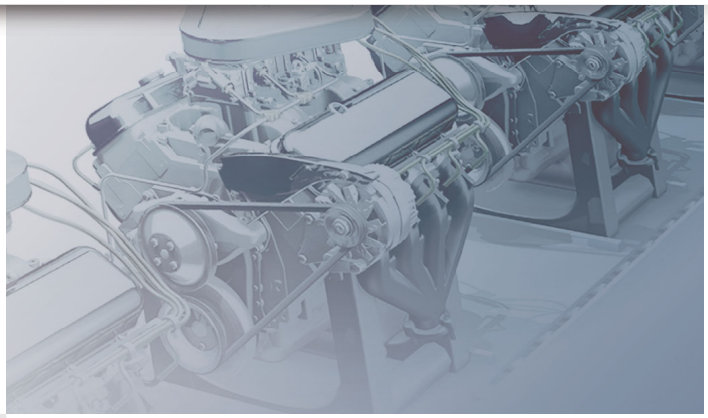
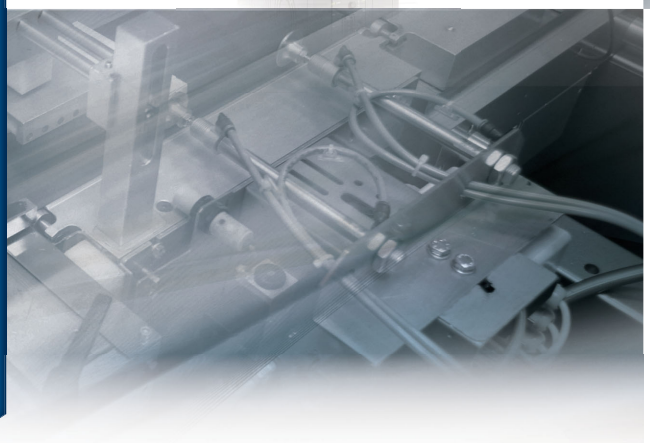
OMRON

