

# EtherCAT N-Smart Series Library



✓ Reduce sensor setting and replacement work at setup, changeover, maintenance, and operation times.

**Issue 1** It takes time to set up many sensors.

**Issue 2** Operation rates are low because it takes time to change sensor settings.

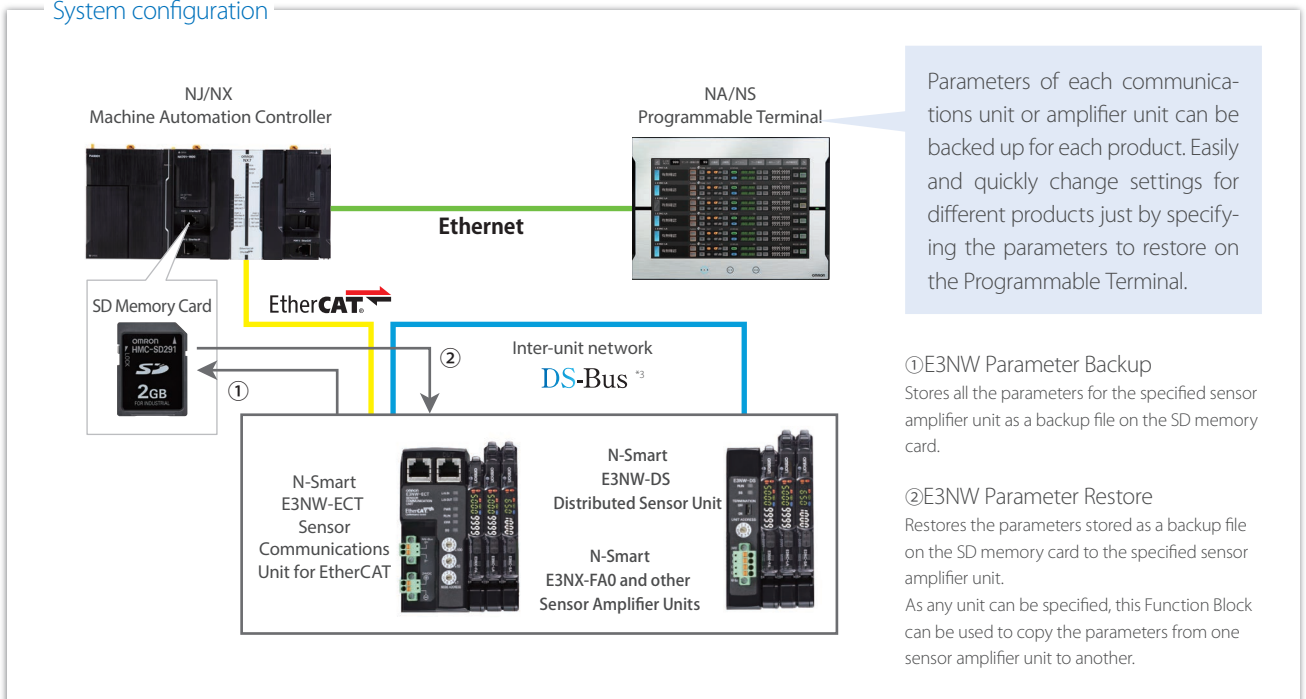
**Issue 3** When a sensor is replaced, time is needed to change settings and setting errors may occur.

## EtherCAT N-Smart Series Library offers solution!

The Parameter Backup Function Block backs up the parameters for each sensor communications unit\*<sup>1</sup> or sensor amplifier unit\*<sup>2</sup> individually (upload settings from the unit), and the Parameter Restore Function Block restores them individually (download settings to the unit), without connecting to a PC.

You can easily change settings for sensor communications units and sensor amplifier units.

### System configuration



\*1. The Backup and Restore functions of the NJ/NX CPU Unit can back up and restore the parameters for all the E3NW-ECT Sensor Communication Units at once. The addition of this library allows you to back up and restore the parameters for each node individually.

