Configuring the 2577 Profibus-DP Slave Adapter using 505 Workshop

This Tech note consists of 2 parts:

Part 1 is to be executed on the TI505/ CTI PLC that contains the 2577 card. (Profibus Slave Controller)

Part 2 is to be executed on the PLC that will be the Profibus Master. For this example the configuration is done in 505 Workshop, but if you use another model of PLC a similar configuration will have to be made in the appropriate Profibus configuration tool for that particular model of PLC. In the Profibus configuration tool of the Profibus Master PLC you will need to import the GSD file for the 2577 card. The 2577.GSD file can be downloaded from the CTI website.
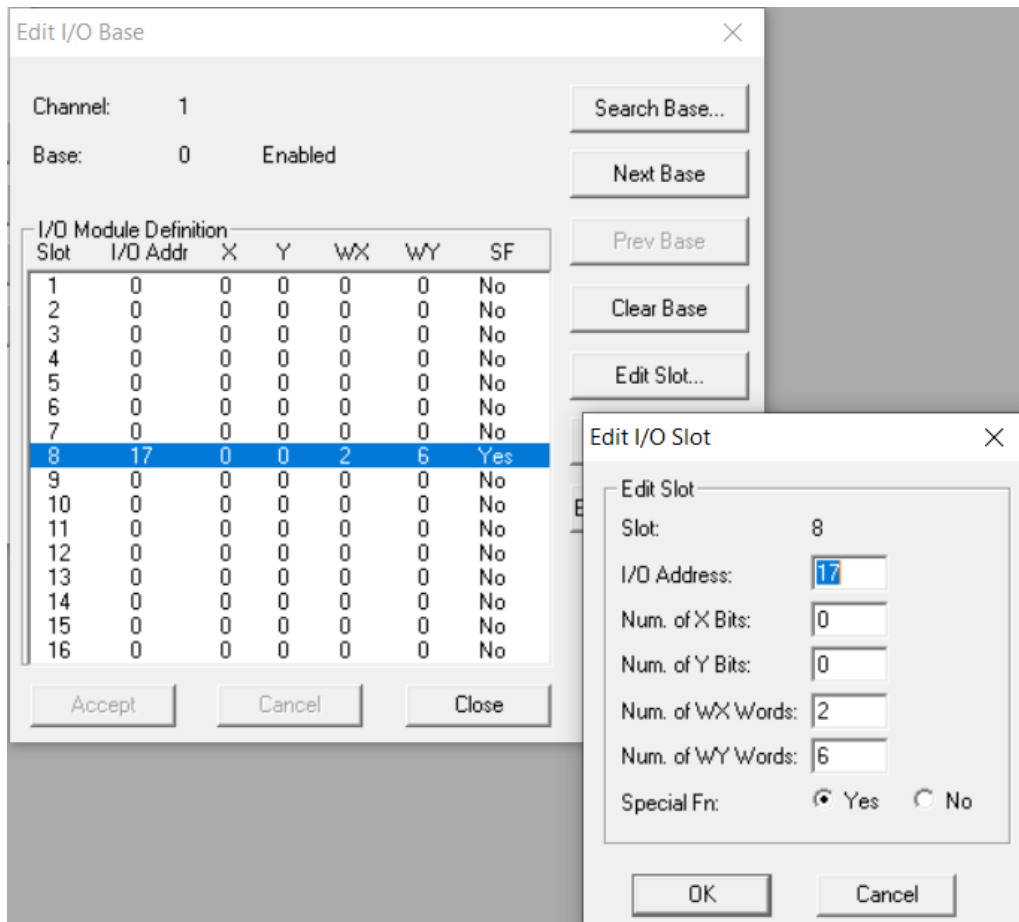
https://controltechnology.com/support/Downloads/Firmware

This document refers to the CTI 2577 Installation and Operation Guide. The manual can be downloaded from:

https://controltechnology.com/support/Product-Documentation/User-Manuals

Part 1: configuration of the CTI PLC that contains the 2577 card.

1. On the 2577 Module set the Profibus Salve address by means of DIP switches on the board.
   See Chapter 2.3 of the *CTI 2577 Installation and Operation Guide* for a detailed description of the DIP switches.

