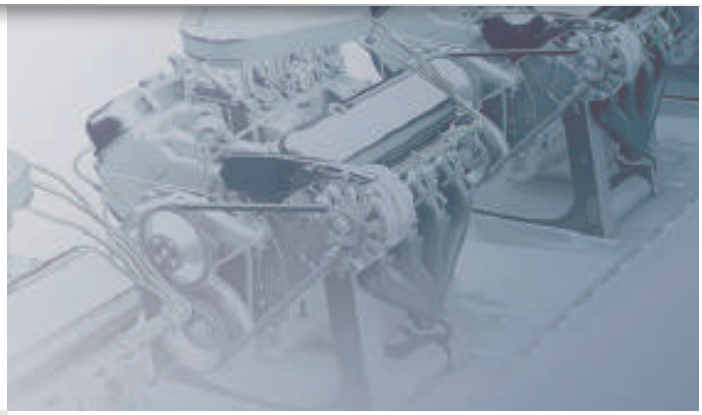
OMRON

FA Controller Catalog



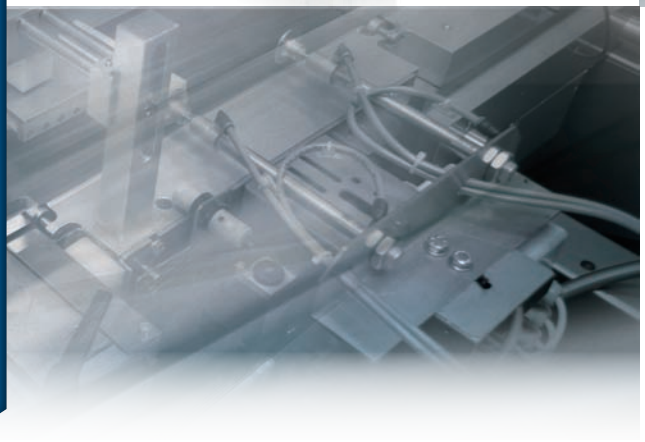








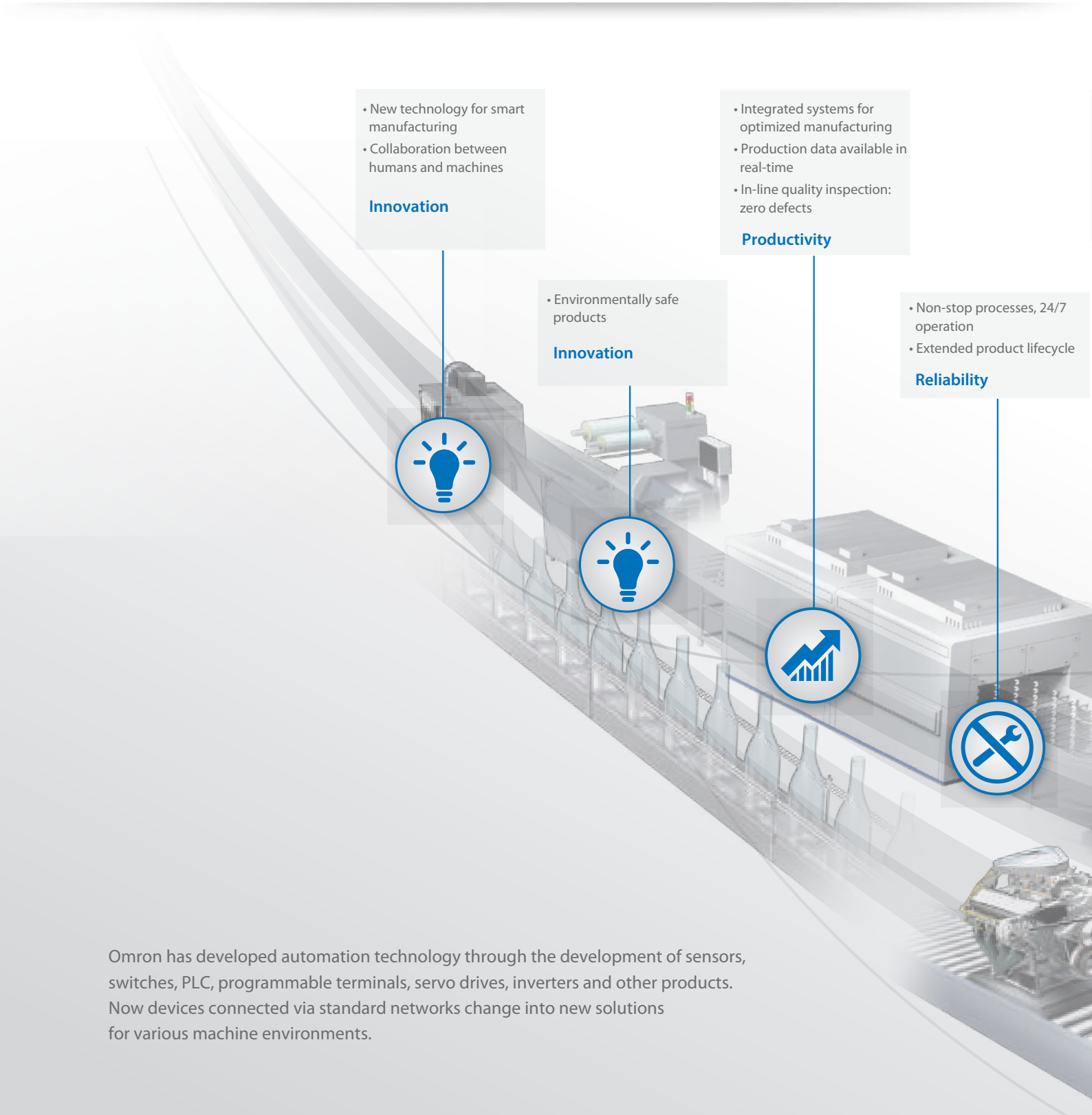






Controllers ideal for all machines

Controllers ideal for all machines



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

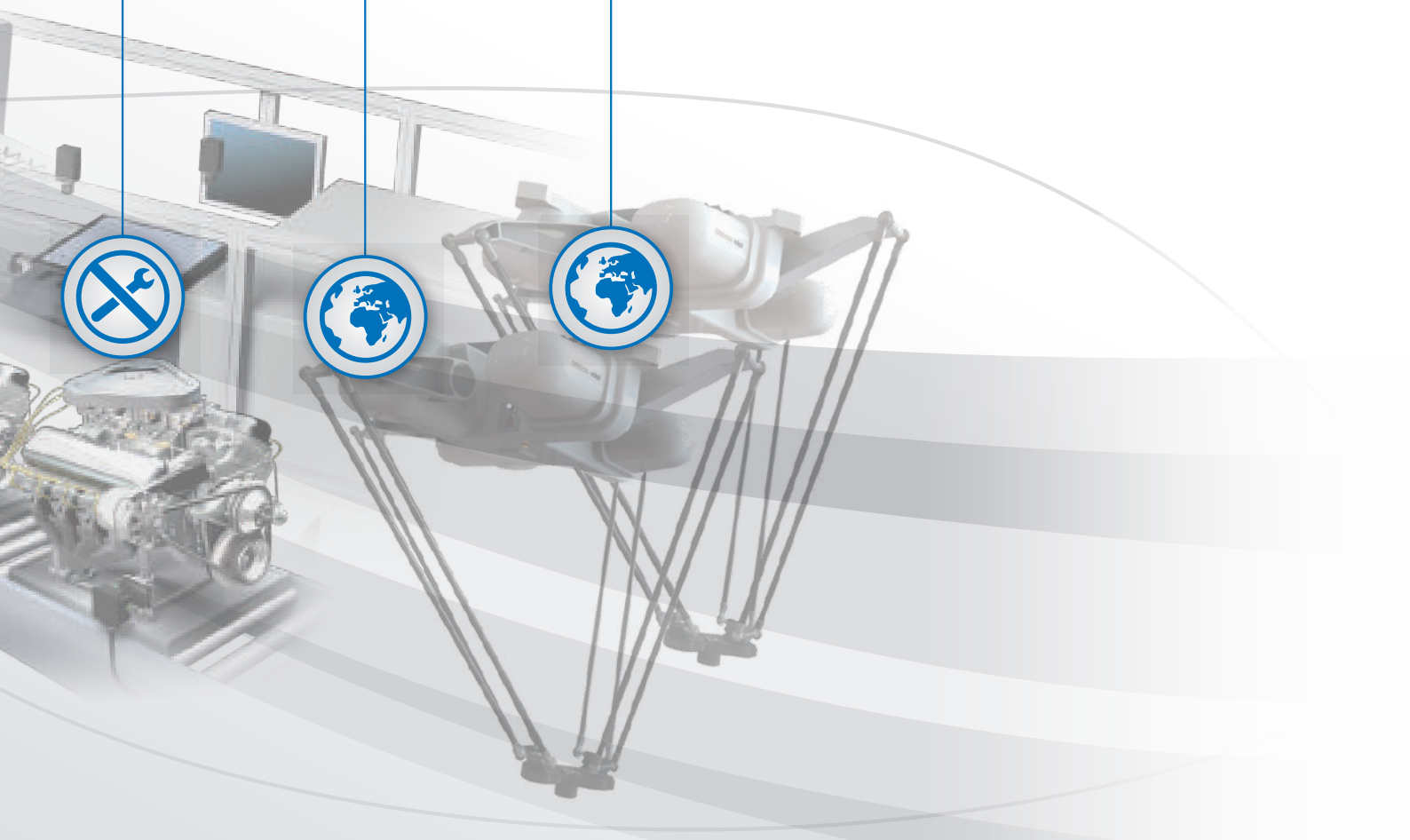
Flexibility

- 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.

NJ/NX series

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.



NY series

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





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 EtherNet/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

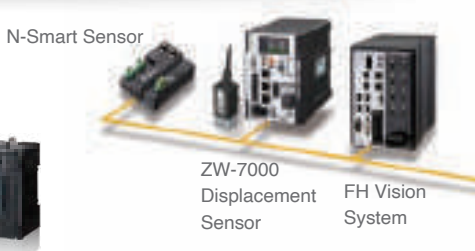
The CP Series provides a complete product line-up to automate compact machines and perform any other simple automation tasks, quickly and easily. Connect the HMI, servo drives, inverters, temperature controllers and other devices to create a more cost-effective system.



*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

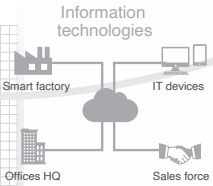






