

Communications over Ethernet to AB SLC505

Section 1: Introduction

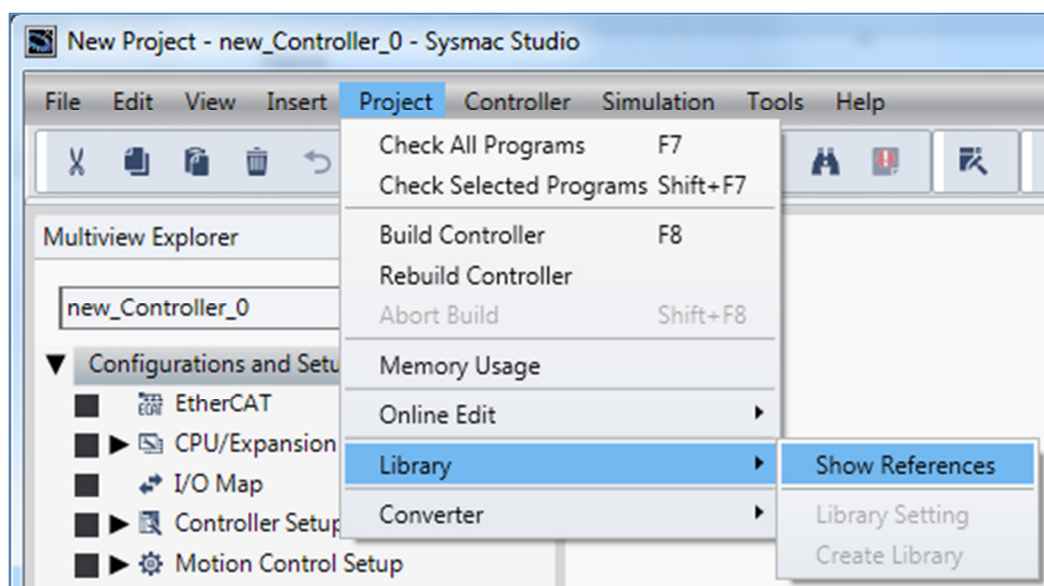
This document is intended to explain the library function blocks for communicating over Ethernet to Allen Bradley SLC505 or MicroLogix processors from an Omron NJ, NX, or NX1P controller.

There are a total of 6 function blocks used to read and write data to an Allen-Bradley SLC505 or MicroLogix processor over Ethernet.

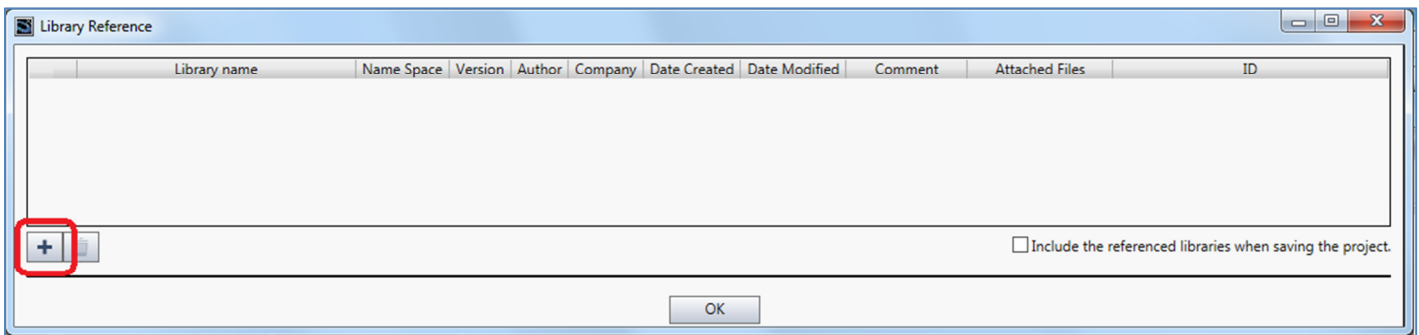
This function blocks are not guaranteed, but have been tested and shown to work properly.

