# Backing Up Retained Variable Memory (CSV Format)

## Steps

This section describes how to back up the memory of retained variables from the PLC (csv format).
The following retained variables can be acquired in the csv format.
・Present values of retain attribute variables

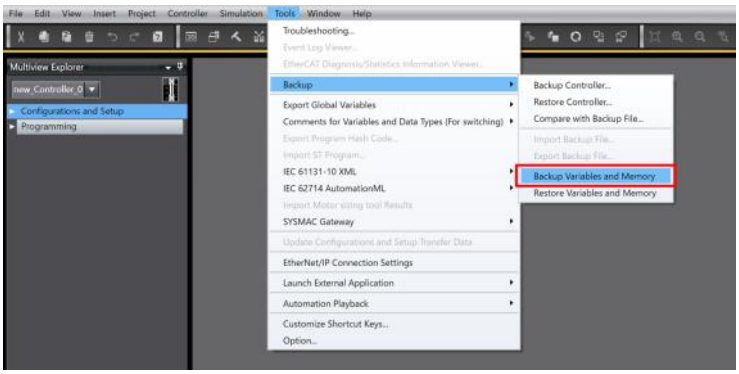
* If you need the backup data of memory used for CJ-series Units, obtain a backup in the xml format.
You can check the values of csv format backup in Excel.

① Go online with the PLC.
② Select to backup variables and memory and select the target retained variables.
③ Execute the backup.

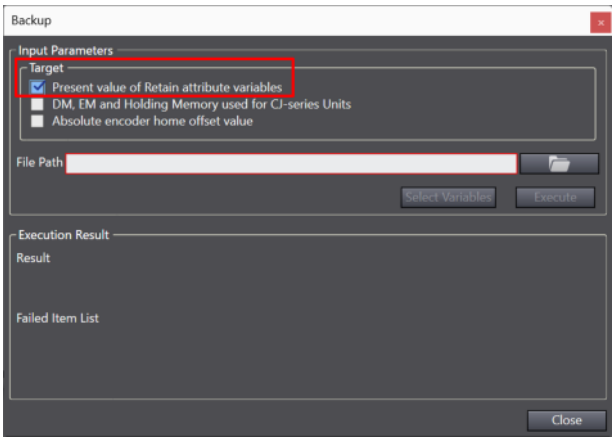
## Detailed Steps

**① Go online with the PLC.**
Refer to "Going Online with an NJ/NX Controller".

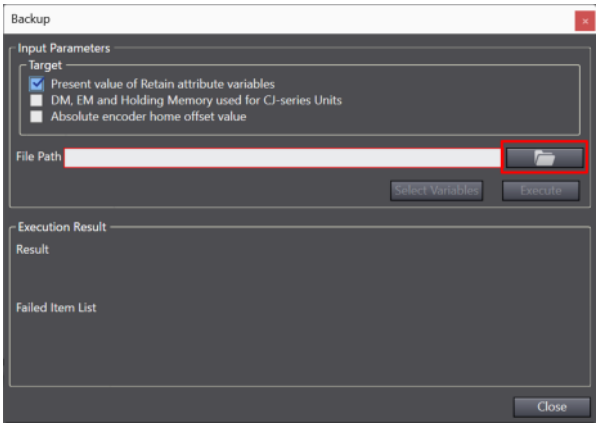
**② Select to backup variables and memory and select the target retained variables.**
Click [Tools] - [Backup] - [Backup Variables and Memory] from the menu.



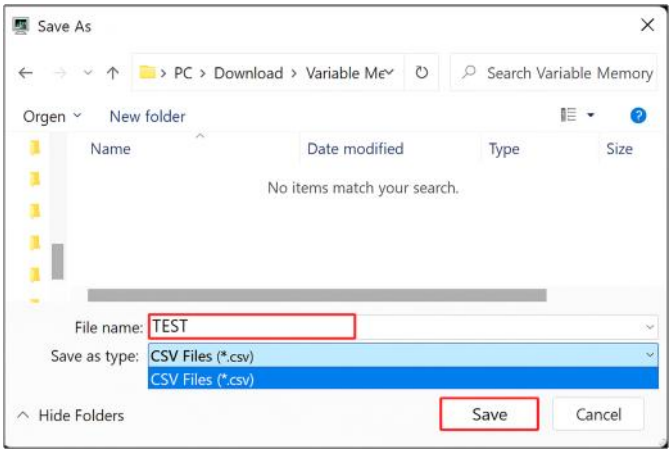

Select the check box for "Present value of Retain attribute variables" from the Target in the Input Parameters area.



