

## AMCI NXEE2 Sample Program - READ ME

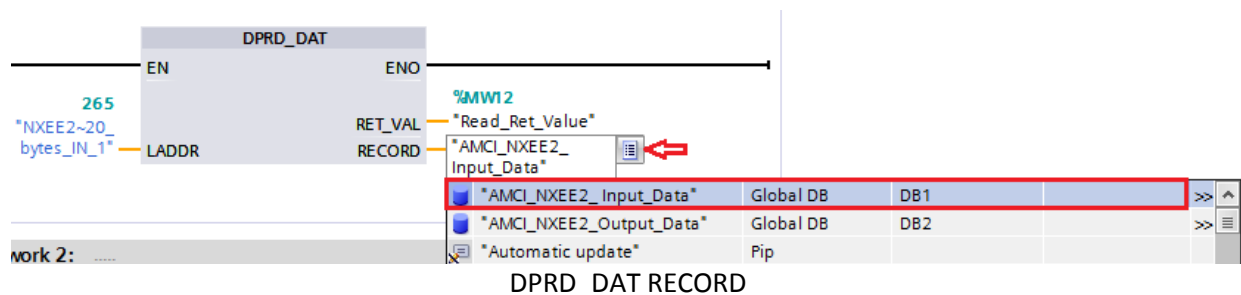
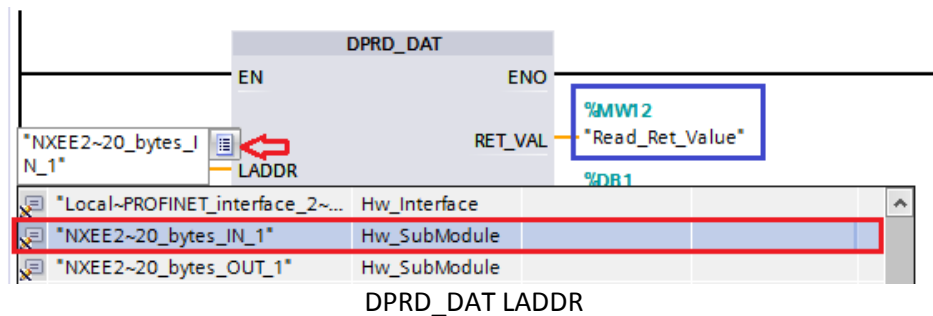
The **AMCI\_NXEE2\_Sample\_Program** shows how to program and preset the NXEE2 two-channel SSI interface module.

### Reading and Writing to the NXEE2

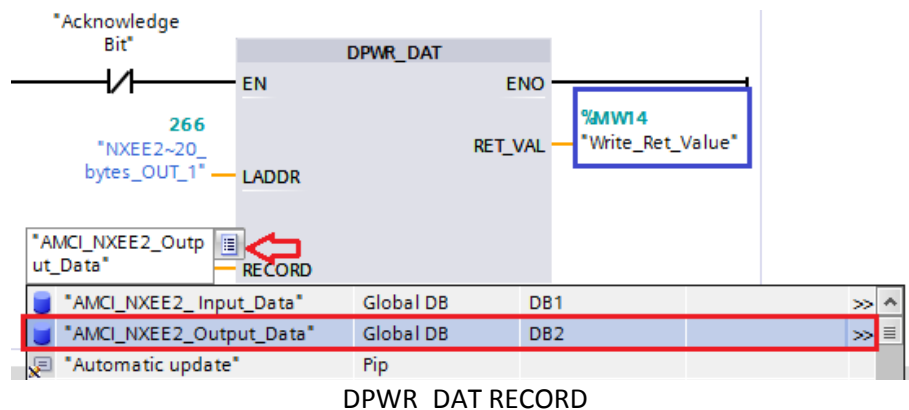
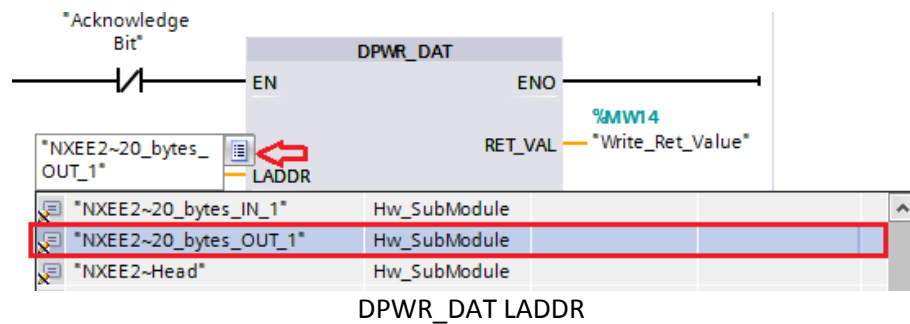
This sample program also shows how to read and write data to the NXEE2 using DPRD\_DAT and DPWR\_DAT instructions to preserve the consistency of the transferred data.

The following information will help you correctly set the needed parameters for the DPRD\_DAT and DPWR\_DAT instructions.