The Machine Automation Controller integrates logic, motion, safety, vision, information, visualization and networking under one software: Sysmac Studio.





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

- Built-in international standard (IEC 62541) OPC UA communication functionality (NX701-□□□□, NX502-□□□□, NX102-□□□□, NJ501-1□00)
- 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

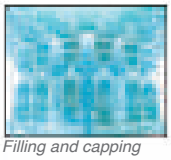
Safety integration

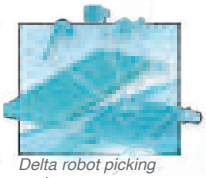
- Flexible system lets you integrate safety into machine automation through the use of Safety over EtherCAT (FSoE). Sysmac Studio reduces programming time

CPU Unit with advanced functionality

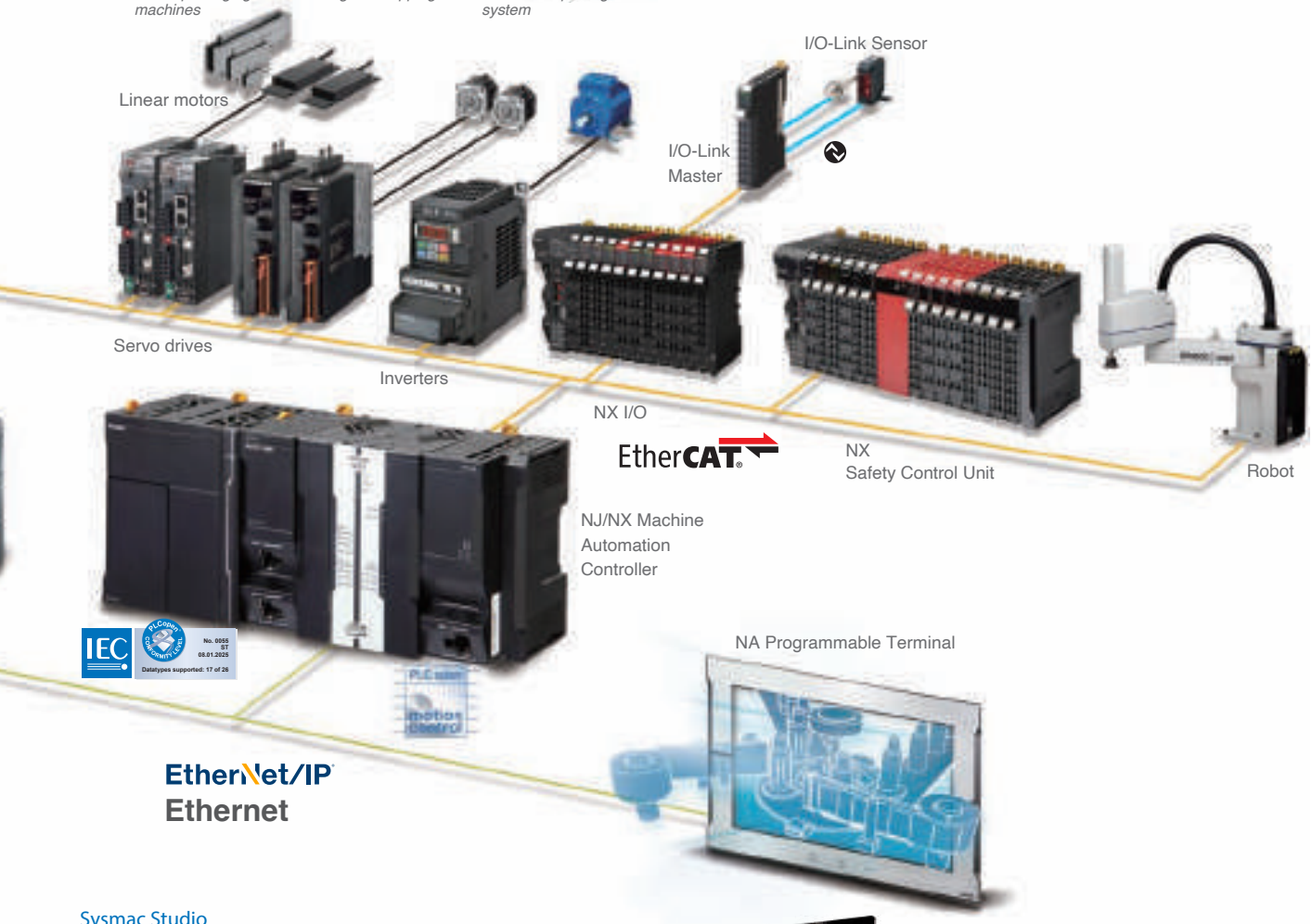
- Database Connection: Logs real-time data from production lines directly into SQL Databases. This enables predictive/preventive maintenance and quality traceability
- Robot Integrated CPU Unit: Integration of Logic, Motion, OMRON Robot and Kinematics in one CPU.
- SECS/GEM: Built-in SECS/GEM communications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


