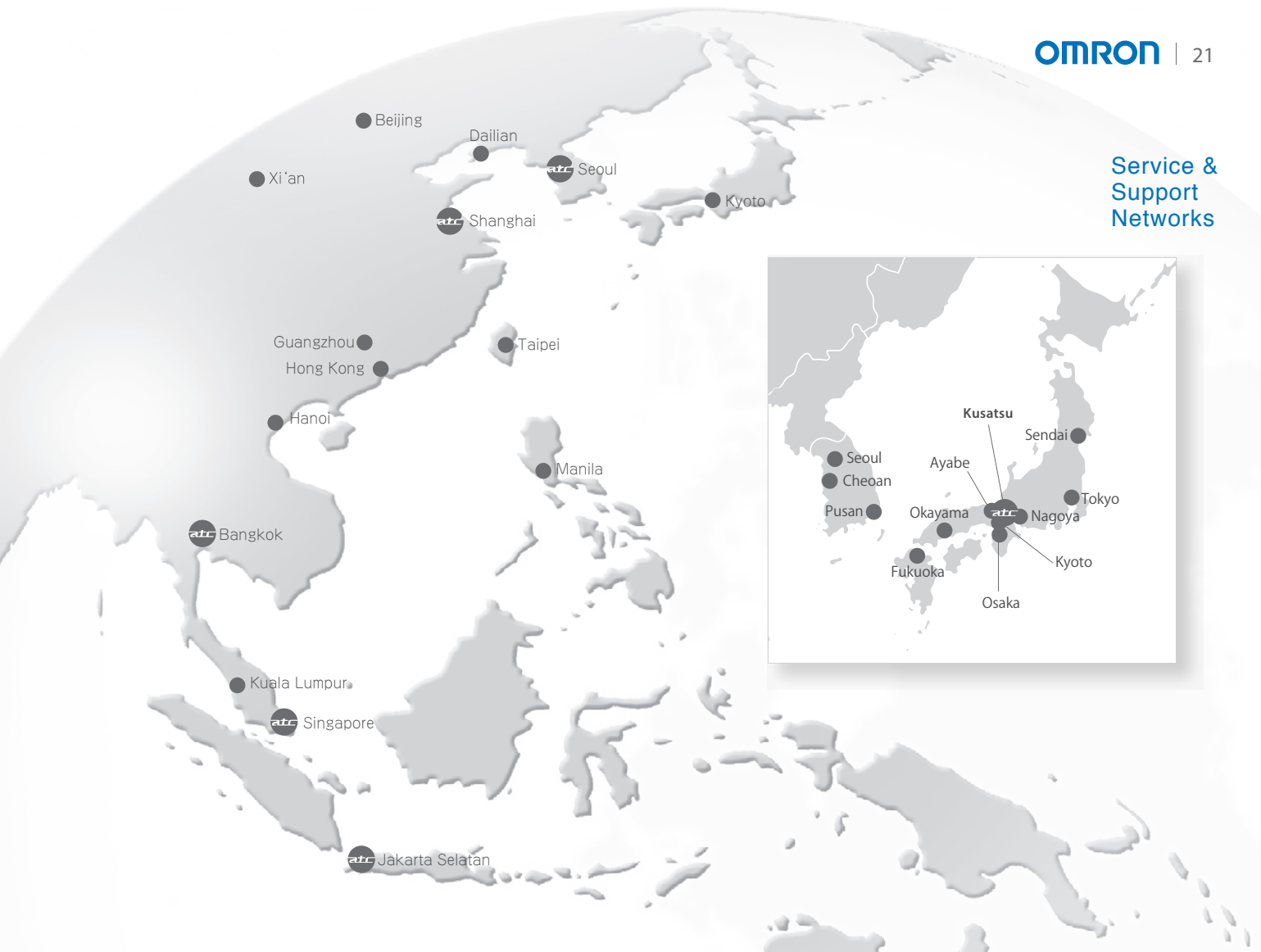
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We will assign a dedicated application engineer to assist with initial programming and proof testing of the critical aspects of your automation system. Our application engineers have in-depth expertise in and knowledge of networks, PLCs, motion, safety and HMIs when applied to machine automation.

Service & Support Networks



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CONFIDENCE

ASSURANCE



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