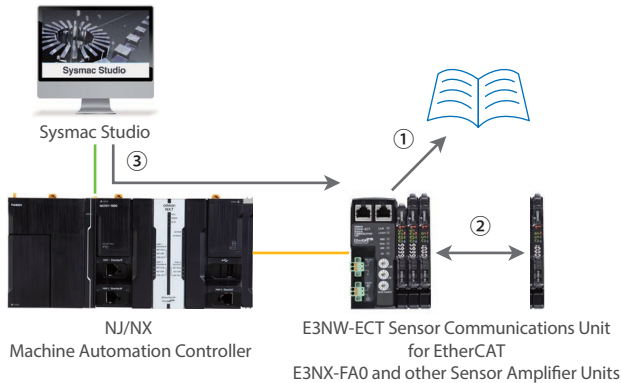
\*2. This library can be used to back up and restore parameters for each sensor amplifier unit individually, which is not possible with the Backup and Restore functions of the NJ/NX CPU Unit.

\*3. The DS-Bus is an Omron inter-unit network communications protocol that connects the E3NW-ECT Sensor Communications Unit and E3NW-DS Distributed Sensor Units.

## Downloading settings when replacing a sensor amplifier unit

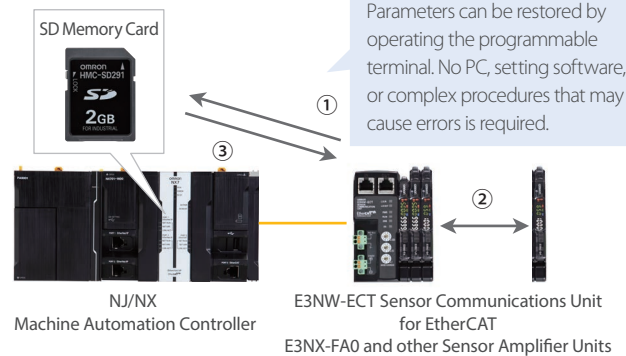
### From

- ① Manually record parameters to make a procedure manual
- ② Replace a sensor amplifier unit
- ③ Set parameters manually according to the procedure manual



### To

- ① Store parameters on an SD memory card
- ② Replace a sensor amplifier unit
- ③ Restore the parameters stored on the SD memory card



## Compatible Models

Name	Model	Version
Machine Automation Controller NJ/NX CPU Unit	NX701-□□□□/NJ101-□□□□	Version 1.10 or later
	NJ501-□□□□/NJ301-□□□□	Version 1.01 or later
Automation Software Sysmac Studio	SYSMAC-SE2□□□	Version 1.14 or higher
Sensor Communications Unit (EtherCAT)	E3NW-ECT	Version 1.03 or later
Distributed Sensor Unit	E3NW-DS	—
Smart Laser Amplifier Unit	E3NC-LA0	—
Smart Laser Amplifier Unit (CMOS type)	E3NC-SA0	—
Smart Fiber Amplifier Unit	E3NX-FA0	—
Contact-Type Smart Amplifier Unit	E3NC-TA0	—
SD Memory Card	HMC-SD□□□	—

## Function Block (FB) Specifications

Name	FB name	Description
E3NW Parameter Backup	Backup_E3NW	Backs up the parameters for the sensor amplifier unit that is connected to an E3NW-ECT Sensor Communications Unit or E3NW-DS Distributed Sensor Unit and stores them on the SD memory card inserted into the controller.
E3NW Parameter Restore	Restore_E3NW	Restores the backup data on the SD memory card to the sensor amplifier unit that is connected to an E3NW-ECT Sensor Communications Unit or E3NW-DS Distributed Sensor Unit.

Sysmac is a trademark or registered trademark of OMRON Corporation in Japan and other countries for OMRON factory automation products. EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany. EtherNet/IP™ is a trademark of the ODVA. Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.

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

**OMRON Corporation** Industrial Automation Company  
Kyoto, JAPAN

Contact: [www.ia.omron.com](http://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.

No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark,  
Singapore 119967  
Tel: (65) 6835-3011/Fax: (65) 6835-2711

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

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

#### Authorized Distributor:

© OMRON Corporation 2015 All Rights Reserved.  
In the interest of product improvement,  
specifications are subject to change without notice.

CSM\_1\_1\_1115  
Cat. No. P094-E1-01

1115(1115)