Blistar packaging machines


Filling and capping


Delta robot picking system

Make Flexible & Innovative



Sysmac Studio

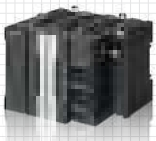
- Integrates configuration of the NJ/NX Machine Automation Controller and EtherCAT slaves, programming, debugging, and monitoring


Sysmac Studio

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/

What's new



Integrated control, information, and safety brings a new level of speed to manufacturing sites: NX5

- Controls 32 axes with cycle time of 250 µs
- Used motion control servo axes : 256, 128, 64, 32, 16 axes
- Program capacity : 80 MB
- SQL functionality : Reliable, rapid, and easy direct access to databases and utilization of production data
- OPC UA functionality : Secure connection to IT systems such as MES and ERP
- 10 x 1 Gbps ports for high-speed, high-capacity communications *1

*1. When connecting four NX-EIP201 units



NJ/NX Series Controller Catalog
· P089

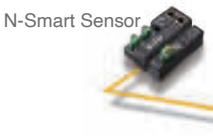
NX502_NX-201
· P158

Openness meets Automation Control

NY series



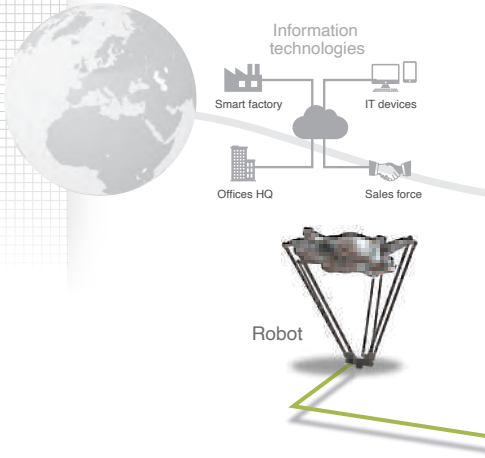




Omron's Industrial PC Platform includes the Industrial Box PC, Industrial Panel PC, and Industrial Monitor.Choose from three different types of products to suit your system.