2. Configure the 2577 Module in the I/O configuration. The module logs in as a Special Function Module with 2 WX and 6 WY words. Set the module address to match your specific CTI PLC requirements. Make sure that the addresses used remain unused in the rest of the program. For further details see Chapter 2.5 of the *CTI 2577 Installation and Operation Guide.* Below is an example of the I/O configuration of a card in Base 0, Slot 8 with starting address 17.

Edit I/O Base

Channel: 1

Base: 0 Enabled

I/O Module Definition

Slot	I/O Addr	X	Y	WX	WY	SF
1	0	0	0	0	0	No
2	0	0	0	0	0	No
3	0	0	0	0	0	No
4	0	0	0	0	0	No
5	0	0	0	0	0	No
6	0	0	0	0	0	No
7	0	0	0	0	0	No
8	17	0	0	2	6	Yes
9	0	0	0	0	0	No
10	0	0	0	0	0	No
11	0	0	0	0	0	No
12	0	0	0	0	0	No
13	0	0	0	0	0	No
14	0	0	0	0	0	No
15	0	0	0	0	0	No
16	0	0	0	0	0	No

Search Base...

Next Base

Prev Base

Clear Base

Edit Slot...

Accept   Cancel   Close

Edit I/O Slot

Edit Slot

Slot: 8

I/O Address: 17

Num. of X Bits: 0

Num. of Y Bits: 0

Num. of WX Words: 2

Num. of WY Words: 6

Special Fn: ⦿ Yes   ○ No

OK   Cancel

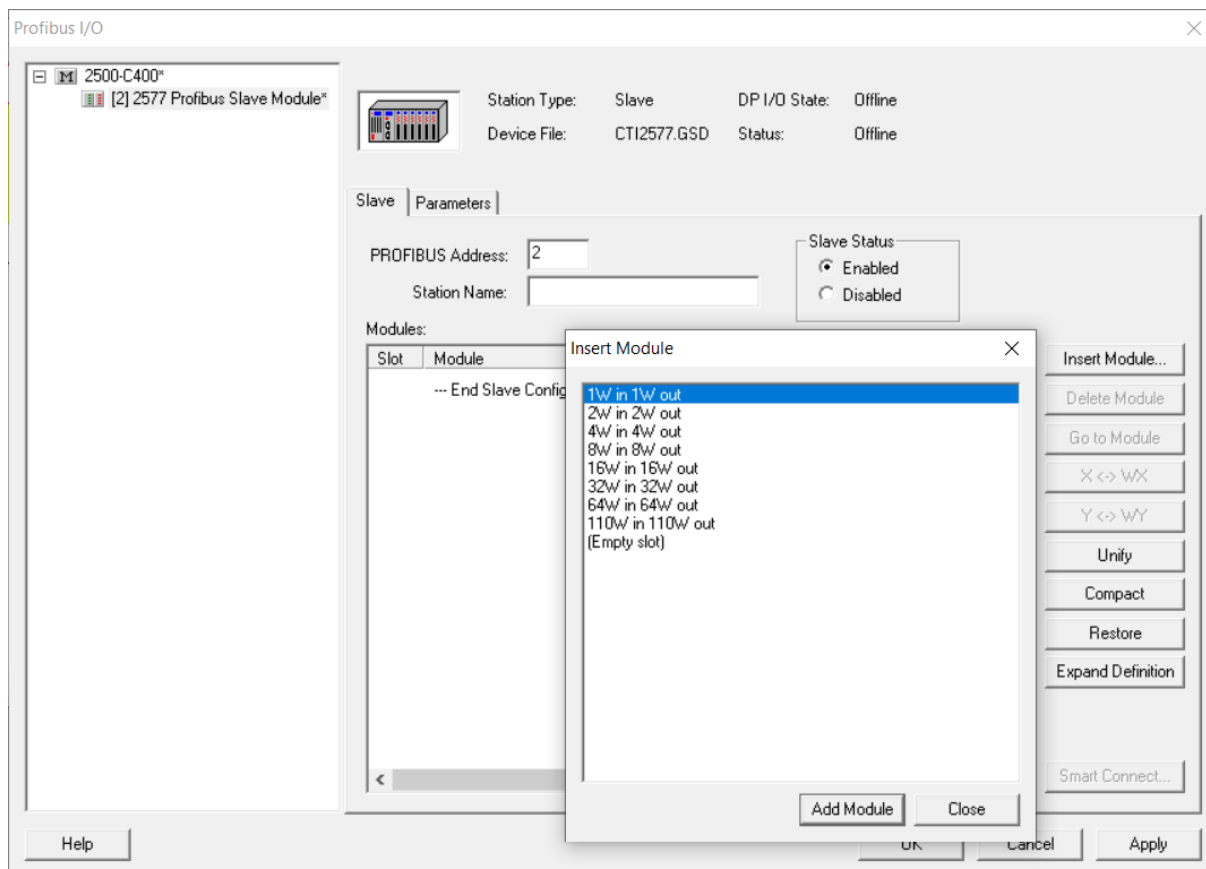# Part 2: Configuration on the Profibus Master PLC.