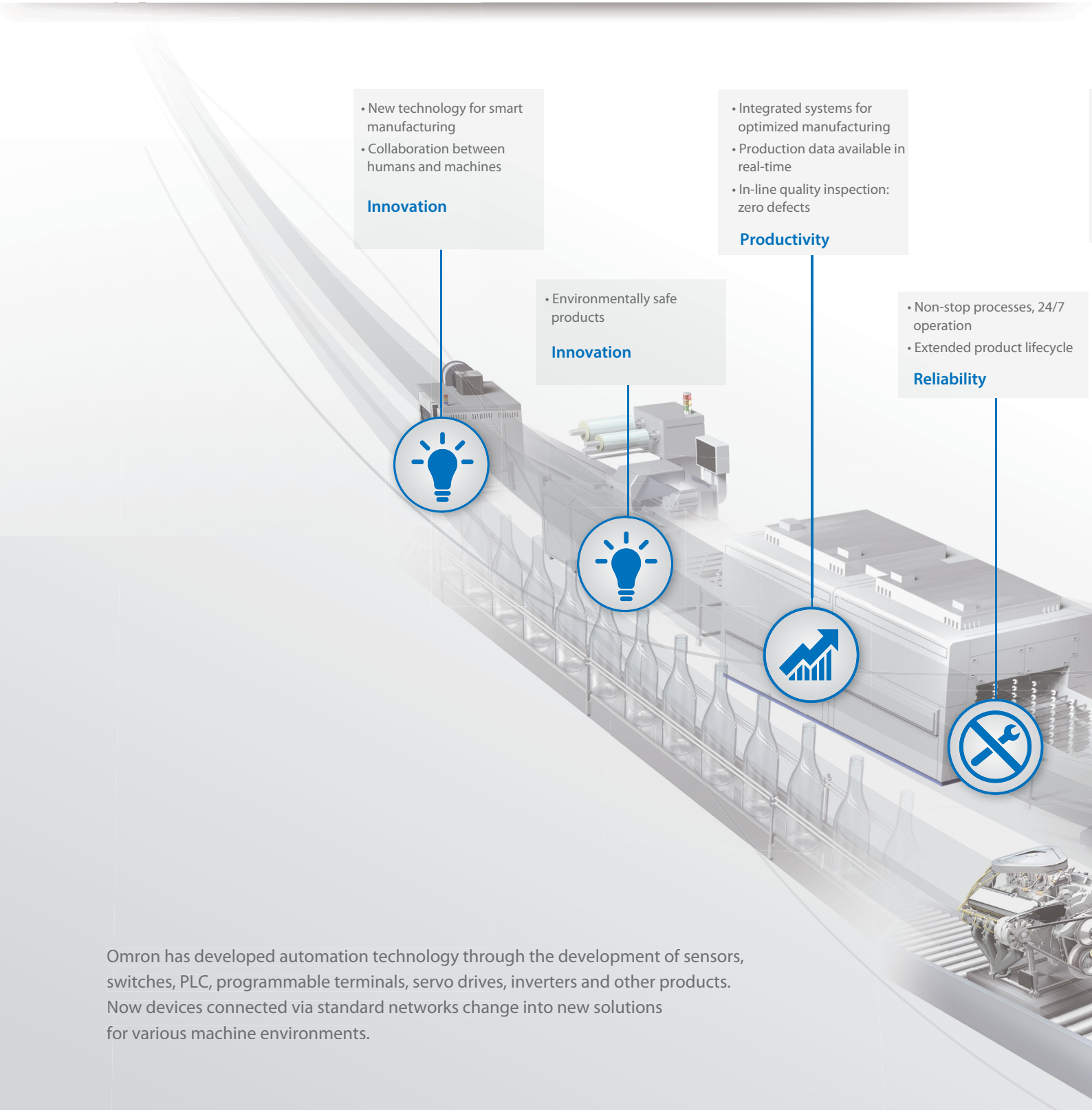
FA Controller Catalog





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

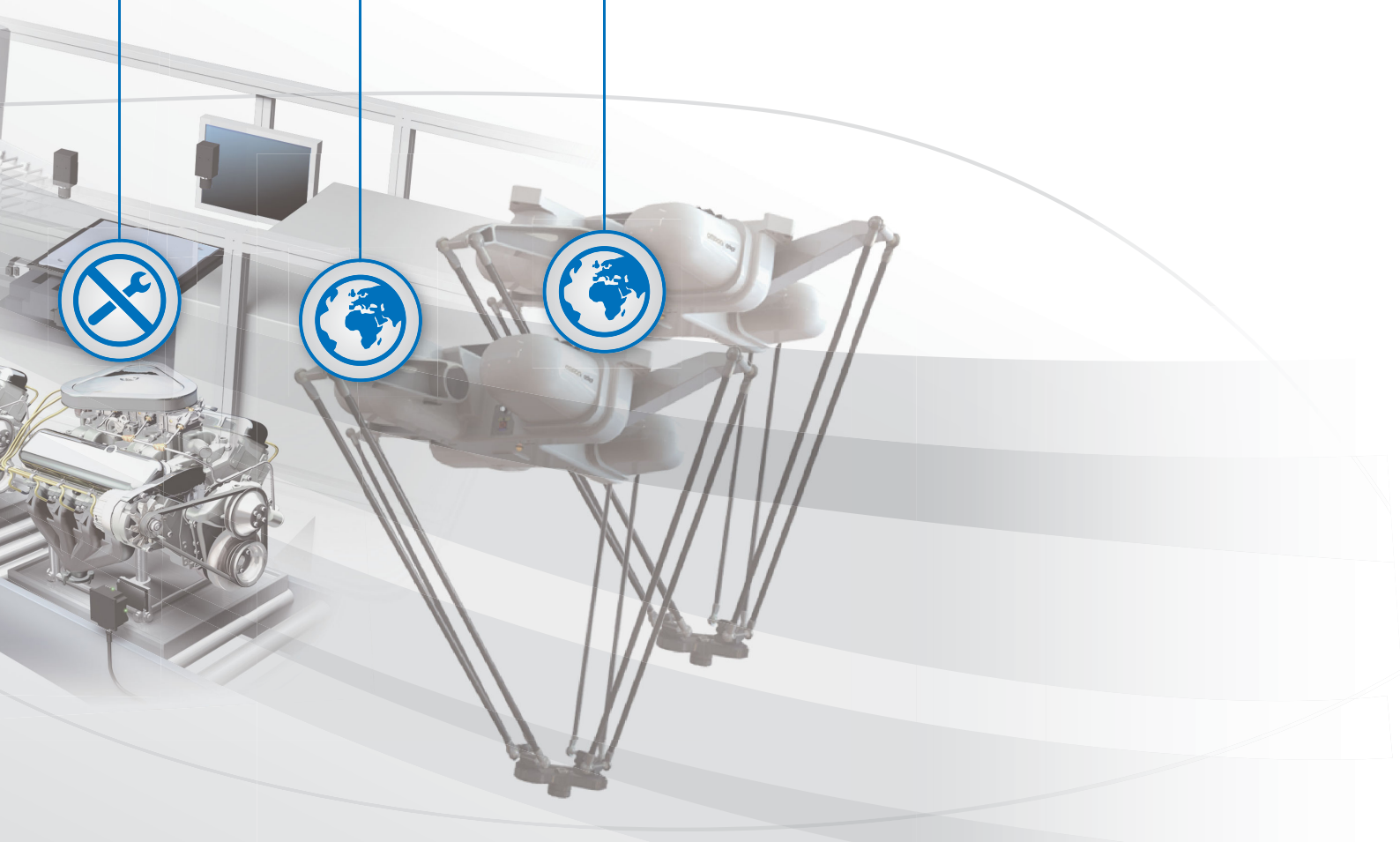
Flexibility

- 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 four 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
- IPC Programmable Multi-Axis Controller performs predictable motion control while running intensive data-handling applications

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

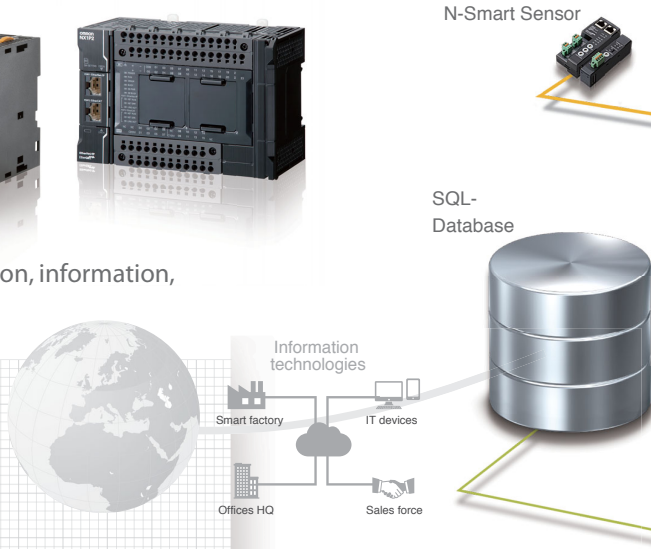
This series supports a wide variety of communication interface including EtherNet/IP™.
The FA Integrated Tool Package CX-One makes programming and debugging faster and easier. The PLC is suitable for small to medium machines - from simple stand-alone applications up to networked, high-speed machines. 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 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

NJ 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
- Robotics: Controls parallel link robots
- SECS/GEM: Built-in SECS/GEM communications functions

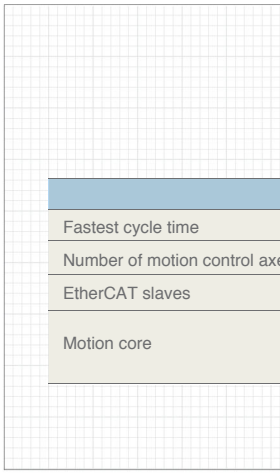
IPC Programmable Multi-Axis Controller

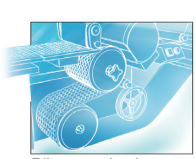
- Advanced motion control and networks for onsite IoT in a compact entry modelRobotics: Controls parallel link robots
- Built-in I/O. Up to 8 NX Units can be mounted

NX1P2 Machine Automation Controller

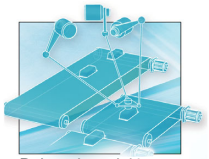
- Advanced motion control and networks for onsite IoT in a compact entry model
- Built-in I/O. Up to 8 NX Units can be mounted