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/

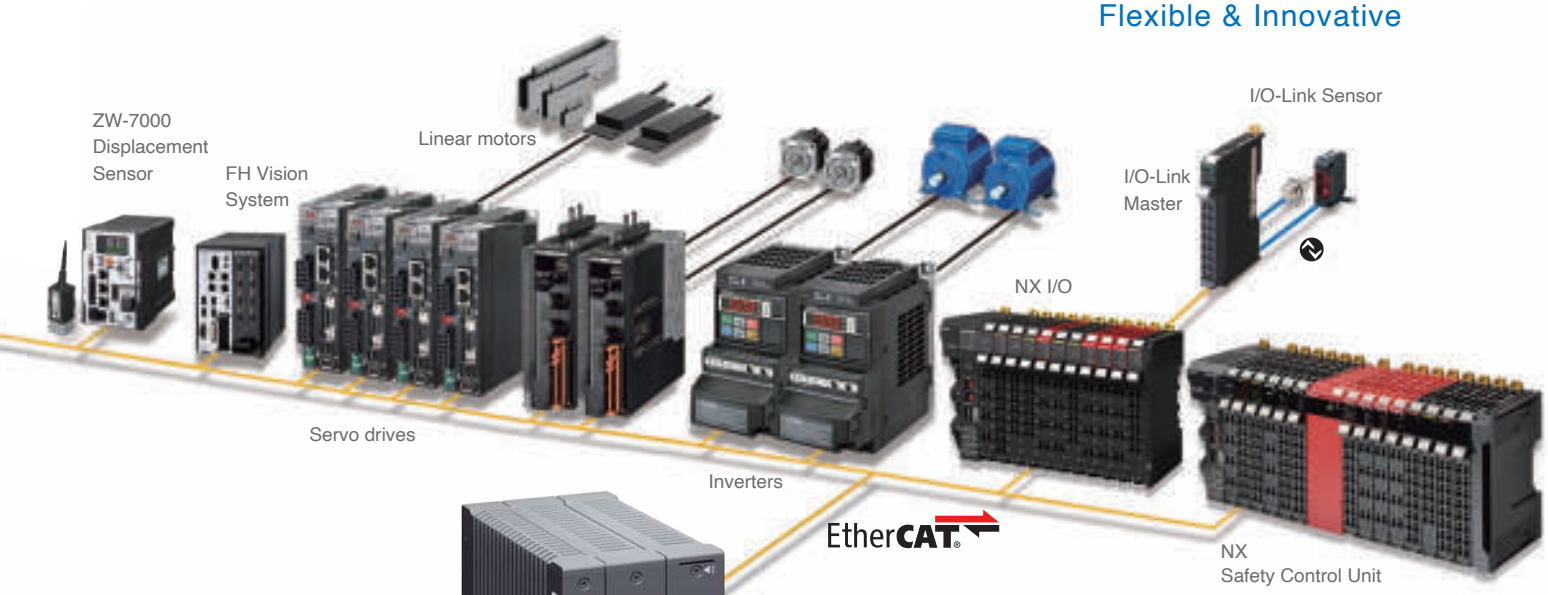
Sysmac Library

Based on Intel® Xeon® processors



Industrial Box PC

Make
Flexible & Innovative

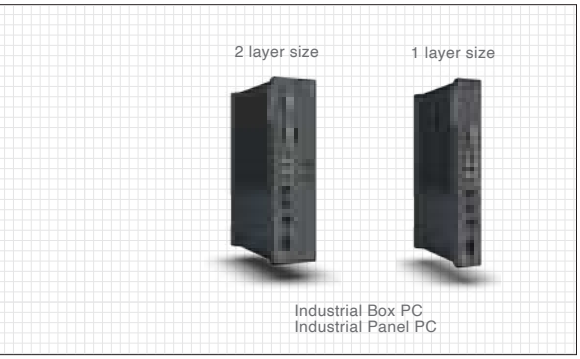




Blistar packaging machines

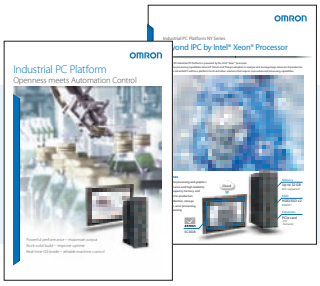
Filling and capping

Delta robot picking system



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/CK5M



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/CK5M 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.

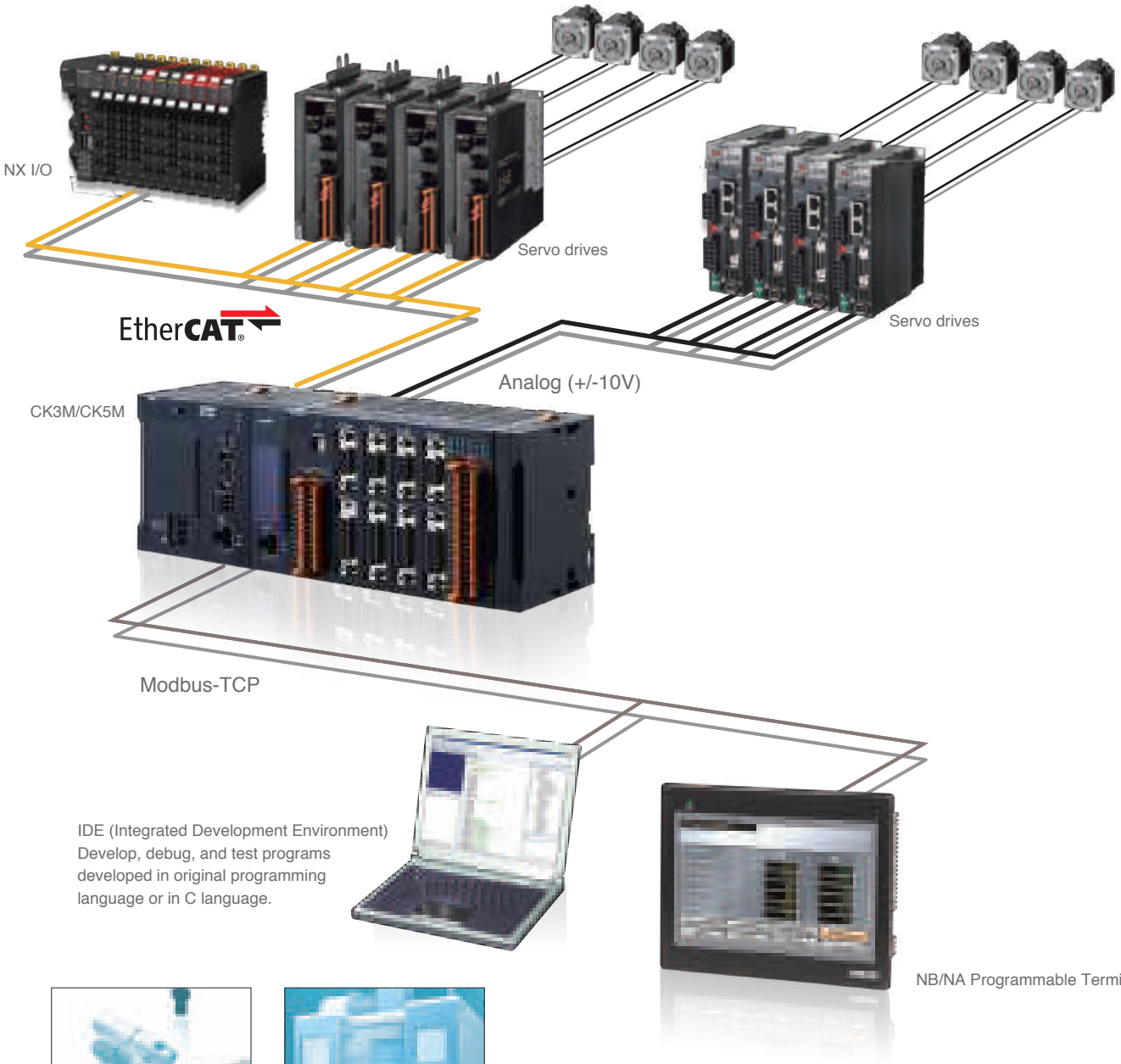
CK3E Programmable Multi-Axis Controller

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.

Programmable Multi-Axis Controller

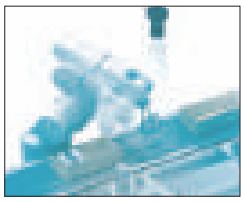
The Programmable Multi-Axis Controller has been developed by US-based Delta Tau Data Systems, Inc. to deliver the world's highest level* of motion control performance.Providing the high-speed processing capability to perform precise linear motor drive control and nanometer positioning that require ultra fast responses, the Programmable Multi-Axis Controller is appreciated by manufacturers of semiconductor manufacturing equipment and other products employing leading-edgetechnologies.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



IDE (Integrated Development Environment)
Develop, debug, and test programs developed in original programming language or in C language.