1. Import the 2577.GSD file in the Profibus Configuration Tool.
2. In the Profibus Configuration Tool add a Profibus Slave. In the list of available hardware devices search for 2577 Profibus Slave Module
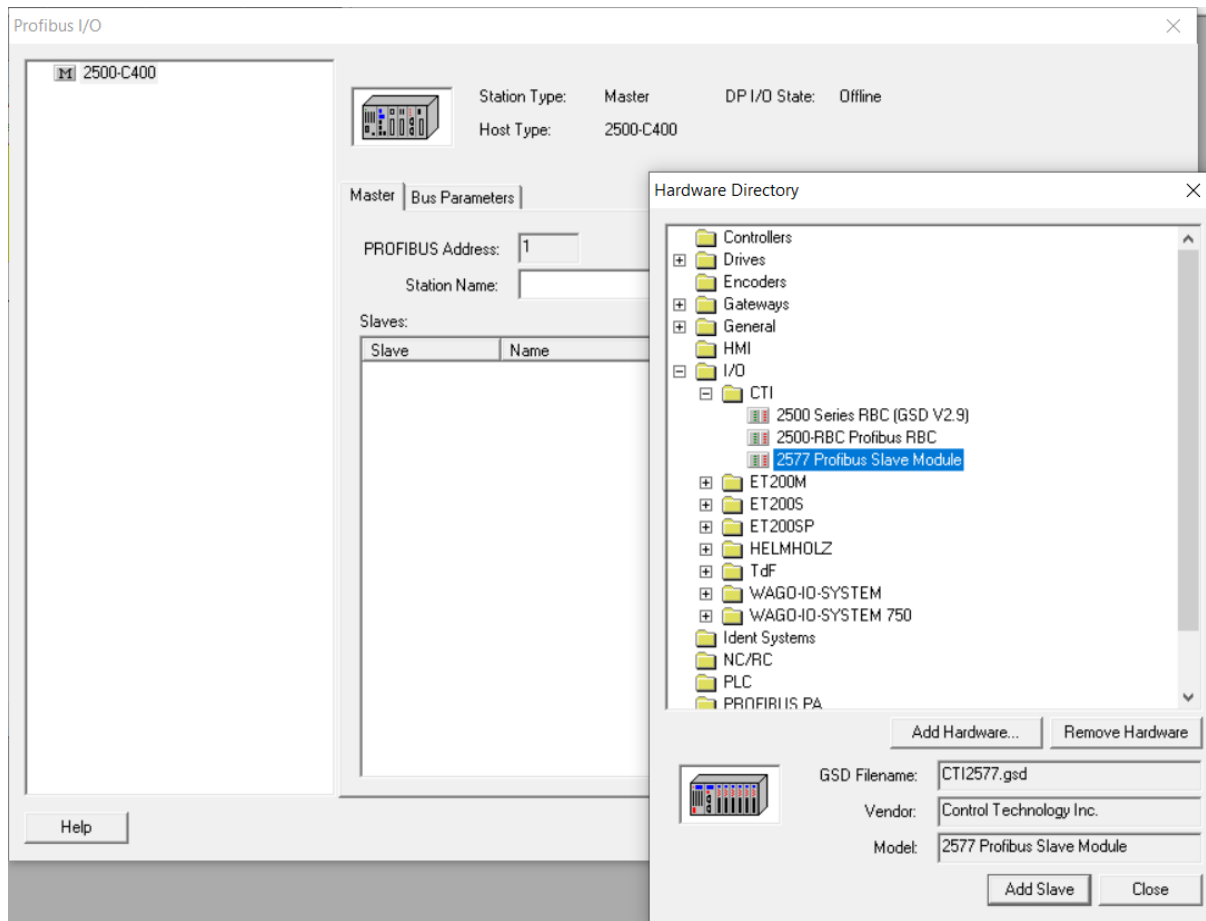