What's new

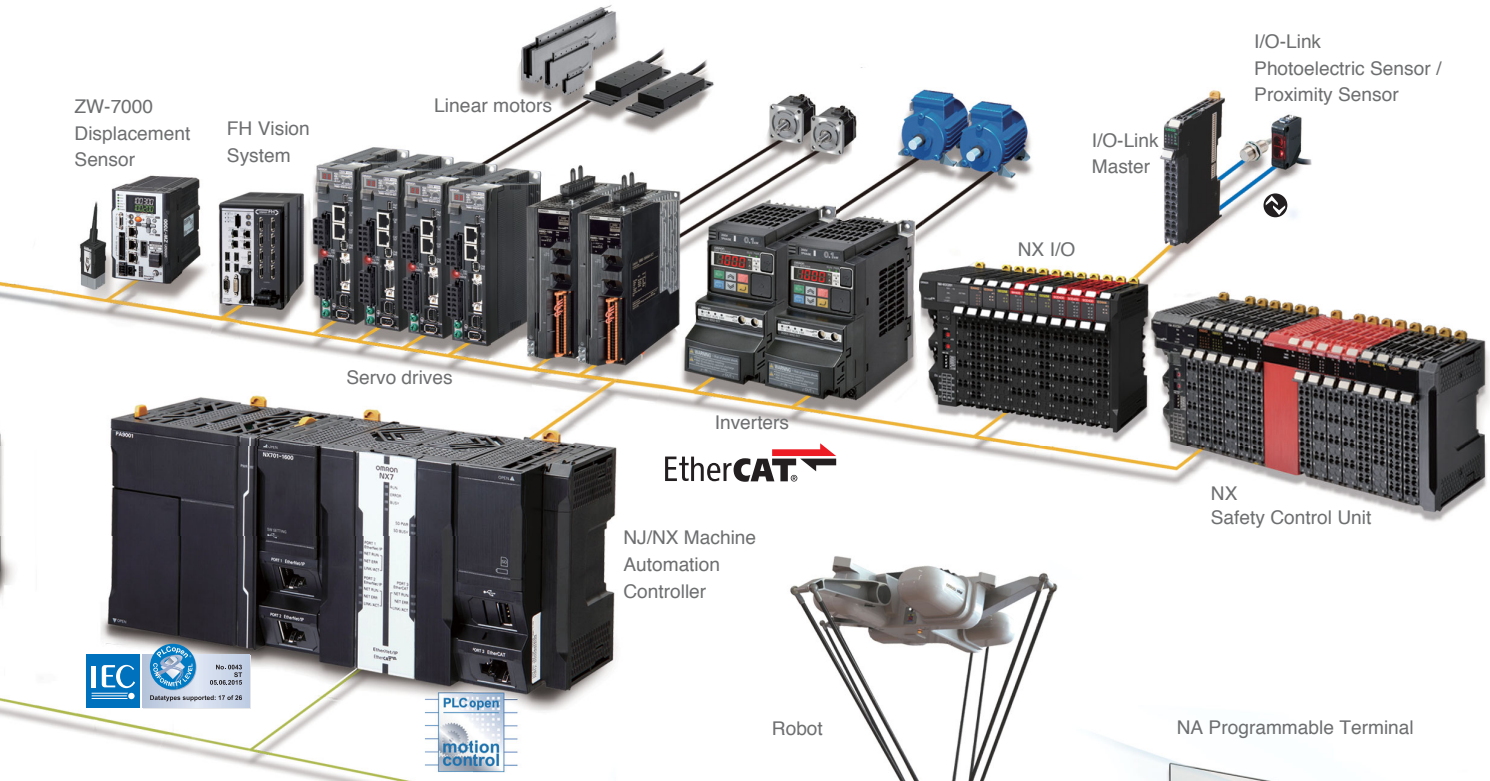



Blistar packaging machines


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/

Enhanced scalability.Choose the most suitable CPU for your application!

	NX7	NJ5	NJ3	NJ1	NX1P
	125 µs	500 µs	500 µs	1 ms	2 ms
es	256, 128 axes	64, 32 16 axes	8, 4 axes	2, 0 axes	4, 2, 0 axes*
	512	192	192	64	16
	Two synchronized motion core	Synchronized motion core	Synchronized motion core	Synchronized motion core	Synchronized motion core

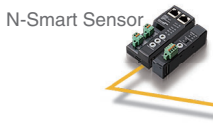
Note: Refer to NJ/NX Catalog (Cat. No.P089) and NX1P Datasheet (Cat. No.P116).
∗ Motion control axes and 4 single-axis position control axes.

Sysmac Concept Book
·P079

Sysmac Integrated Catalog
·P072

Openness meets Automation Control

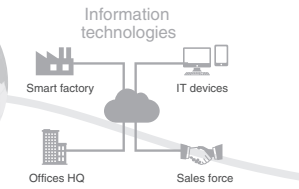
NY series

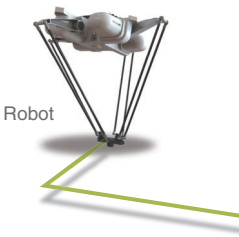


Omron's Industrial PC Platform includes the Industrial Box PC, Industrial Panel PC, and Industrial Monitor.Choose from four different types of products to suit your system.

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

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

IPC Programmable Multi-Axis Controller

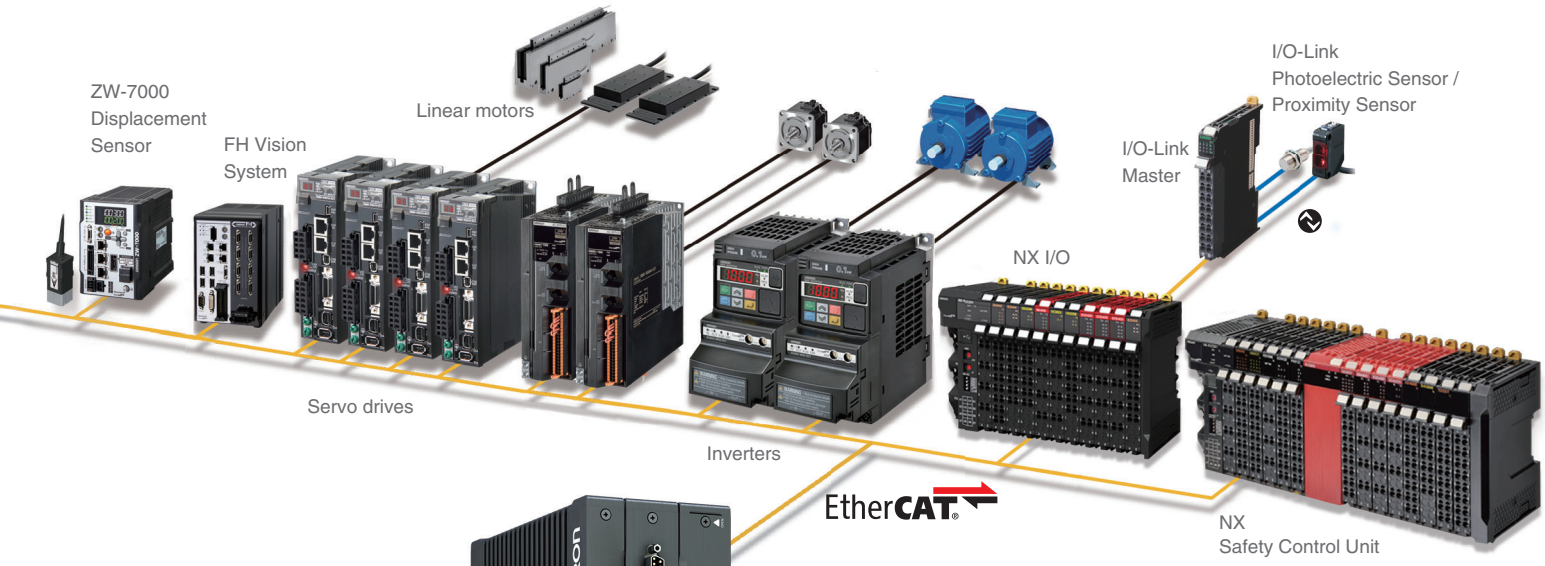
- Offers exceptionally precise motion control, with proven technology from Omron's Delta Tau Data Systems, Inc., delivering world-beating*1 output speeds. It comes equipped with Windows real-time operating systems which, combined with powerful control capability, provides exceptional flexibility. It also enables the creation of high-resolution graphics as well as customized applications for high-end production requirements.