NB/NA Programmable Terminal



SCARA robot pick and place



Electronic manufacturing equipment

CK3M Programmable Multi-Axis Controller Catalog
R196

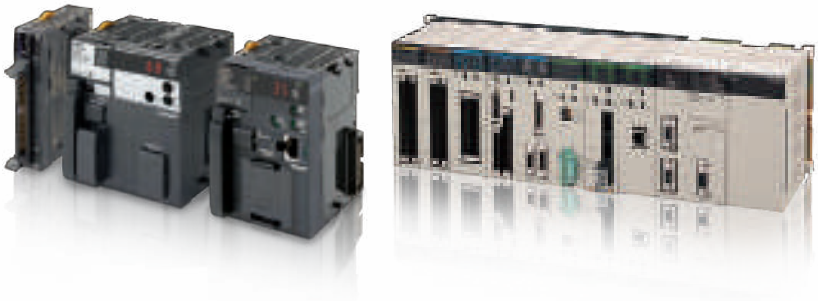
CK3E Programmable Multi-Axis Controller Flyer
R188

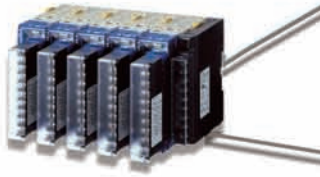


A wide range of PLC and I/O brings innovation to your machines and reduces costs

Faster and larger networks, a wide variety of communication interfaces

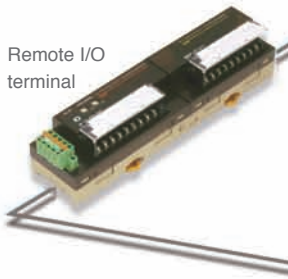
CS/CJ series





Temperature controller

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.



Remote I/O terminal

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

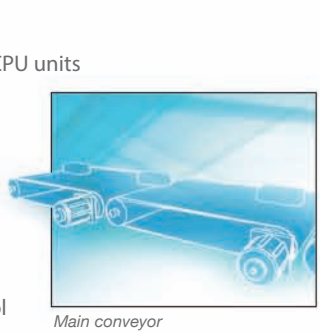
DeviceNet
CompoNet

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



Main conveyor



Film Feeder

High-speed

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

Highly flexible

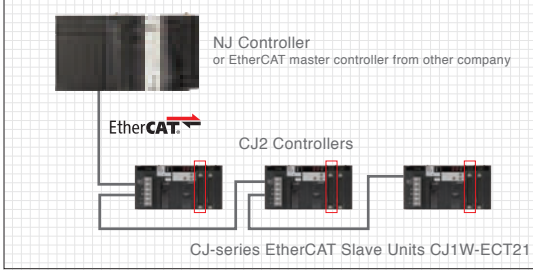
- Adapt the PLC unit to your needs with the wide variety of compatible CJ1 I/O Units

Pick up

CJ-series EtherCAT Slave Unit

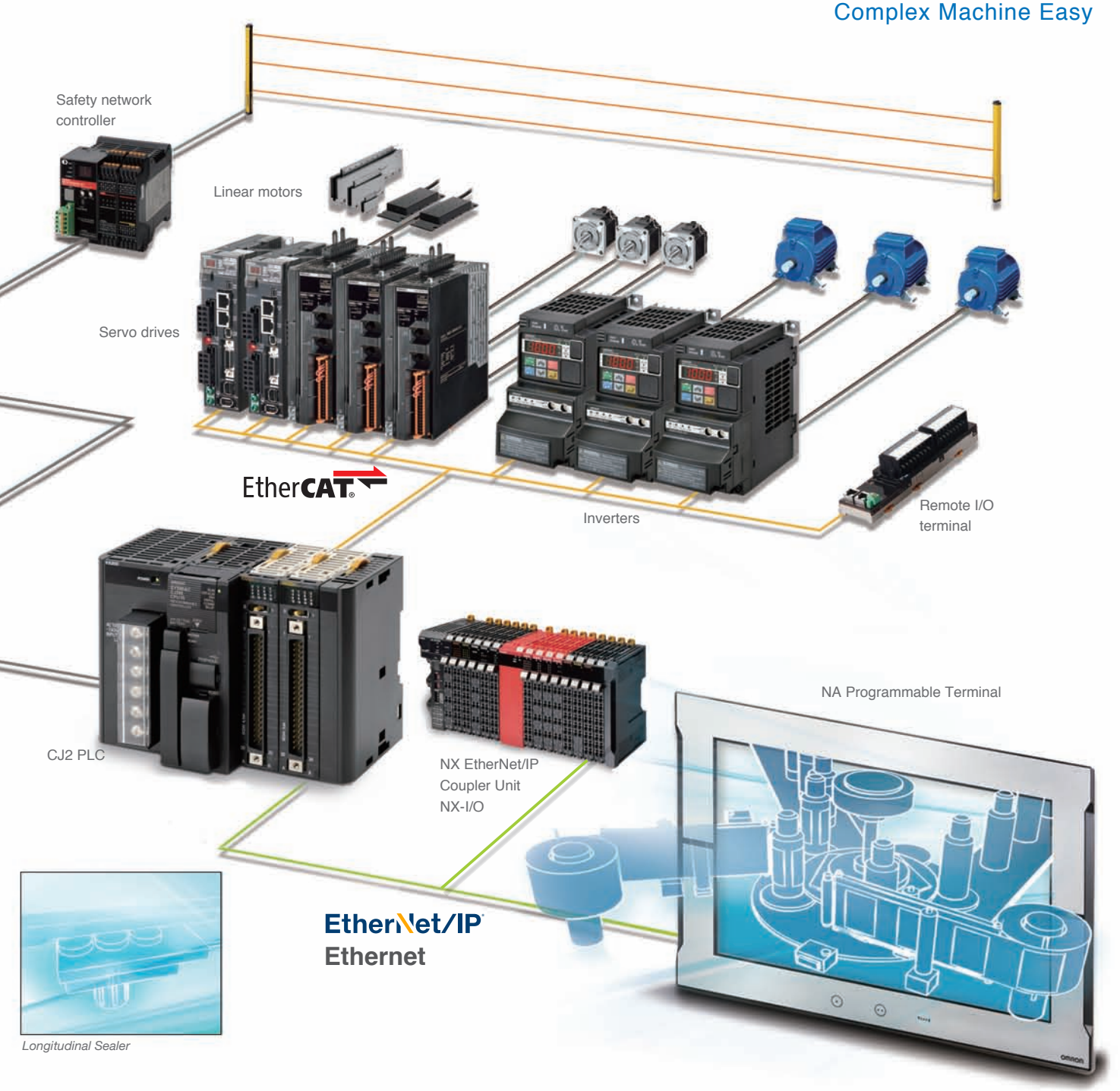
High-speed I/O link

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



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

Make
Complex Machine Easy

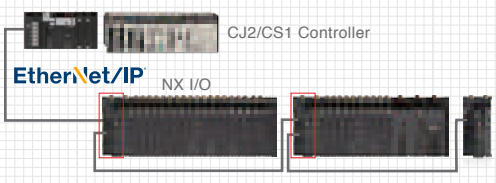


Longitudinal Sealer

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.