Section 2: Loading the library file and adding library to your project

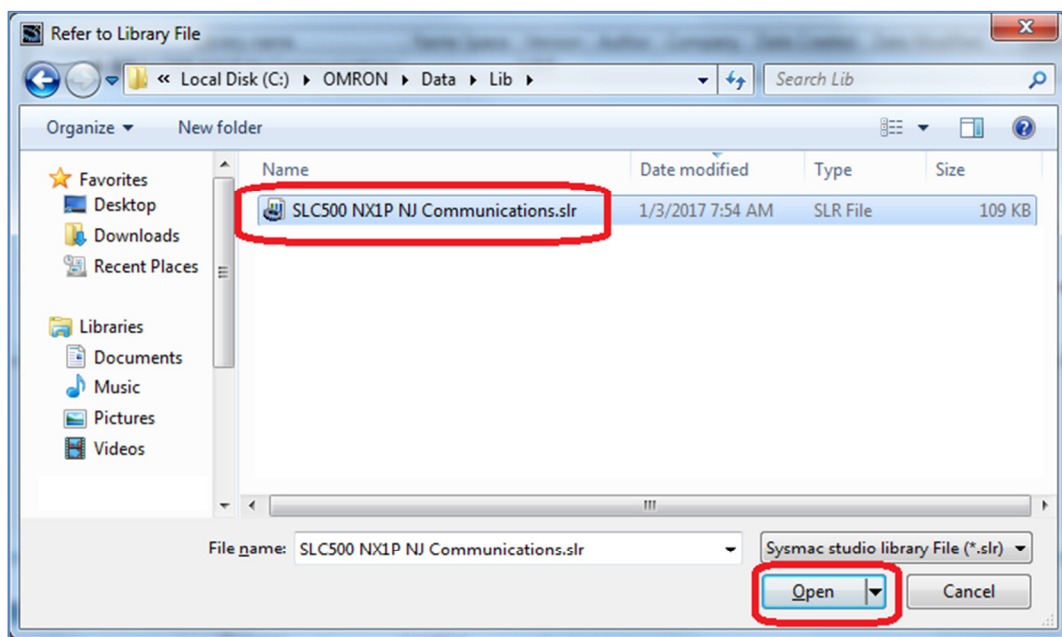
- 1: Copy the file “SLC500 NX1P NJ Communications.slr” to C:\Omron\Data\Lib
- 2: Open your project in Sysmac Studio.
- 3: Load the library file by clicking **Project / Library / Show References**.



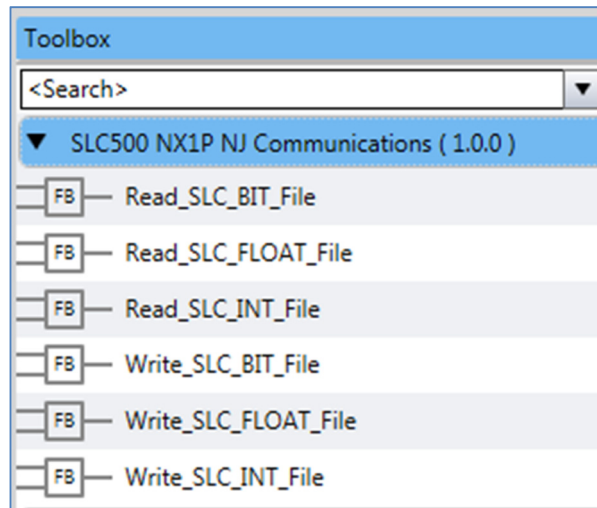
4: Click the + to select the library file.



5: Select file “SLC500 NX1P NJ Communications.slr”, and click Open.

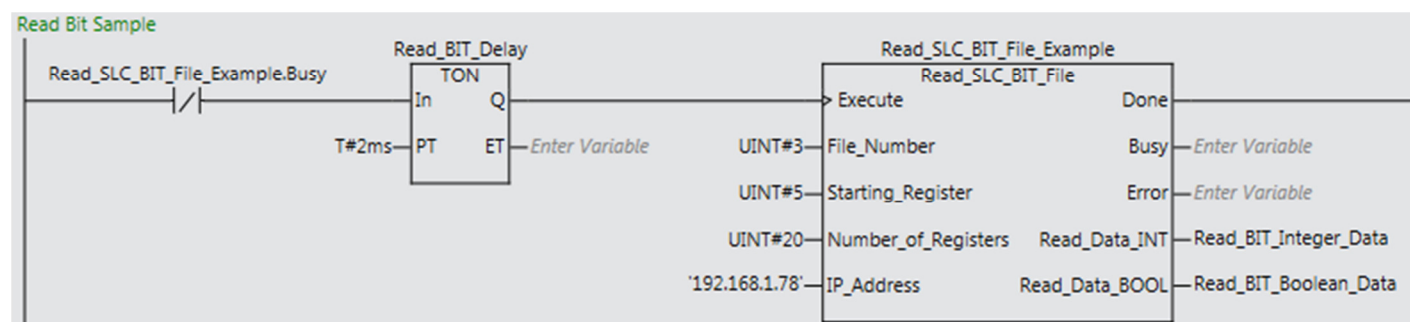


6: When this is done a new instruction reference will be in the “Toolbox”. These Function Blocks can now be used in the user project.



