OMRON

NJ/NX-series Machine Automation Controller Database Connection CPU Unit

NX701-1□20/NX102-□□20/NJ501-1□20/NJ101-□□20

SYSMAC
always in control

See the Database Connection CPU Unit in the video

You can watch the promotional video by scanning the 2D code using the bar code reader on your smartphone or tablet.

http://www.fa.omron.co.jp/njdb_e/

Fast, reliable data collection and utilization

Easy data collection for

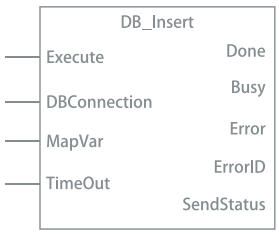
Productivity Improvement

Visualized quality and productivity

Operating status can be displayed in real time using familiar software such as Microsoft® Excel.

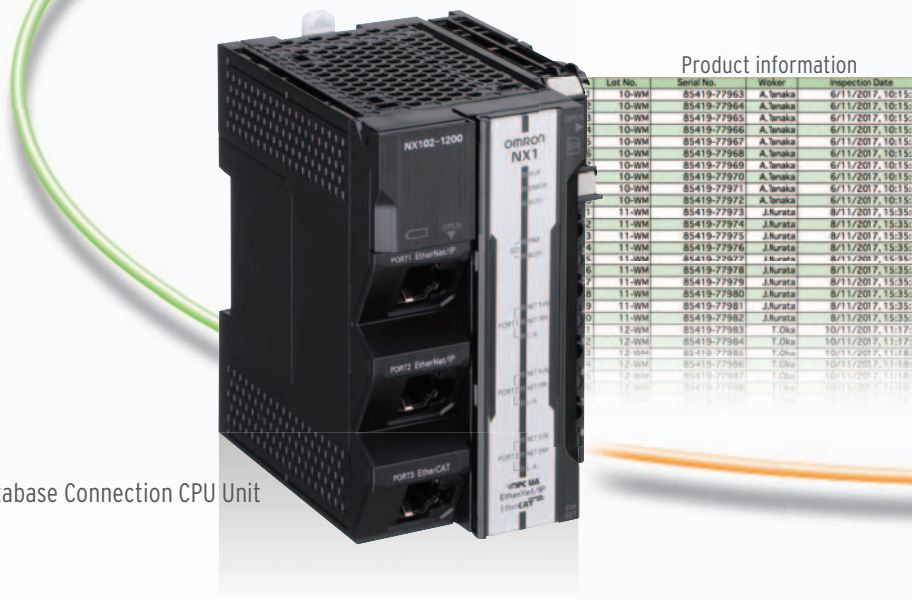
No SQL knowledge required

The CPU Unit can directly access databases without a separate computer.
Function Blocks allow PLC engineers to easily use the CPU Unit.



Supported database

- Microsoft SQL server
- Oracle Database
- IBM DB2
- MySQL
- PostgreSQL
- Firebird