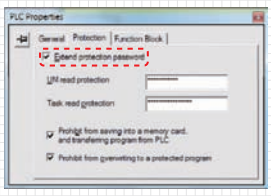


EtherNet/IP Coupler Units NX-EIC202

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

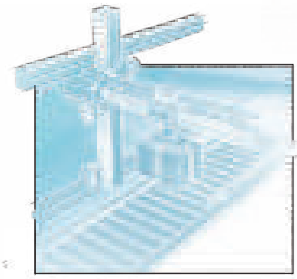
- Ladder diagram, Function Blocks or Structured Text programming

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



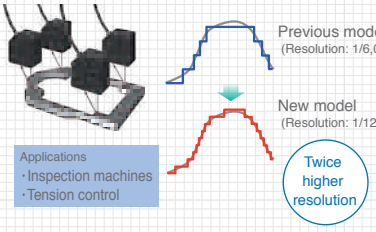
Palletizer

Pick up

Analog I/O Unit

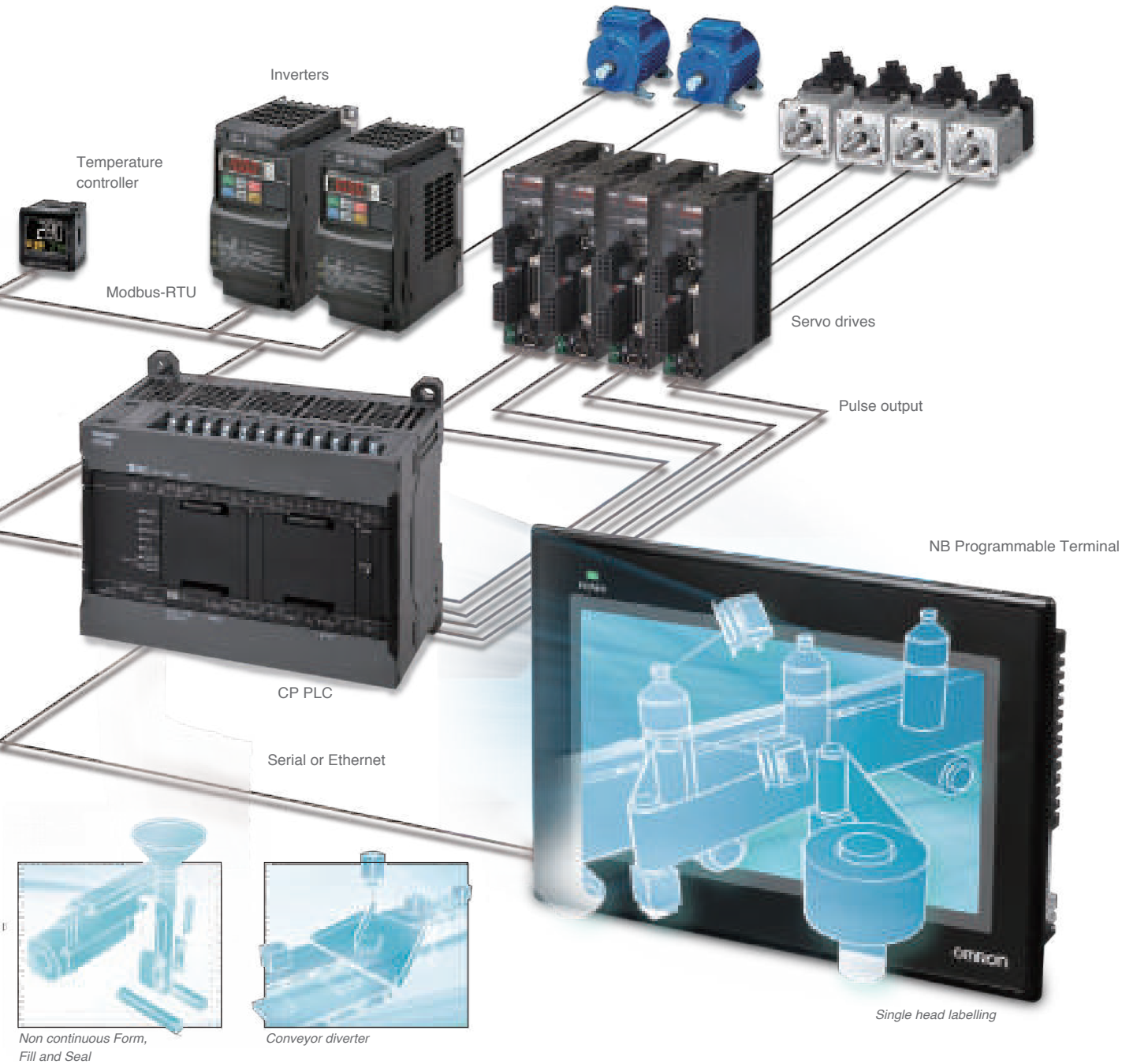
Improve control/inspection accuracy

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

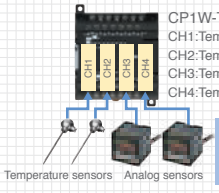
Make
Complex Machine Easy



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.



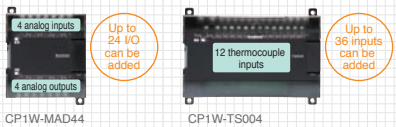
CP1W-TS003
CH1:Temperature sensor input
CH2:Temperature sensor input
CH3:Temperature sensor/analog input
CH4:Temperature sensor/analog input

Applications
・Vacuum packaging machines
・Sterilization equipment

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.



Applications
・Molding machines・Ovens



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	NX502 CPU Units	NX102 CPU Units	NX1P2 CPU Units
Model			NX701-□□□□	NX502-□□□□	NX102-□□□□	NX1P2 -□□□□
Appearance						
Specifications	CPU Unit features		Ideal for large-scale, fast, and highly-accurate control with up to 256 axes	Ideal for large-scale, fast,and highly-accurate control with up to 256 axes. Used with NX-EIP201 to configure up to 10 EtherNet/IP networks.	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	0.53 ns or more	3.3 ns	3.3 ns
		Math instructions (for long real data)	3.2 ns or more	3.3 ns or more	70 ns or more	70 ns or more
	Program capacity		80 MB	80 MB	5 MB	1.5 MB
	Variables capacity		4 MB: Retained during power interruptions 256 MB: Not retained during power interruptions	4 MB: Retain attributes 256 MB: No Retain attributes	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 63 NX I/O Units connectable	--- 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	16, 32, 64, 128, 256	0, 2, 4, 8 *1	0, 2, 4 *1
	EtherCAT slaves		512	256	64	16
	Number of controlled robots		---	---	---	---
	Number of controlled OMRON robots		---	---	---	---
Functions	Database connection		Provided (NX701-1□20)	Provided	Provided (NX102-□□20)	---
	SECS/GEM communications functions		---			
	Numerical Control (NC) functions		---			
External memory			Memory Cards			
CJ Special I/O Units and CPU Bus Units			---			

*1. Motion control axes and 4 single-axis position control axes.
*2. The number of robots that can be controlled depends on the number of axes used in the system.
*3. The number of controlled axes of the MC Control Function Module is included.
*4. For the details of mountable Units, refer to the user's manuals.