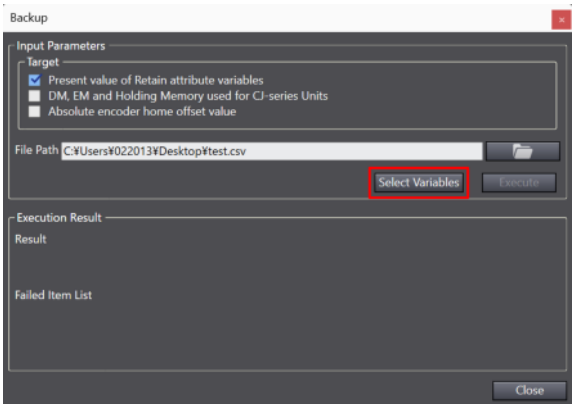

Click the button shown in the red frame in the figure below.



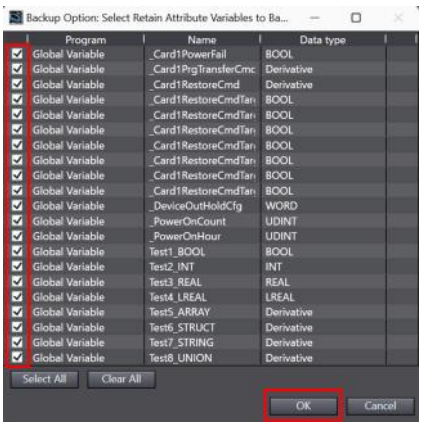

Enter the file name to be exported and select the "csv file" for the file format.



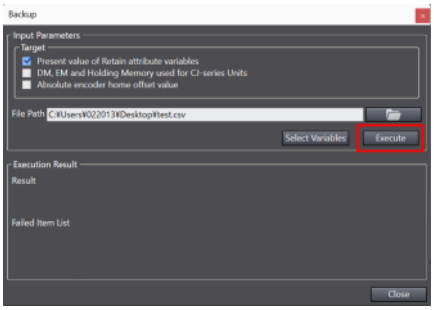

Click the [Select Variables] button.



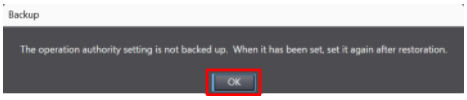

Select the variables to acquire backup and press the [OK] button.



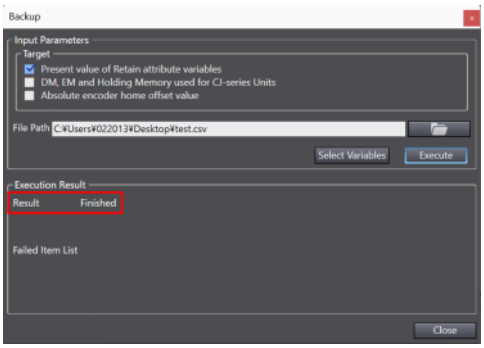

**③ Execute the backup.**
Click the [Execute] button.




Click the [OK] button.

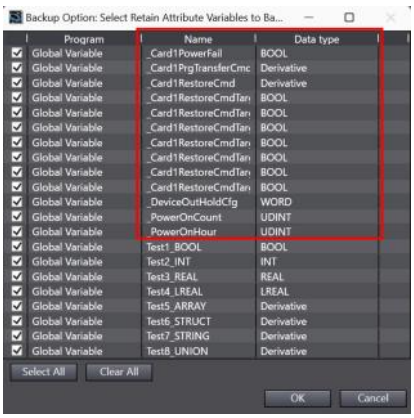



If [Finished] is displayed in the Execution Result, it is finished. Click the [Close] button to close the window.