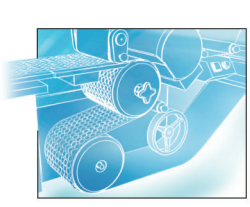
What's new

Industrial Box PC

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

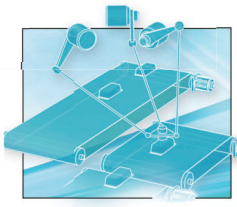
Make
Flexible & Innovative





Blistar packaging machines

Filling and capping



Delta robot picking system

Industrial Panel PC

Industrial Monitor

Industrial PC Platform Catalog

·P118

High-speed, high-precision motion controller

Programmable
Multi-Axis Controller

Programmable
Multi-Axis Controller
CK3E

Industrial PC Platform
IPC Programmable
Multi-Axis Controller
NY51□-A

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. Its development environment allows users to program their own motion algorithms and motion control functions, such as trajectory calculation and position compensation, in C and original programming languages.

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

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.

Industrial PC Platform IPC Programmable Multi-Axis Controller

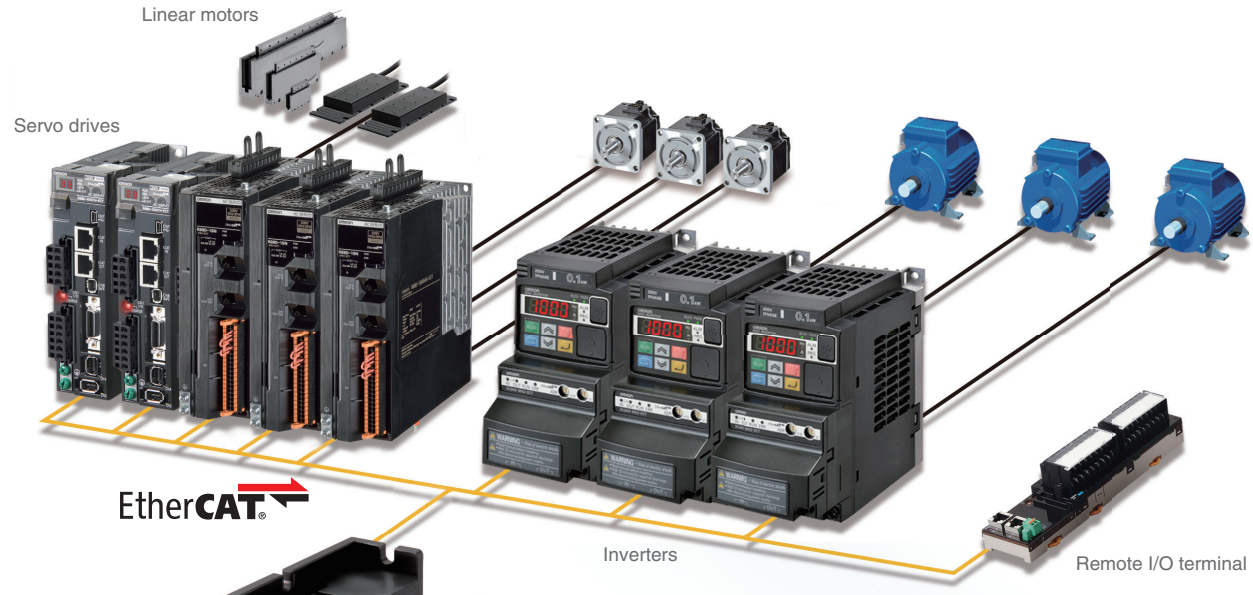
Comes equipped with Windows real-time operating systems which, combined with powerful control capability, provides exceptional flexibility. It also enables the creation of high-resolution graphics as well as customized applications for high-end production requirements.

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-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



CK3E

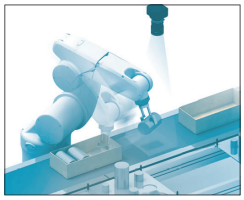
IDE (Integrated Development Environment)
Develop, debug, and test programs developed in original programming language or in C language.

NB Programmable Terminal

RS-232C

Modbus-TCP

CP1L



SCARA robot pick and place

Electronic manufacturing equipment

CK3E Programmable Multi-Axis Controller Flyer
·R188

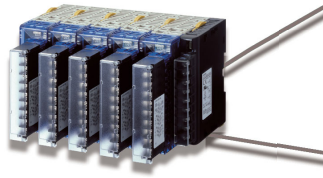
Industrial PC Platform Catalog
·P118

* 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

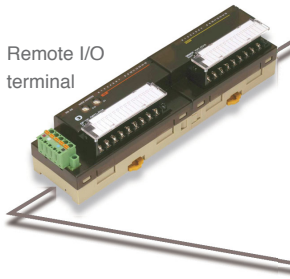
Faster and larger networks, a wide variety of communication interfaces

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

DeviceNet
CompoNet™

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

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

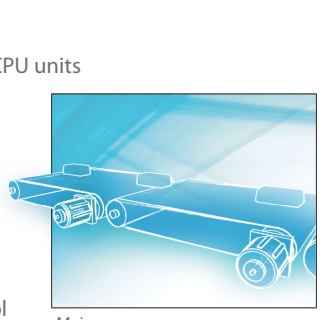
- Multi-axes synchronous control
- Can replace expensive motion controllers

High-speed

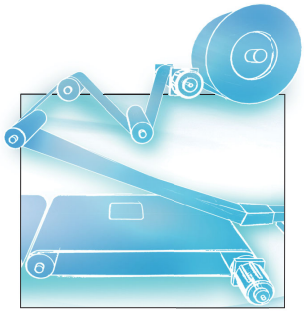
- Faster program execution and immediate I/O refreshing for flexible machine control

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.