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 *3	4, 8	0, 2	
192						192	64	
---	8 robots max. *2	8 robots max. *2	---			---	---	
---	8 robots max.	---	---			---	---	
---	Provided (NJ501-R□20)	Provided (NJ501-4320)	Provided	---		---	---	Provided
---				Provided	---	---		
---					Provided	---		
Memory Cards								
Mountable *4								

Industrial PC Platform

Product name	Industrial PC		IPC Machine Controller	
Type	Industrial Box PC	Industrial Panel PC	Industrial Box PC	Industrial Panel PC
Model	NYB	NYP	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	Two operating systems: Windows and Real-Time OS	
Operating system	No operating system Windows 10 IoT Enterprise 2016 LTSB - 64 bit Windows 10 IoT Enterprise 2019 LTSC - 64 bit Windows 10 IoT Enterprise 2021 LTSC - 64 bit		Windows 10 IoT Enterprise 2019 LTSC - 64 bit	
Function module	---		Machine Automation Control Software	
Number of axes	---		16, 32, 64	
CPU type	Intel® Xeon® W-11865MRE 11th generation CPU with Fan Unit for active cooling Intel® Core™ i7-1185GRE 11th generation CPU with Fan Unit for active cooling Intel® Core™ i5-1145GRE 11th generation CPU with Fan Unit for active cooling Intel® Core™ i5-1145GRE 11th generation CPU with fanless cooling Intel® Core™ i3-1115GRE 11th generation CPU with fanless 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 with fanless cooling	Intel® Core™ i5-1145GRE 11th generation CPU with fanless cooling Intel® Core™ i3-1115GRE 11th generation CPU with fanless cooling Intel® Atom® x6425RE with fanless 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 with fanless cooling	Intel® Core™ i5-7440EQ Processor 7th generation CPU with Fan Unit for active cooling Intel® Core™ i7-4700EQ Processor 4th generation CPU with Fan Unit for active cooling *3	
RAM memory	8 GB, 16 GB, 32 GB, 64 GB, 96 GB (ECC supported) *1 2 GB, 4 GB, 8 GB, 16 GB, 32 GB, 64 GB, 96 GB (non ECC)	2 GB, 4 GB, 8 GB, 16 GB, 32 GB, 64 GB (non ECC)	8 GB, 32 GB (non-ECC type)	
Storage	HDD, SSD, CFast, SD memory card *2		HDD, SSD, SD memory card	
Display size	---	12.1 inches, 15.4 inches, 18.5 inches	---	12.1 inches, 15.4 inches
Built-in ports	Ethernet, USB 2.0/3.0/3.1 Gen1, DVI, DisplayPort++ *2		Ethernet, EtherNet/IP, EtherCAT, USB 2.0/3.0, DVI	
Interface option	RS-232C, DVI-D, NY Monitor Link, GigE LAN, DisplayPort++ *2	RS-232C, DVI-D, NY Monitor Link, DisplayPort++ *2	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. 11th generation CPU: Equipped with DisplayPort (Dual mode: DP++) instead of DVI, but no SD Memory Card slot.
*3. Not recommended for new projects.

Product name	Industrial Monitor		
Model	NYM12	NYM15	NYM19
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/CK5M Series	
Model	CK3M	CK5M
Appearance		
Features	Controls analog servo drives at high speeds of up to 50 µs/5 axes, enabling high-precision processing	Controls analog servo drives at high speeds of up to 25 µs/5 axes, enabling high-precision processing
Support software	Power PMAC IDE	Power PMAC IDE
Memory	RAM: 1 GB, Built-In flash memory: 1 GB	RAM: 2 GB, Built-In flash memory: 4 GB
Built-in ports	Ethernet, EtherCAT, USB	Ethernet, EtherCAT
Number of motion axes	24 (4 axes/axial interface unit x 4 units: 16, EtherCAT: 8)	64 (4 axes/axial interface unit x 8 units: 32, EtherCAT: 32)
Number of EtherCAT slaves	32	64

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	
Model		CJ2H	CJ2M	CS1H/G	CS1D
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	—	32 points *2	—	—
	Interrupt inputs	—	8 inputs *2	—	—
	High-speed counter	—	4 inputs *2	—	—
	Pulse outputs *1	—	4 outputs *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)