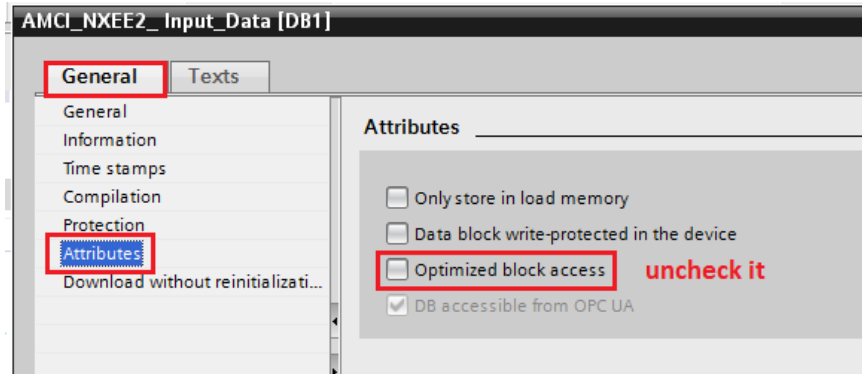
1. A **DPRD\_DAT** instruction is used to read data from the NXEE2. It ensures that consistent data is transferred without any interruption. This instruction has 3 parameters that need to be assigned:
  - a) The **LADDR** parameter selects the PROFINET I/O module from which the data will be read. As shown in the following figure, to find an available address, click on a **list** icon, and from the drop down list select a hardware submodule assigned to the NXEE2 input area.
  - b) The **RECORD** parameter defines the target **Data Block (DB)**, which will contain the NXEE2 Input Data that is read by this instruction. To select the data block, click on the **list** icon and from the drop down list find the appropriate data block.
  - c) The **RET\_VAL** parameter will contain an error code if an error occurs while the instruction is being executed.



2. A **DPWR\_DAT** instruction is used to write data to the NXEE2. It ensures that consistent data is transferred without any interruption. This instruction has 3 parameters that need to be assigned:
  - a) The **LADDR** parameter selects the PROFINET I/O module to which data will be written. As shown in the following figure, to find an available address, click on a **list** icon, and from the drop down list select a hardware submodule assigned to the NXEE2 output area.
  - b) The **RECORD** parameter defines the target **Data Block (DB)**, which will contain the NXEE2 Output Data to be written to the NXEE2 by this instruction. To select the data block, click on the **list** icon and from the drop down list find the appropriate data block.
  - c) The **RET\_VAL** parameter will contain an error code if an error occurs while the instruction is being executed.



3. The **“Optimized block access”** attribute must be unchecked for the DPRD\_DAT and DPWR\_DAT instructions to work correctly with the **Data Blocks (DB)** used to read data from and write data to the NXEE2. To verify, right click on the selected **Data Block (DB)** and, from the pop-up menu, choose **Properties ...** As shown in the following image, in the **Properties** window under the **General** tab select **Attributes**, and verify that the **“Optimized block access”** is unchecked.

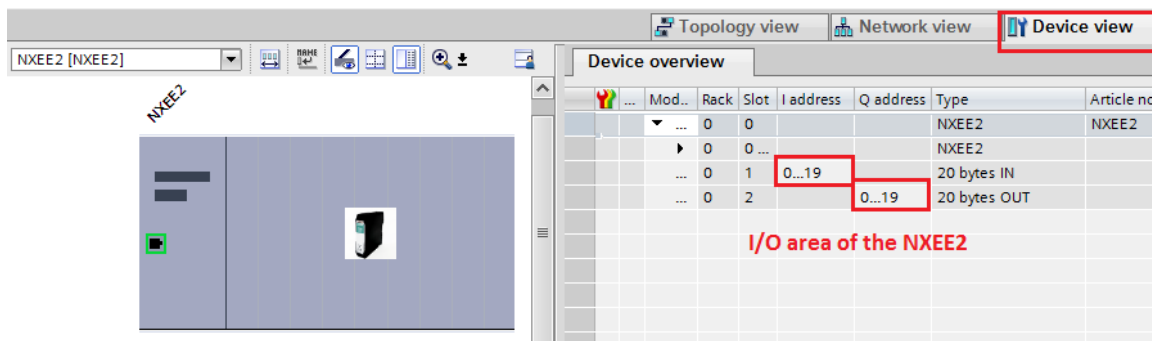


Data Block - **Attributes** properties

## I/O Area of the NXEE2

In some cases, such as Applying the Preset or resetting the Acknowledge bit, only the *Command Word*, the first output word, needs to be sent to the NXEE2. In these cases, the NXEE2 can be accessed directly through its I/O area.

Input and Output Module addresses are assigned by the system when the NXEE2 is added to the network. To learn the NXEE2's I/O area addresses, select the NXEE2 from the **Network view** and then select the **Device view** tab. In this example, the Input area address range is from 0 to 19, and the Output area address range is from 0 to 19. Therefore, *Channel 1 Status* word, as an input word, would be located in **IW00**, *Channel 1 Value 1* word in **IW02**... and the *Command Word*, the first output word, would be located in **QW00**, *Configuration Word* in **QW02**...



Input and Output Module Addresses

In this sample program, as depicted in the following figure, the Command Word is tagged as "NXEE2\_Command\_Word", which is how it will be used in the function blocks, and its address is QW0.

|   | Name                          | Data type | Address | Retain                   | Acces...                            | Writa...                            | Visibl...                           | Supervis... |
|---|-------------------------------|-----------|---------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------|
| 1 | CONTROL                       | Int       | %MW10   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |
| 2 | Read_Ret_Value                | Int       | %MW12   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |
| 3 | Write_Ret_Value               | Int       | %MW14   | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |
| 4 | NXEE2_Command_Word            | Word      | %QW0    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |
| 5 | CH1 Save to FLASH             | Bool      | %M100.0 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |
| 6 | CH1 Network Input Data Format | Byte      | %MB101  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |             |

NXEE2\_Command\_Word tag