Database Connection CPU Unit

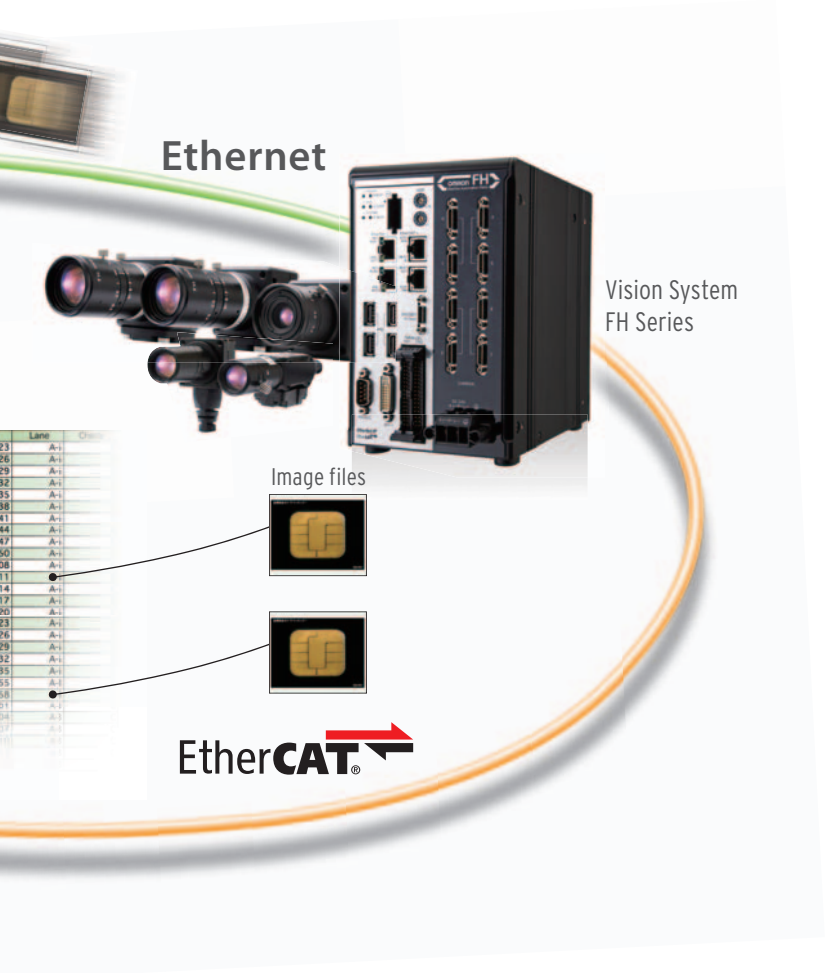
New NX102 with database connection

The compact designed NX1 brings advanced motion and sequence control to compact machines.

Visualization and traceability

The NX102-□□20 with OPC UA as a standard feature provides both production data visualization and traceability. OPC UA is an industrial communication protocol with authentication and encryption, ensuring a secure connection between automation systems and IT systems. This international standard is well linked to Industrie 4.0.

are key to manufacturing innovation

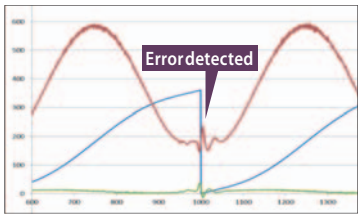


Fast data collection for

Predictive Maintenance

Real-time data collection

Data is sampled every millisecond and written to the database.
Machine behavior can be monitored more accurately.



Reliable data for

Quality Traceability

Realize quality traceability

Data, such as production conditions,
production results, and inspection results,
can be managed at the individual product level.

Saving data and images together

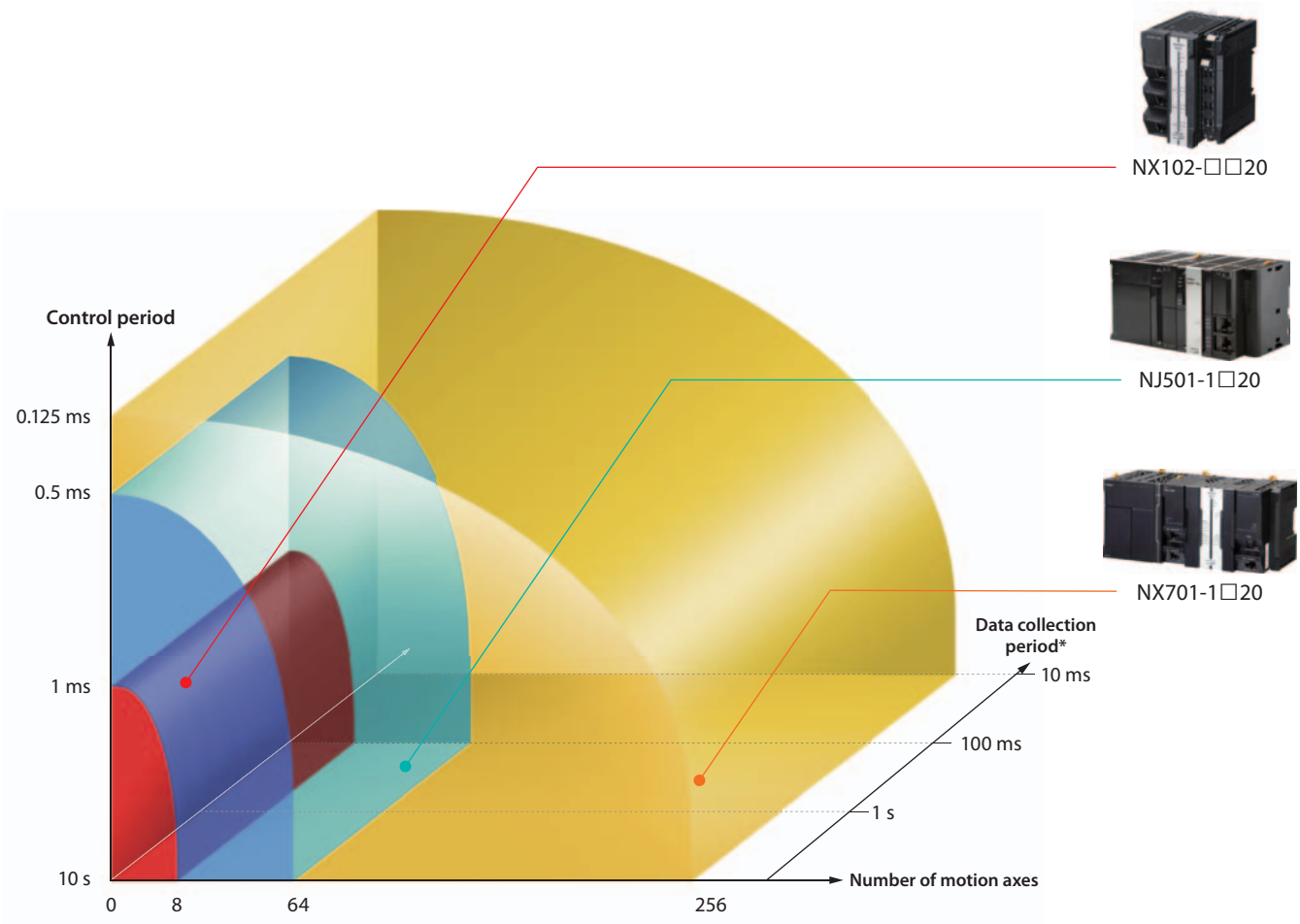
The process data is linked to inspection images and
saved together with the images.
This improves the level of quality management.

