

# EtherCAT 1S Series Library



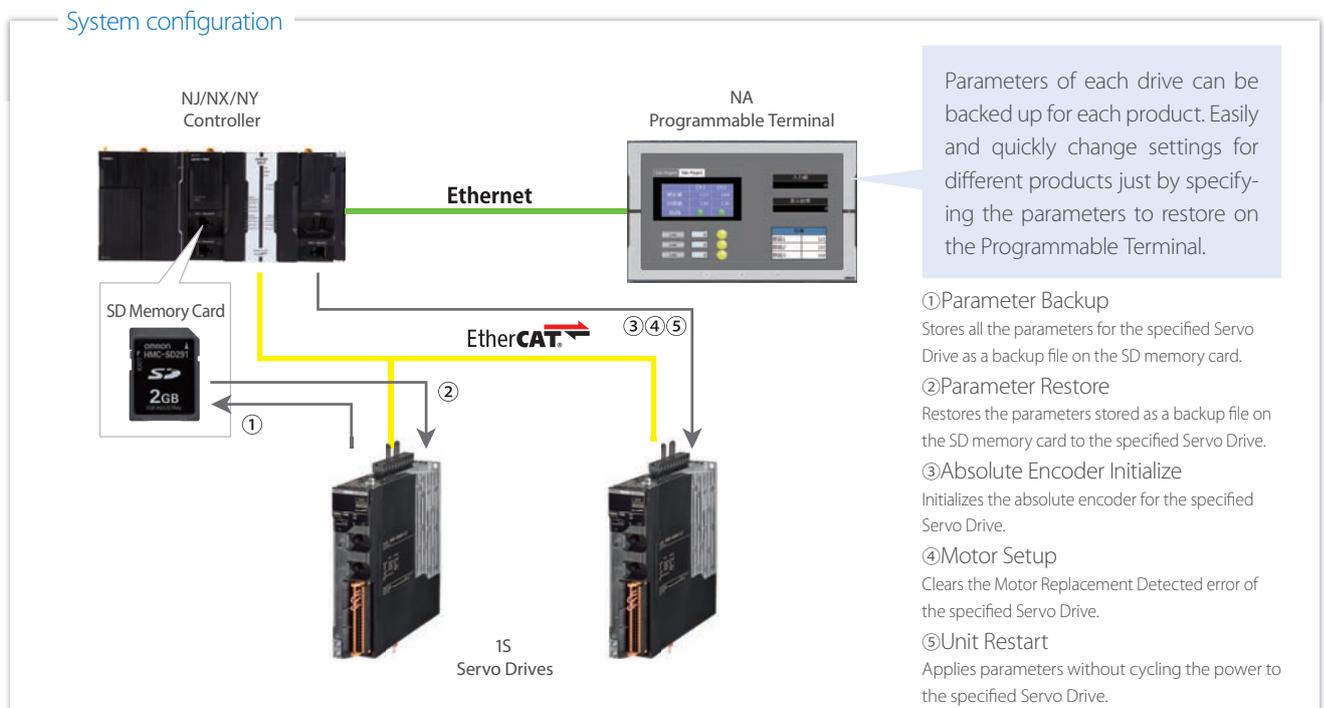
✓ Reduce servo drive setting and replacement work at changeover, maintenance, and operation times.

- Issue 1** Operation rates are low due to the time-consuming changes of servo drive settings.
- Issue 2** Operation became unstable due to changing settings. It takes time to restore to default or previous settings by using old version files to stabilize operation.
- Issue 3** When a broken device is replaced, a PC is required to change parameters.
- Issue 4** When operation becomes unstable due to parts replacement or deterioration, a PC is required for gain tuning.

## EtherCAT 1S Series Library offers solution!

The Parameter Backup Function Block backs up the parameters for each servo drive individually\* (upload settings from the servo drive), and the Parameter Restore Function Block restores them individually (download settings to the servo drive), without connecting to a PC. You can easily change and recover servo drive settings. The Absolute Encoder Initialize Function Block initializes each absolute encoder individually.