NJ Controller
or EtherCAT master controller from other company

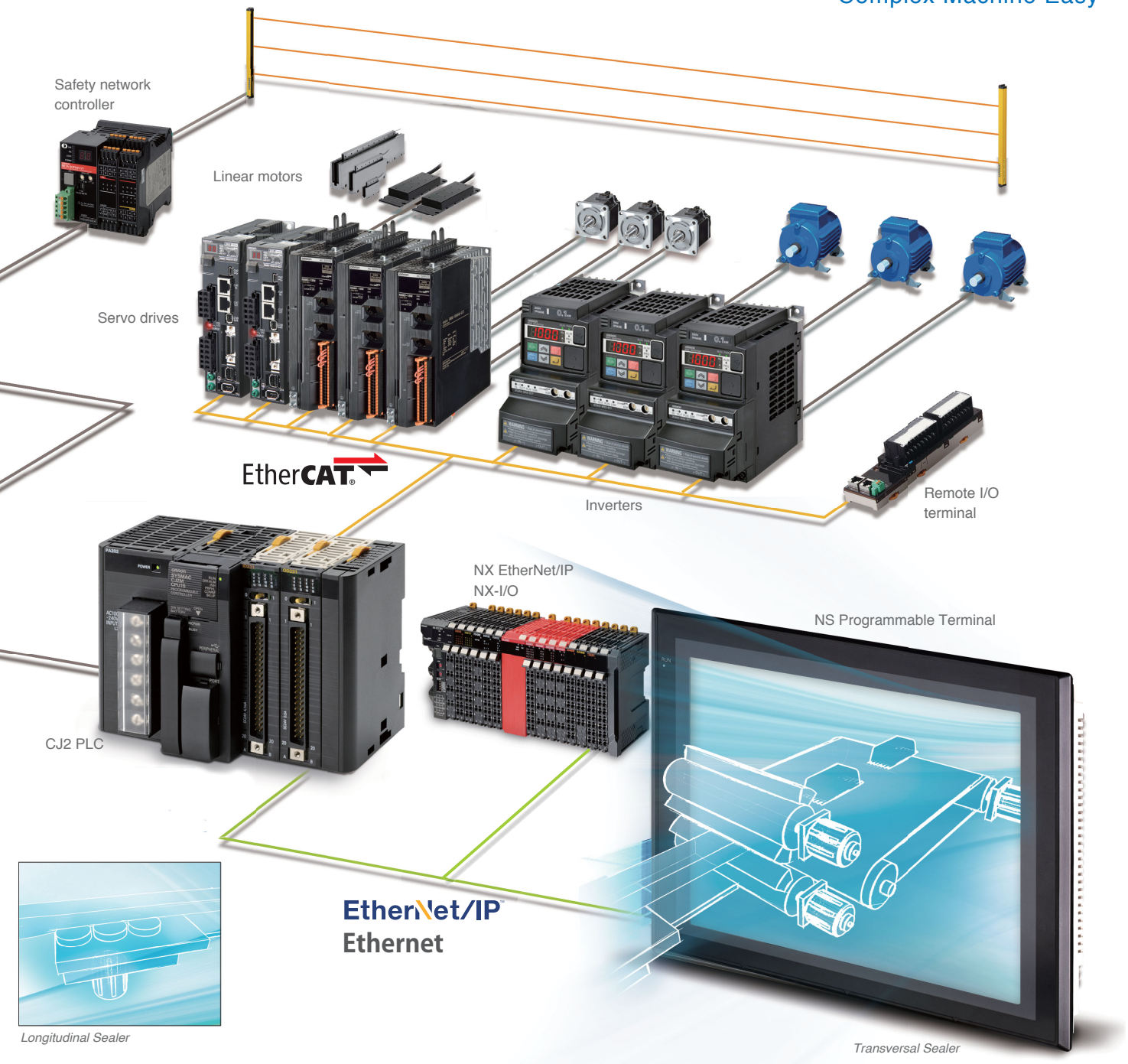
EtherCAT

CJ2 Controllers

CJ-series EtherCAT Slave Units CJ1W-ECT21

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

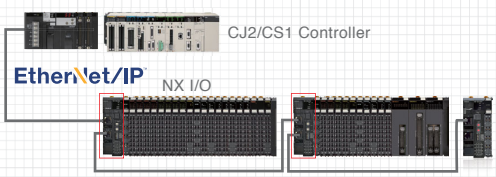
Make
Complex Machine Easy



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.

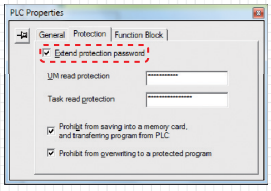


EtherNet/IP Coupler Units NX-EIC202

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 6 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

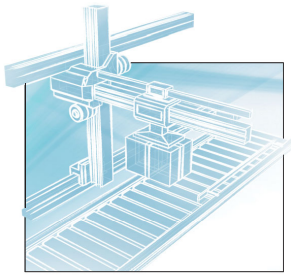
- Ladder diagram, Function Blocks*1 or Structured Text*1 programming

Versatile communication

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

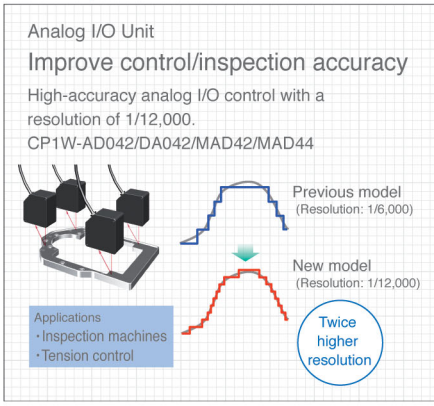
More options – greater possibilities!