Reliable data transfer

Direct access and spooling enable
the CPU Unit to efficiently and reliably transfer
all collected data to databases.

Boost data utilization by integrating production

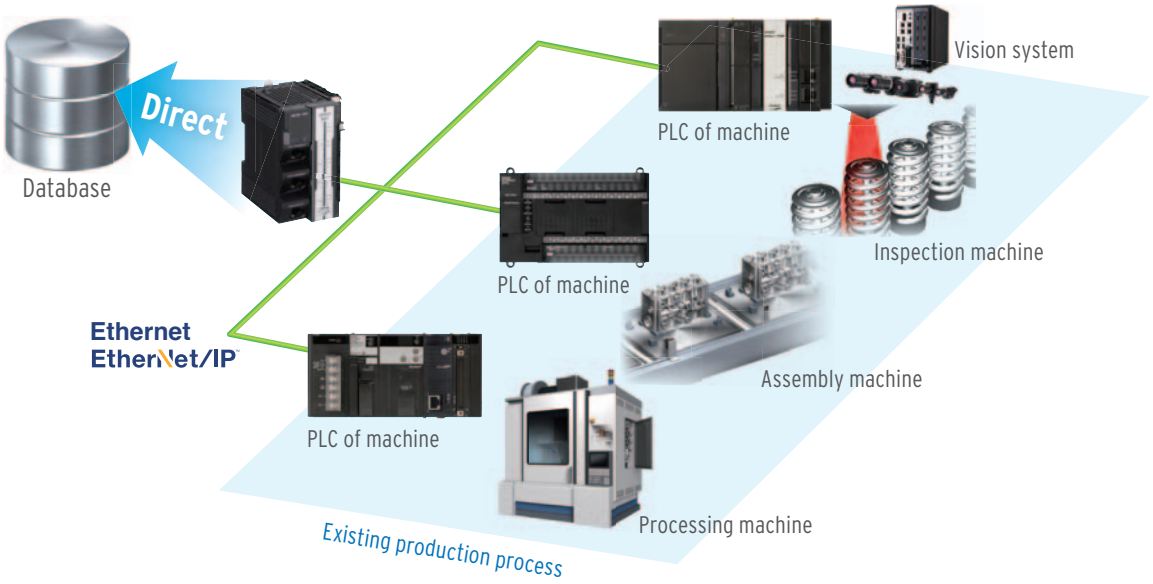
The database connection CPU units can control up to 256 axes.
IoT implementation by starting small in your existing system, high-speed control and quality traceability for your large machine ... you can choose a CPU unit to suit the size of your application.



control and information control

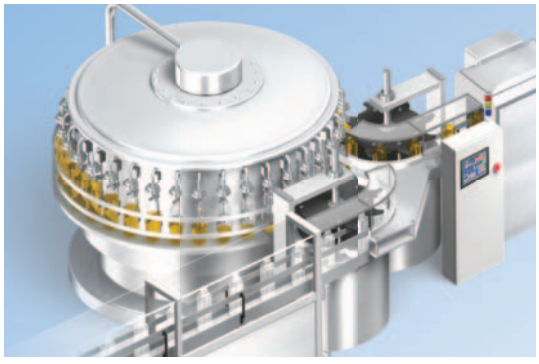
Applications

NX102-□□20 Leveraging data in existing system



Just add a database connection CPU unit to collect data from existing PLCs of machines, which brings IoT to the system. With two built-in EtherNet/IP™ ports, Modbus/TCP connectivity, and Function Blocks for SLMP communications in Sysmac Library, the NX102 can be easily connected to other vendors' PLCs. Consult your Omron representative for further information.