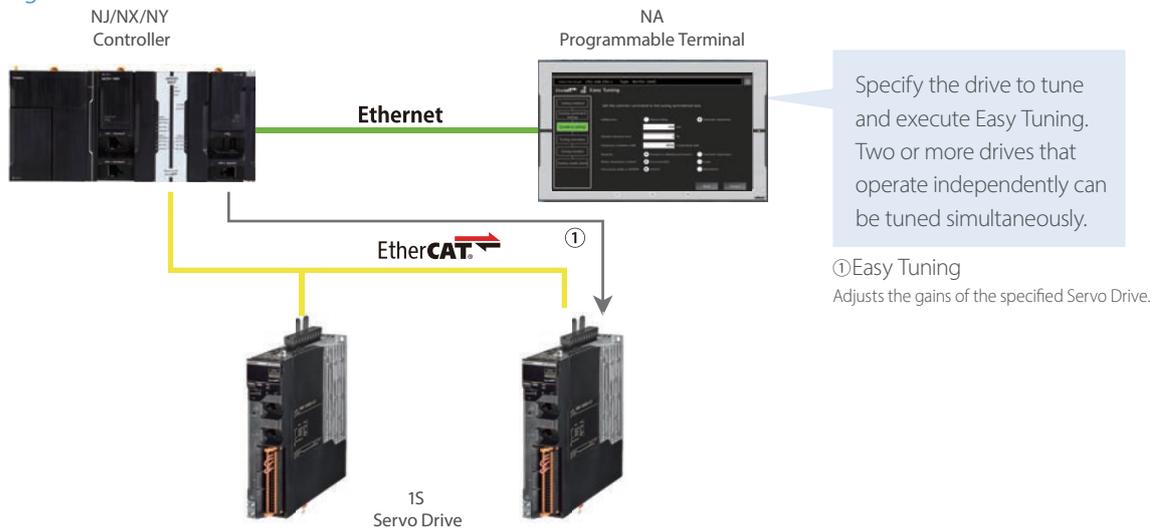
### Application example for replacement of servo drive



\* The Backup and Restore functions of the NJ/NX CPU Unit and the NY IPC Machine Controller can back up and restore the parameters for all the nodes at once. The addition of this library allows you to back up and restore the parameters for each node individually.

# Application example for gain tuning

## System configuration



## Compatible Models

Name	Model	Version
Machine Automation Controller NJ/NX CPU Unit	NX701-1□□□□/NJ101-□□□□	Version 1.10 or later
	NJ501-□□□□/NJ301-□□□□	Version 1.01 or later
	NX1P2-□□□□□□(1)	Version 1.13 or later
	NX102-□□□□	Version 1.30 or later
	NX502-□□□□	Version 1.60 or later
Industrial PC Platform NY IPC Machine Controller	NY5□□-1	Version 1.12 or later
	NY5□□-5	Version 1.18 or later
Automation Software Sysmac Studio	SYSMAC-SE2□□□	Version 1.16 or higher
1S Servo Drive with Built-in EtherCAT Communications	R88D-1SN□-ECT	Version 1.00 or later
	R88D-1SAN□-ECT	Version 1.00 or later
	R88D-1SN□-ECT-51	Version 2.00 or later
SD Memory Card	HMC-SD□□□	—

## Function Block (FB) Specifications

Name	FB name	Description
1S-series Servo Drive Parameter Backup	Backup_1S	Backs up the parameters for a 1S Servo Drive and stores them as a backup file on the SD memory card inserted in the controller.
1S-series Servo Drive Parameter Restore	Restore_1S	Restores the backup file created by the Backup_1S Function Block on the SD memory card inserted in the controller to a 1S Servo Drive.
1S-series Servo Drive Absolute Encoder Initialize	InitEncoder_1S	Initializes the absolute encoder (clears the multi-rotation counter for the absolute encoder) for a 1S Servo Drive.
1S-series Servo Drive Motor Setup	MotorSetup_1S	Clears the Motor Replacement Detected error of a 1S Servo Drive.
1S-series Servo Drive Unit Restart	Restart_1S	Executes the Unit Restart and applies parameters without cycling the power to a 1S Servo Drive.
1S-series Servo Drive Easy Tuning	EasyTuning_1S	Adjusts the gains of a 1S Servo Drive.

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

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