Section 3: Function Block Explanation

Read Boolean File



Inputs:

File_Number (UINT)

Any file data type of Integer (B) in data tables of the SLC505. Ex. B3:5

Starting_Register (UINT) between 0 - 255.

Which Register to start reading from. Ex. B3:5

Number_of_Registers (UINT)

Max of 75 registers can be read at one time.

IP_Address(String)

IP Address of Allen Bradley PLC.

Outputs:

Read_Data_INT (Array of 75 INT's)

Integer values read from the PLC.

Read_Data_BOOL (Array of 1200 BOOL's)

Boolean array of Integer values read from the PLC.

Done (BOOL)

Function Block has completed with no errors.

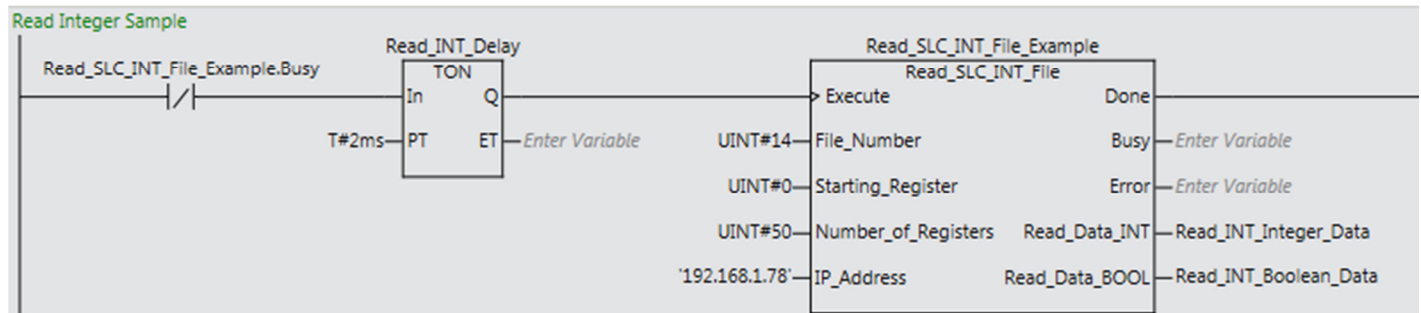
Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.

Read Integer File



Inputs:

File_Number (UINT)

Any file data type of Integer (N) in data tables of the SLC505. Ex. N14:0

Starting_Register (UINT) between 0 - 255.

Which Register to start reading from. Ex. N14:0

Number_of_Registers (UINT)

Max of 75 registers can be read at one time.

IP_Address(String)

IP Address of Allen Bradley PLC.

Outputs:

Read_Data_INT (Array of 75 INT's)

Integer values read from the PLC.

Read_Data_BOOL (Array of 1200 BOOL's)

Boolean array of Integer values read from the PLC.

Done (BOOL)

Function Block has completed with no errors.

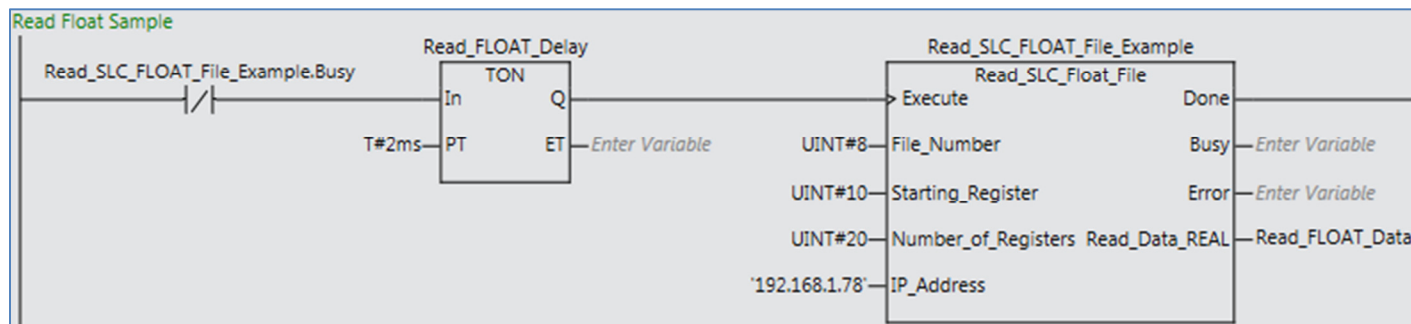
Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.