- 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



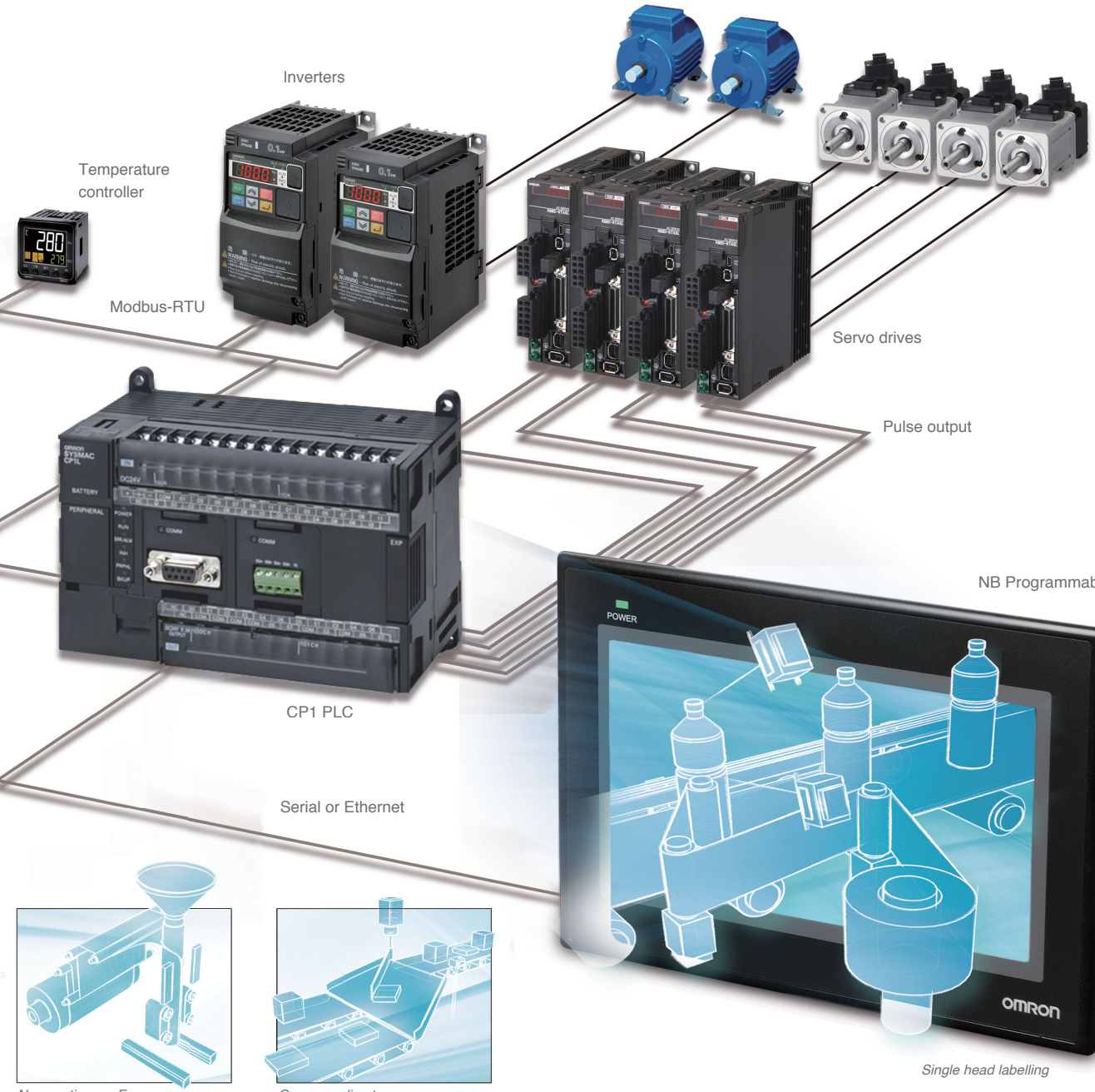
Palletizer

Pick up



*1. CP1H and CP1L only
*2. CP1L-EM/EL only.

Make
Complex Machine Easy



Non continuous Form, Fill and Seal

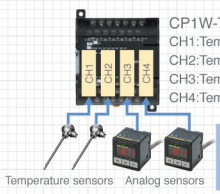
Conveyor diverter

Single head labelling

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.



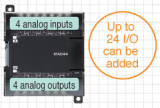
CP1W-TS003
CH1:Temperature sensor input
CH2:Temperature sensor input
CH3:Temperature sensor/analog input
CH4:Temperature sensor/analog input

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.



Up to 24 I/O can be added

CP1W-MAD44

Up to 36 inputs can be added

CP1W-TS004

Applications
・Molding machines・Ovens

CP1 Catalog
・P082
CP1E Catalog
・P060

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		NJ/NX Series			
Product name		NX701 CPU Units	NJ501 CPU Units	NJ301 CPU Units	NJ101 CPU Units
Model		NX701-□□□□	NJ501-1□□□	NJ301-1□□□	NJ101 -□□□□
Appearance					
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 64 axes	Ideal for small-scale control with up to eight axes	Ideal for simple machines
Support software		Sysmac Studio	Sysmac Studio	Sysmac Studio	Sysmac Studio
Instruction execution times	LOAD instructions	0.37 ns or more	1.1 ns (1.7 ns or less)	2.0 ns (3.0 ns or less)	3.3 ns (5.0 ns or less)
	Math instructions (for Long Real Data)	3.2 ns or more	24 ns or more	42 ns or more	70 ns or more
Program capacity		80MB	20MB	5MB	3MB
Variables capacity		4 MB: Retain attribute 256 MB: No Retain attribute	2 MB: Retain attribute 4 MB: No Retain attribute	0.5 MB: Retain attribute 2 MB: No Retain attribute	0.5 MB: Retain attribute 2 MB: No Retain attribute
I/O capacity/Max. no. of configuration Units (Expansion Racks)		—	2,560 points/40 Units (3 Expansion Racks)	2,560 points/40 Units (3 Expansion Racks)	2,560 points/40 Units (3 Expansion Racks)
Number of motion axes		128 or 256	16, 32 or 64	4 or 8	0 or 2
Number of EtherCAT slaves		512	192	192	64
Database connection		—	—	—	—
Number of controlled robots		—	—	—	—
SECS/GEM communications		—	—	—	—
External memory		Memory Cards	Memory Cards	Memory Cards	Memory Cards
CJ Special I/O Units and CPU Bus Units		—	Mountable *2	Mountable *2	Mountable *2

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		Windows Embedded Standard 7 - 32 bit Windows Embedded Standard 7 - 64 bit		Windows Embedded Standard 7 - 64 bit *	
Function module		—		Machine Automation Control Software	
Number of axes		—		16, 32, 64	
CPU type		Intel® Core™ i7-4700EQ Processor 4th generation CPU with Fan Unit for active cooling Intel® Core™ i5-4300U Processor 4th generation CPU with fanless cooling Intel® Celeron® 2980U Processor 4th generation CPU with fanless cooling		Intel® Core™ i7-4700EQ Processor 4th generation CPU with Fan Unit for active cooling	
RAM memory (non-ECC type)		2 GB, 4 GB, 8 GB		8 GB	
Storage		HDD, SSD, SD memory card		HDD, SSD, SD memory card	
Display size		—	12.1 inches, 15.4 inches	—	12.1 inches, 15.4 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		RS-232C, DVI-D	
Expansion slots		1 PCIe slot		1 PCIe slot	

* For the 32 bit version, consult your OMRON sales representative.