3. Configure the Profibus Slave Address. Make sure the Profibus slave address corresponds to the DIP switch setting made on the card in Part 1 of this description.
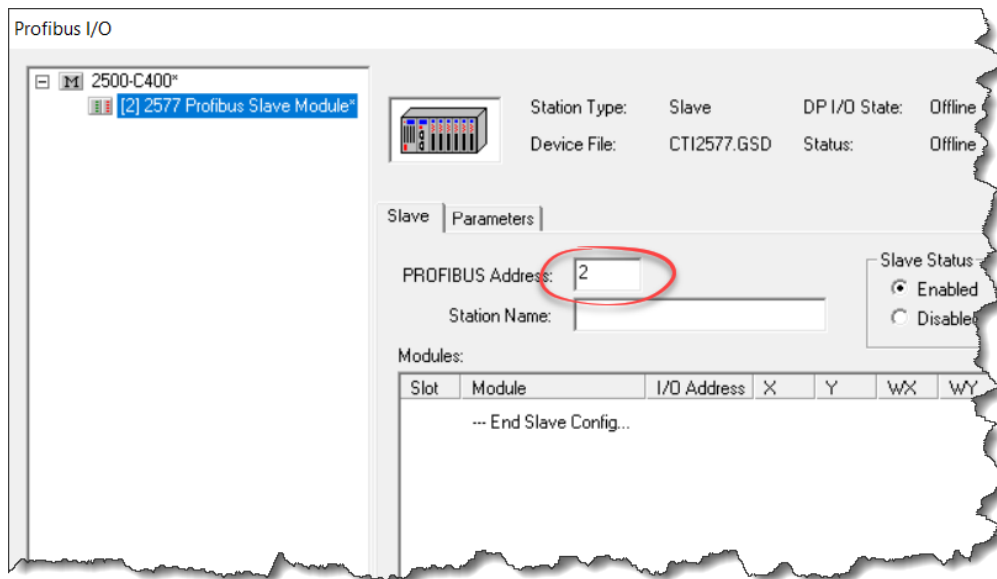