Read Floating Point File



Inputs:

File_Number(UINT)

Any file data type of Float (F) in data tables of the SLC505. Ex. F8:10

Starting_Register (UINT) between 0 – 255

Which Register to start reading from. Ex. F8:10

Number_of_Registers (UINT)

Max of 60 Registers (Allen Bradley PLC model dependent) can be read at one time.

IP_Address(String)

IP Address of Allen Bradley PLC.

Outputs:

Read_Data_REAL (Array of 60 Reals)

Floating Point values read from the PLC.

Done (BOOL)

Function Block has completed with no errors.

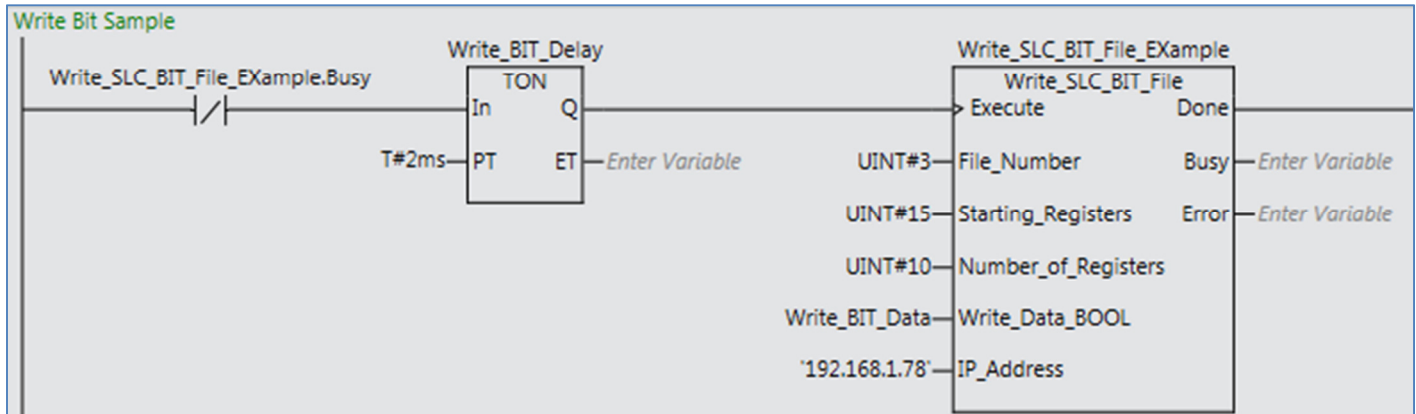
Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.

Write Bool File



Inputs:

File_Number (UINT)

Any file data type of Bit (B) in data tables of the SLC505. Ex. B3:15

Starting_Register (UINT) between 0 – 255

Which Register to start writing to. Ex. B3:15

Number_of_Registers (UINT)

Number of Registers (16 bits) to write to the PLC.

IP_Address (String)

IP Address of Allen Bradley PLC.

Write_BIT_Data (Array of 1200 BOOL)

Boolean Data to write to the PLC.

Outputs:

Done (BOOL)

Function Block has completed with no errors.