NJ/NX Series				
NX1P2 CPU Units	NJ-series Database Connection CPU Units		NJ-series Robotics CPU Units	NJ-series SECS/GEM CPU Units
NX1P2 -□□□□	NJ501-1□20	NJ101-□□20	NJ501-4□□□	NJ501- □□4 □
				
Compact package-type machine automation controller	Controller directly connectable to database		Parallel link robot control function in addition to machine control	Built-in SECS/GEM communications functions
Sysmac Studio	Sysmac Studio		Sysmac Studio	Sysmac Studio SECS/GEM Configurator
3.3 ns	1.1 ns (1.7 ns or less)	3.3 ns (5.0 ns or less)	1.1 ns (1.7 ns or less)	1.1 ns (1.7 ns or less)
70 ns or more	24 ns or more	70 ns or more	24 ns or more	24 ns or more
1.5MB	20MB	3MB	20MB	20MB
32 kB: Retain attribute 2 MB: No Retain attribute	2 MB: Retain attribute 4 MB: No Retain attribute	0.5 MB: Retain attribute 2 MB: No Retain attribute	2 MB: Retain attribute 4 MB: No Retain attribute	2 MB: Retain attribute 4 MB: No Retain attribute
2,560 points/40 Units (8 NX Units can be connected)	2,560 points/40 Units (3 Expansion Racks)		2,560 points/40 Units (3 Expansion Racks)	2,560 points/40 Units (3 Expansion Racks)
0*, 2 or 4	16, 32 or 64	2 or 0	16, 32 or 64	16, 32 or 64
16	192	64	192	192
	Provided		Provided (NJ501-4320 only)	
			8 max. *1	
				Provided
Memory Cards	Memory Cards		Memory Cards	Memory Cards
	Mountable *2		Mountable *2	Mountable *2

* Motion control axes and 4 single-axis position control

IPC Programmable Multi Axis Controller
Industrial Box PC
NY51-□A

Provides flexibility in the creation of high-resolution graphics and applications and the development of motion control for high-end applications
Windows Embedded Standard 7 - 32 bit Windows Embedded Standard 7 - 64 bit
Programmable Multi Axis Controller
128
Intel® Core™ i7-4700EQ Processor 4th generation CPU with Fan Unit for active cooling
8 GB
SSD, SD memory card
——
Ethernet, EtherCAT, USB 2.0/3.0, DVI
RS-232C
1 PCIe slot

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
Resolution	Up to 1,280 x 800 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	
Allowable power supply voltage range	19.2 to 28.8 VDC	

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

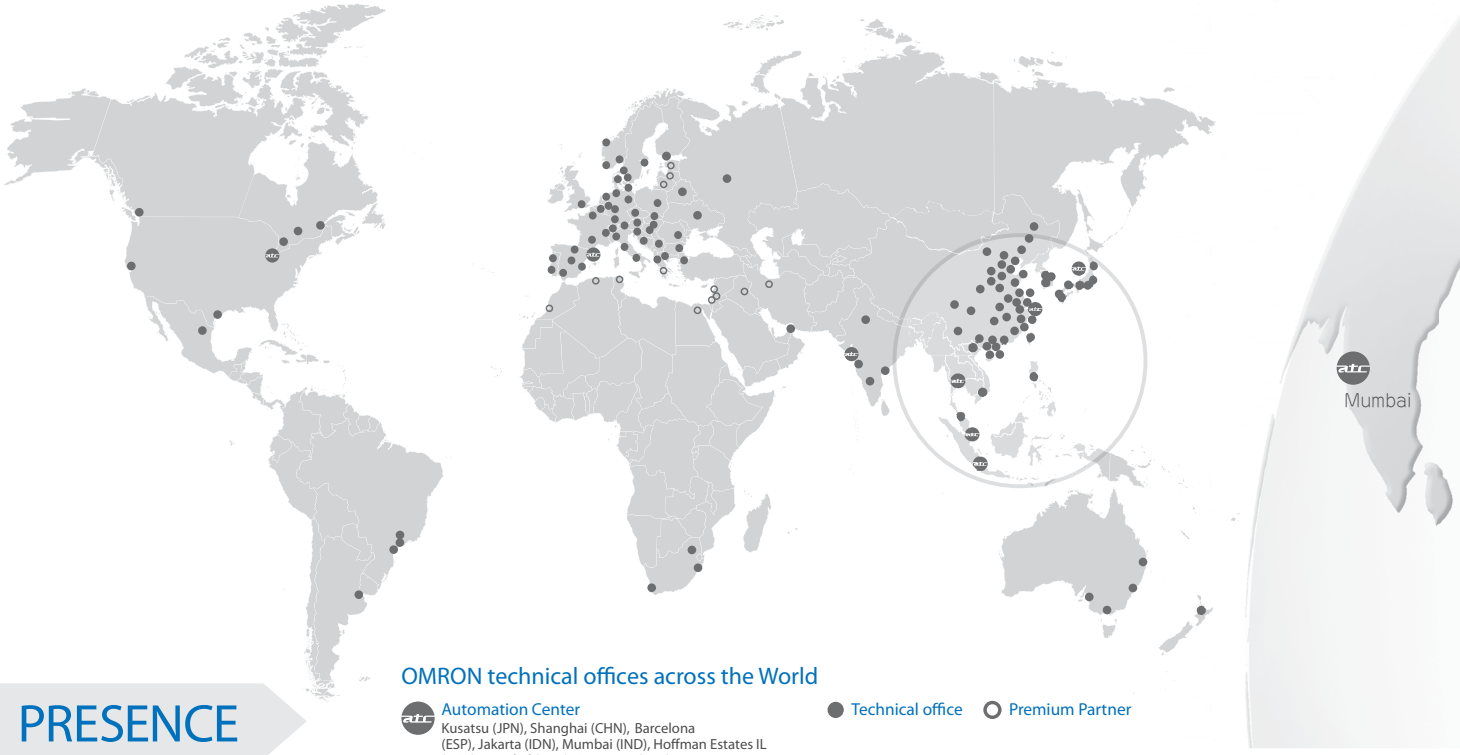
Series		CJ Series		CS Series	
Model		CJ2H	CJ2M	CS1H/G	CS1D
Appearance					
CPU Unit features *3		A large data memory capacity, multi-function Ethernet port, tag access functionality, and a USB port. Ideal for high-speed, high-precision machines	Based on the long track record of the CJ1M and adds greater 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 250K steps
Data memory capacity		160K to 832K words	64K to 160K words	64K to 448K words (EM Area: 1 to 13 banks)	64K to 448K words (EM Area: 1 to 13 banks)
Built-in features	Built-in I/O	—	32 points *4	—	—
	Interrupt inputs	—	8 inputs *4	—	—
	High-speed counter	—	4 inputs *4	—	—
	Pulse outputs *3	—	4 outputs *4	—	—
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)