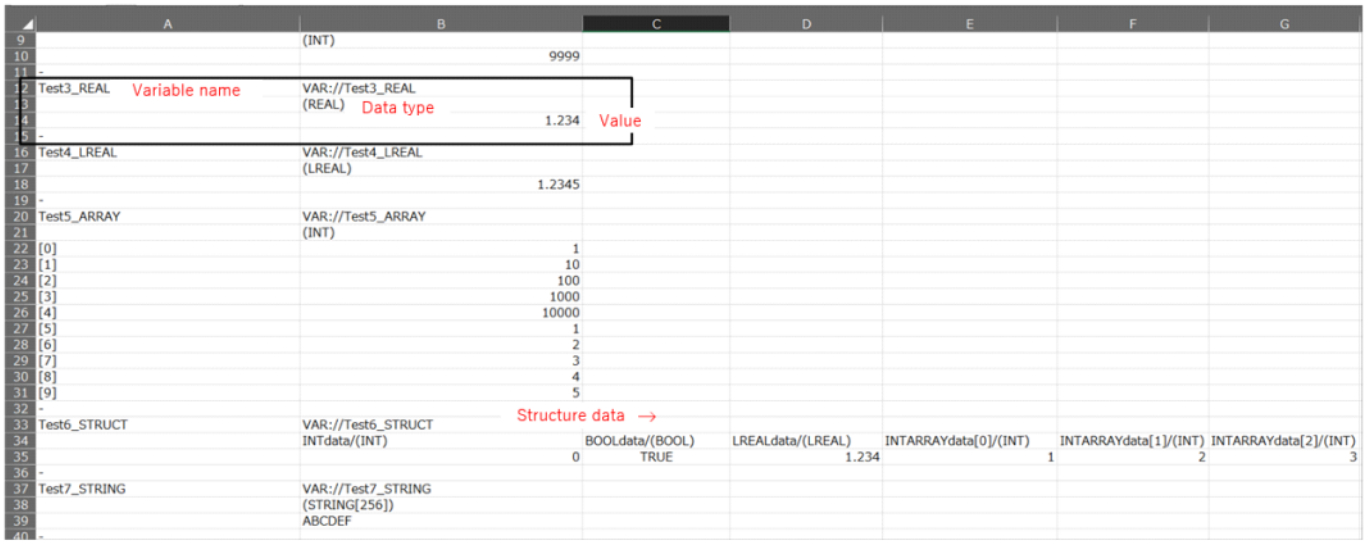



## Remarks

・The variables within the red frame in the figure below are system-defined variables held by the PLC. Those variables exist even though they are not defined by users.




* The created csv file format is as shown below.



| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 9 | | (INT) | | | | | |
| 10 | | 9999 | | | | | |
| 11 | - | | | | | | |
| 12 | Test3_REAL Variable name | VAR://Test3_REAL | | | | | |
| 13 | | (REAL) Data type | | | | | |
| 14 | | 1.234 Value | | | | | |
| 15 | - | | | | | | |
| 16 | Test4_LREAL | VAR://Test4_LREAL | | | | | |
| 17 | | (LREAL) | | | | | |
| 18 | | 1.2345 | | | | | |
| 19 | - | | | | | | |
| 20 | Test5_ARRAY | VAR://Test5_ARRAY | | | | | |
| 21 | | (INT) | | | | | |
| 22 | [0] | 1 | | | | | |
| 23 | [1] | 10 | | | | | |
| 24 | [2] | 100 | | | | | |
| 25 | [3] | 1000 | | | | | |
| 26 | [4] | 10000 | | | | | |
| 27 | [5] | 1 | | | | | |
| 28 | [6] | 2 | | | | | |
| 29 | [7] | 3 | | | | | |
| 30 | [8] | 4 | | | | | |
| 31 | [9] | 5 | | | | | |
| 32 | - | | Structure data → | | | | |
| 33 | Test6_STRUCT | VAR://Test6_STRUCT | | | | | |
| 34 | | INTdata/(INT) | BOOLdata/(BOOL) | LREALdata/(LREAL) | INTARRAYdata[0]/(INT) | INTARRAYdata[1]/(INT) | INTARRAYdata[2]/(INT) |
| 35 | | 0 | TRUE | 1.234 | 1 | 2 | 3 |
| 36 | - | | | | | | |
| 37 | Test7_STRING | VAR://Test7_STRING | | | | | |
| 38 | | (STRING[256]) | | | | | |
| 39 | | ABCDEF | | | | | |
| 40 | - | | | | | | |