NX701-1□20 Full traceability for pharmaceutical products



The NX701 can collect all production data from a high-speed machine every 10 ms* while providing real-time synchronous control. Quality traceability is also possible.

* The data collection period varies depending on the server environment, running status of applications, and system configuration.

Ordering Information

International Standards

- The standards are abbreviated as follows: U: UL, U1: UL (Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EU Directives, RCM: Regulatory Compliance Mark, KC: KC Registration, and EAC: EAC mark.
- Contact your OMRON representative for further details and applicable conditions for these standards.

NX701 CPU Units

Product name	Specifications			Power consumption	Model	Standards
	Program capacity	Memory capacity for variables	Number of motion axes			
NX701 CPU Units 	80 MB	4 MB: Retained during power interruption 256 MB: Not retained during power interruption	256	40 W (including SD Memory Card and End Cover)	**NX701-1720**	UC1, CE, RCM, KC
			128		**NX701-1620**	

NX102 CPU Units

Product name	Specifications					Model	Standards
	Program capacity	Memory capacity for variables	Maximum number of used real axes				
				Number of motion axes	Single-axis position control axes		
NX102 CPU Units 	5 MB	1.5 MB: Retained during power interuption 32 MB: Not retained during power interuption	12	8	4	**NX102-1220**	UC1, CE, RCM, KC, EAC
			8	4	4	**NX102-1120**	
			6	2	4	**NX102-1020**	
			4	0	4	**NX102-9020**	

NJ-series CPU Units

Product Name	Specifications				Current consumption (A)		Model	Standards
	I/O capacity / maximum Model Standards number of configuration Units (Expansion Racks)	Program capacity	Memory capacity for variables	Number of motion axes	5 VDC	24 VDC		
NJ-series CPU Units 	2,560 points / 40 Units (3 Expansion Racks)	20 MB	2 MB: Retained during power interruption 4 MB: Not retained during power interruption	64	1.90	–	**NJ501-1520**	UC1, N, L, CE, RCM, KC
				32			**NJ501-1420**	
				16			**NJ501-1320**	
		3 MB	0.5 MB: Retained during power interruption 2 MB: Not retained during power interruption	2			**NJ101-1020**	
				0			**NJ101-9020**	

Automation Software Sysmac Studio

Please purchase a DVD and required number of licenses the first time you purchase the Sysmac Studio. DVDs and licenses are available individually. Each model of licenses does not include any DVD.

Product name	Specifications	Number of licenses	Media	Model	Standards
Sysmac Studio Standard Edition Ver.1.□□	The Sysmac Studio is the software that provides an integrated environment for setting, programming, debugging and maintenance of machine automation controllers including the NJ/NX-series CPU Units, NY-series Industrial PC, EtherCAT Slave, and the HMI. Sysmac Studio runs on the following OS. Windows 7(32-bit/64-bit version)/Windows 8(32-bit/64-bit version)/Windows 8.1(32-bit/64-bit version)/Windows 10(32-bit/64-bit version)	– (Media only)	DVD	**SYSMAC-SE200D**	–
	The Sysmac Studio Standard Edition DVD includes Support Software to set up EtherNet/IP Units, DeviceNet slaves, Serial Communications Units, and Support Software for creating screens on HMIs (CX-Designer). For details, refer to your OMRON website.	1 license ✻	–	**SYSMAC-SE201L**	–

✻ Multi licenses are available for the Sysmac Studio (3, 10, 30, or 50 licenses).

Accessories

The following accessories come with the CPU Unit.

Item model	NX701-1□20	NX102-□□20	NJ□01-□□20
Battery	CJ1W-BAT01	–	CJ1W-BAT01
End Cover ✻	NX-END01	NX-END02	CJ1W-TER01
End Plate	–		PFP-M (2 pcs)
SD Memory Card (Flash Memory)	HMC-SD491	HMC-SD291	NJ501-1□20: HMC-SD491 NJ101-□□20: HMC-SD291

✻ Necessary to be connected to the right end of the CPU Rack.

For details, refer to the data sheet of the Machine Automation Controller NJ/NX-Series and the data sheet of the Machine Automation Controller NX1.

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

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