CP series

Series		CP Series			
Model		CP1H	CP1L	CP1E-N/NA Type	CP1E-E Type
Appearance					
CPU Unit features *3		Four axis position control and comprehensive model	High performing model with embedded Ethernet for two axis position control	Standard model for HMI connection, two axes position control, and inverter connection	Cost effective performance and easy application with only basic functionality
		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 2 axes, USB port, RS-232C port, CP1W Expansion Units can be mounted, easy Modbus-RTU, Serial Communications Option Boards, Ethernet Option Board, 2 analog adjusters	USB port, CP1W Expansion Units can be mounted, 2 analog adjusters
Support software		CX-One	CX-One	CX-One	CX-One
Instruction execution times (basic instructions)		0.10 µs	0.55 µs	1.19 µs	1.19 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)	180 points (60 built in + 120 expansion)
Program capacity		20K steps	5K or 10K steps	8K steps	2K steps
Data memory capacity		32K words	10K or 32K words	8K words	2K words
Built-in features	Built-in I/O	20 or 40 points	10 or 60 points	14 or 60 points	10 or 60 points
	Interrupt inputs	6 or 8 inputs	2, 4 or 6 inputs	6 inputs	4 or 6 inputs
	High-speed counter	4 inputs	4 inputs	4 inputs	5 or 6 inputs
	Pulse outputs *3	4 outputs	2 outputs	2 outputs	—
External memory		Memory Cassettes	Memory Cassettes	—	—
CJ Special I/O Units and CPU Bus Units		Mountable	—	—	—

*1. The number of controlled robots varies according to the number of axes used for the system.
*2. For the details of mountable Units, refer to the user's manuals.
*3. These features are not supported by all of the CPU Unit models in the relevant series. Refer to specific product catalogs for details.
*4. Applicable when a Pulse I/O Block is mounted.

Service and support



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Technical office

Premium Partner

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OMRON

Design

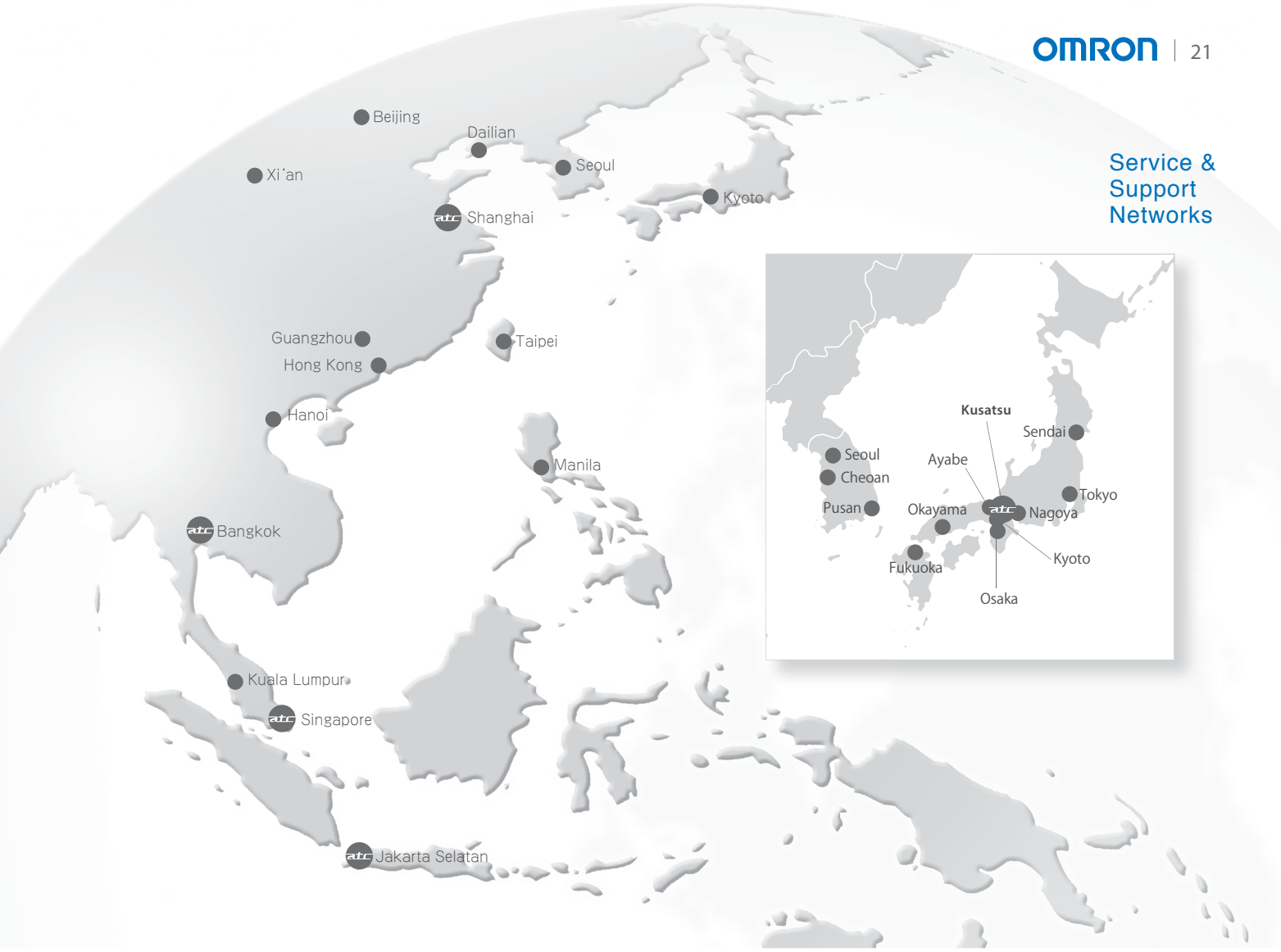
Our wi de net work of machine automation specialists will help you to select the right automation architecture and products to meet your requirements. Our flat structure based on expert-to-expert contact ensures that you will have ONE accountable and responsible expert to deal with on your complete project.

Proof of concept

As your project matures make use of our Automation centers to test and catch-up with technology trends in motion, robotics, networking, safety, quality control etc. and to interface, test and validate your complete system with our new machine network (EtherCAT) and factory network (EtherNet/IP).

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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During your prototyping phase you will need flexibility in technical support, product supply and exchange. We will assign an inside sales contact to help you source the correct products fast during your prototyping phase.

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