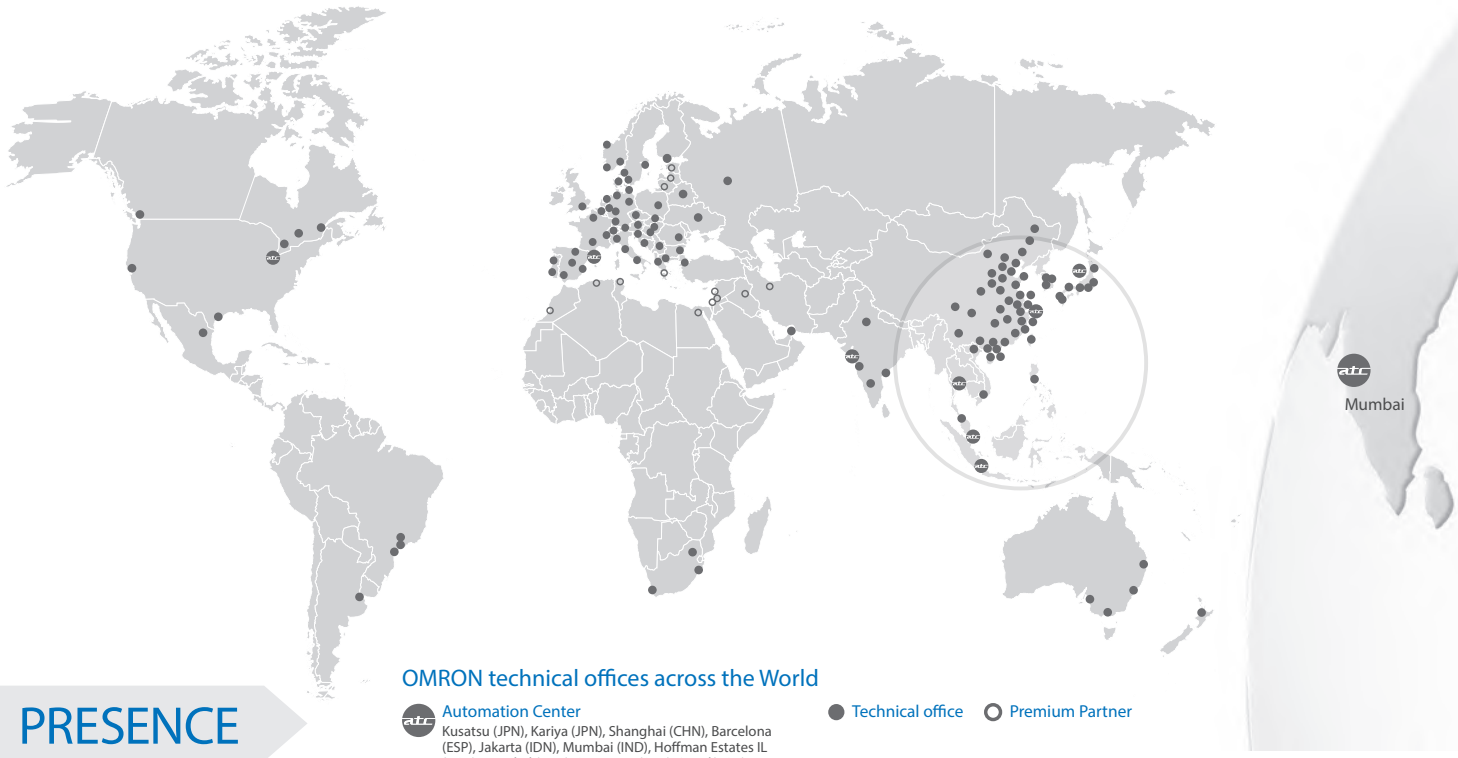
*1. These features are not supported by all of the CPU Unit models in the relevant series. Refer to specific product catalogs for details.
*2. Applicable when a Pulse I/O Block is mounted.

CP series

Series		CP Series		
Model		CP1H	CP1L	CP2E
Appearance				
CPU Unit features *		Four axis position control and comprehensive model	High performing model with embedded Ethernet for two axis position control	A network model equipped with an Ethernet port and an essential model for basic control are available.
		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)	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	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
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



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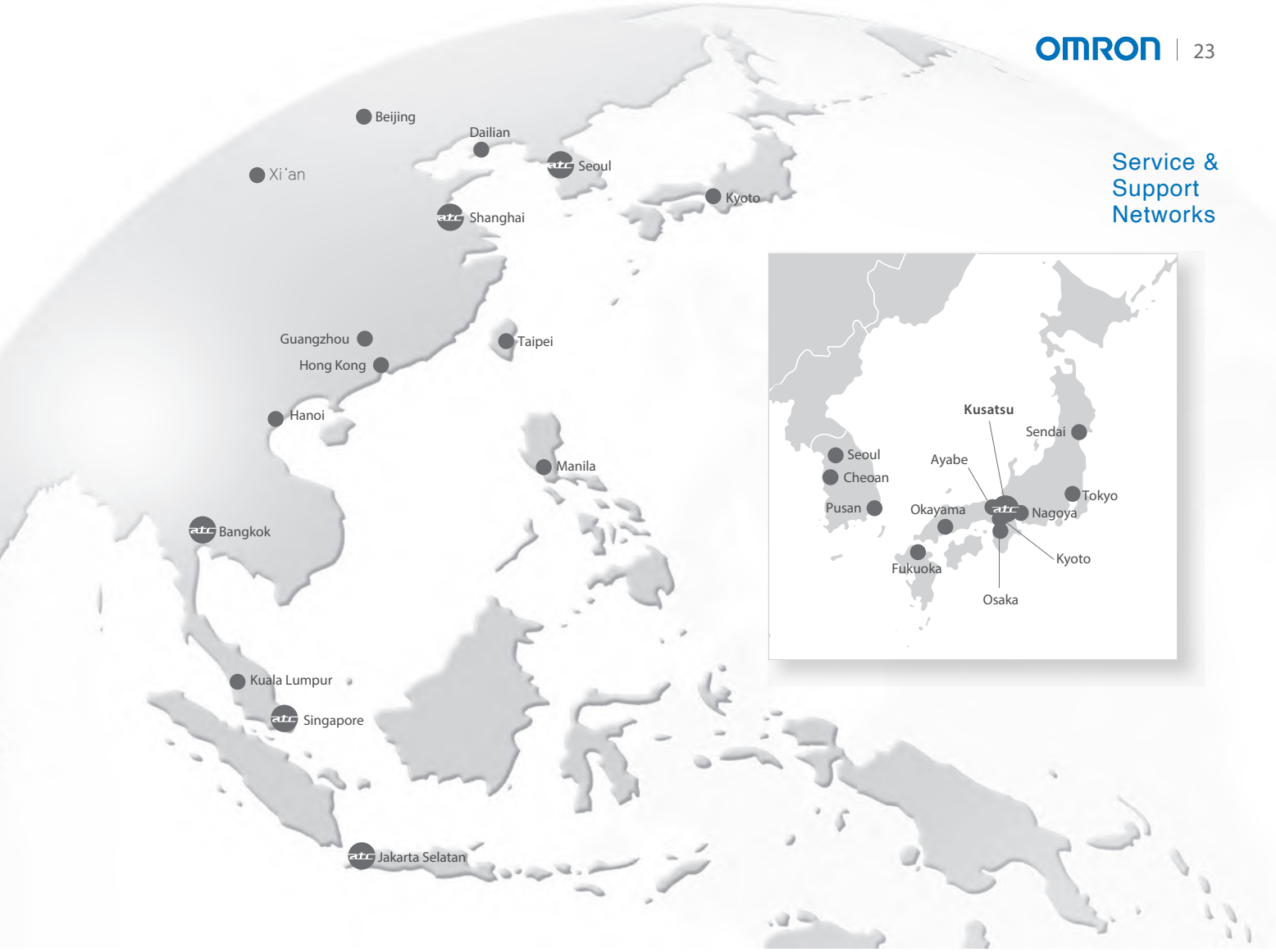

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OMRON Corporation **Industrial Automation Company**

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 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 ASIA PACIFIC PTE. LTD.
438B Alexandra Road, #08-01/02 Alexandra
Technopark, Singapore 119968
Tel: (65) 6835-3011 Fax: (65) 6835-3011

OMRON (CHINA) CO., LTD.
Room 2211, Bank of China Tower,
200 Yin Cheng Zhong Road,
PuDong New Area, Shanghai, 200120, China
Tel: (86) 21-6023-0333 Fax: (86) 21-5037-2388

Authorized Distributor:

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