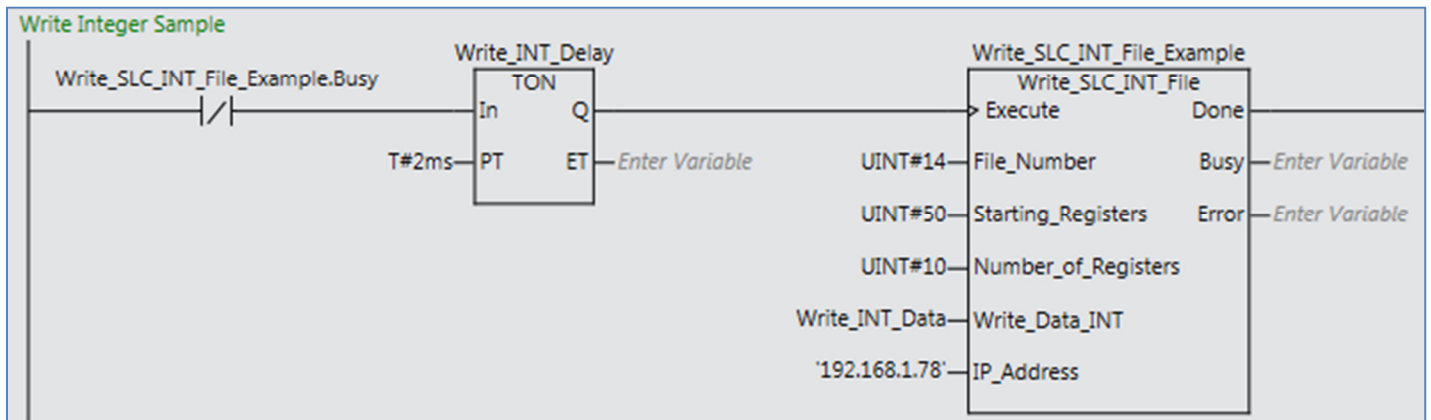
Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.

Write Integer File



Inputs:

File_Number (UINT)

Any file data type of Integer (N) in data tables of the SLC505. Ex. N14:50

Starting_Register (UINT) between 0 – 255

Which Register to start writing to. Ex. N14:50

Number_of_Registers (UINT)

Max of 75 words can be written at one time.

IP_Address(String)

IP Address of Allen Bradley PLC.

Write_Data_INT(Array of 75 Integers)

Integer Data to write to the PLC.

Outputs:

Done (BOOL)

Function Block has completed with no errors.

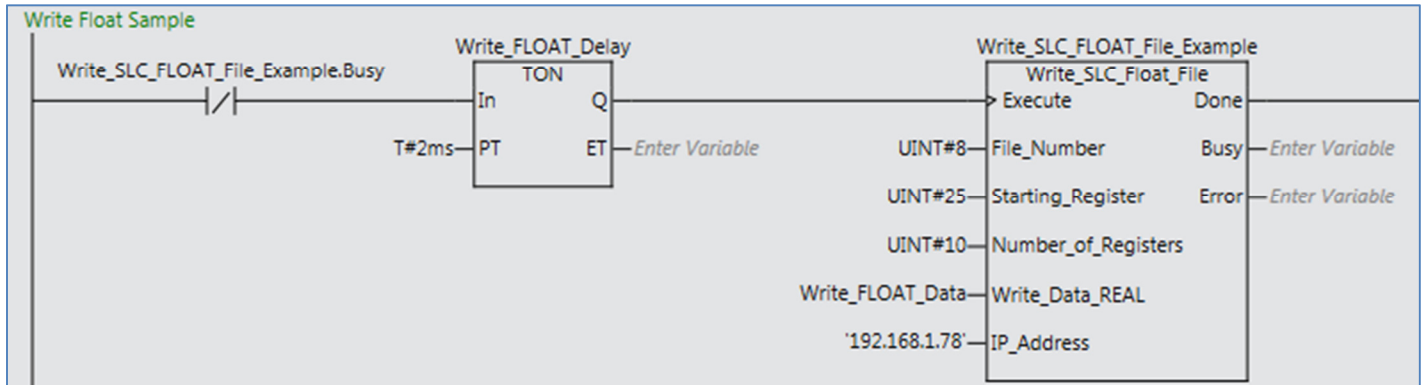
Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.

Write Real File



Inputs:

File_Number (UINT)

Any file data type of Float (F) in data tables of the SLC505. Ex. F8:25

Starting_Register (UINT) between 0 – 255

Which Register to start writing to. Ex. F8:25

Number_of_Registers (UINT)

Max of 60 Reals can be written at one time.

IP_Address(String)

IP Address of Allen Bradley PLC.

Write_Data_REAL (Array of 60 Real)

Floating Point Data to write to the PLC.

Outputs:

Done (BOOL)

Function Block has completed with no errors.

Busy (BOOL)

Function Block is Busy.

Error (BOOL)

Function Block has completed with an error.