4. Insert a module in the 2577 Profibus slave configured in the previous step. The module type will determine the amount of words to be exchanged between the Master and the slave. The largest possible configuration is 110 Words In + 110 Words Out.


Only One Module can be configured in the 2577 Profibus Slave.

5. Assign I/O Addresses for the blocs of Input Words and output words. **These are Addresses in the Profibus Master PLC.** In this example the addresses are WX/ WY words but depending on the model of PLC you are using as Profibus Master these can be other address types in WORD format. For example in SIMATIC S7 PLC's these will be PIW/ PQW words. In below example we have used WX 129-WX 192 and WY 193 – WY 256. **These are the address that are used in the Profibus Master PLC to read and write data to the Profibus slave PLC.**
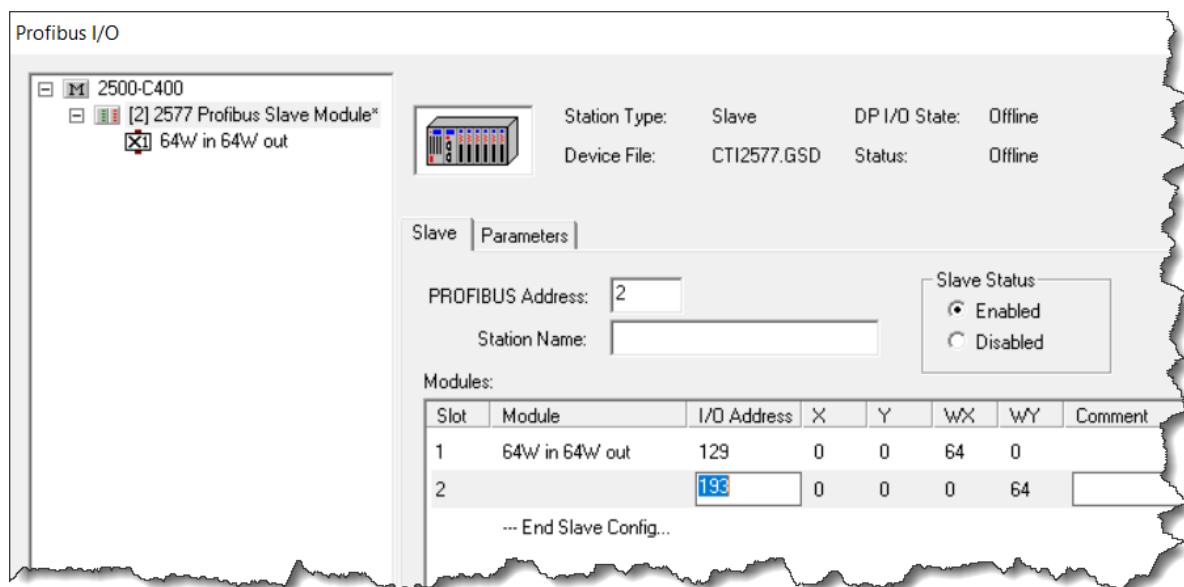
6. In the tree structure on the left side of the window, select the configured module, in this example 64W in 64 W out, and click on the Parameter Tab.
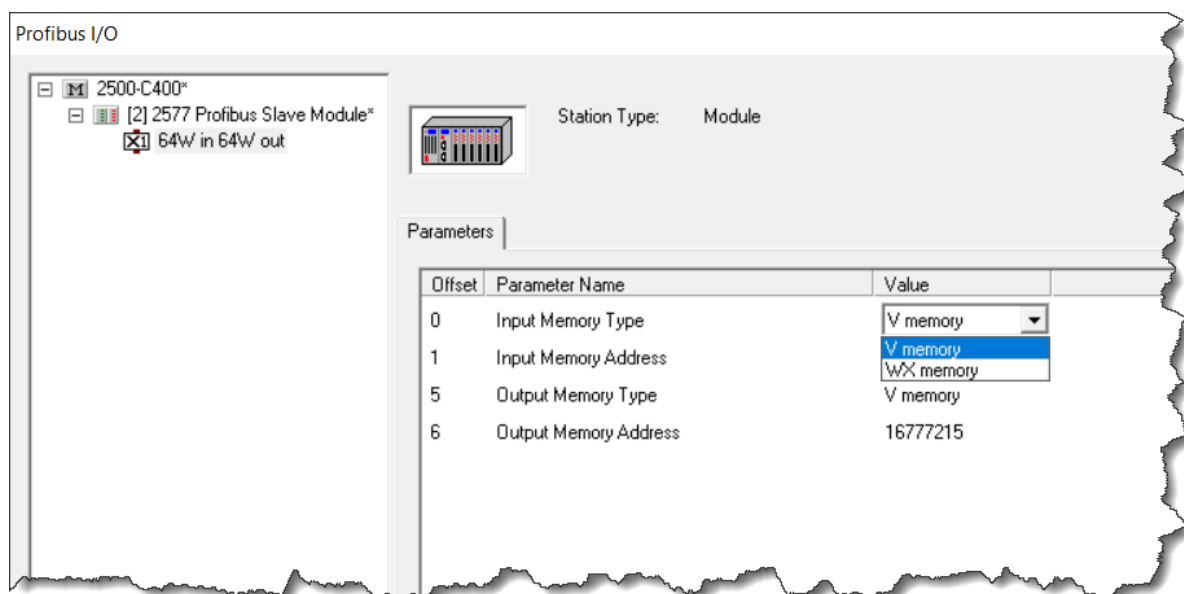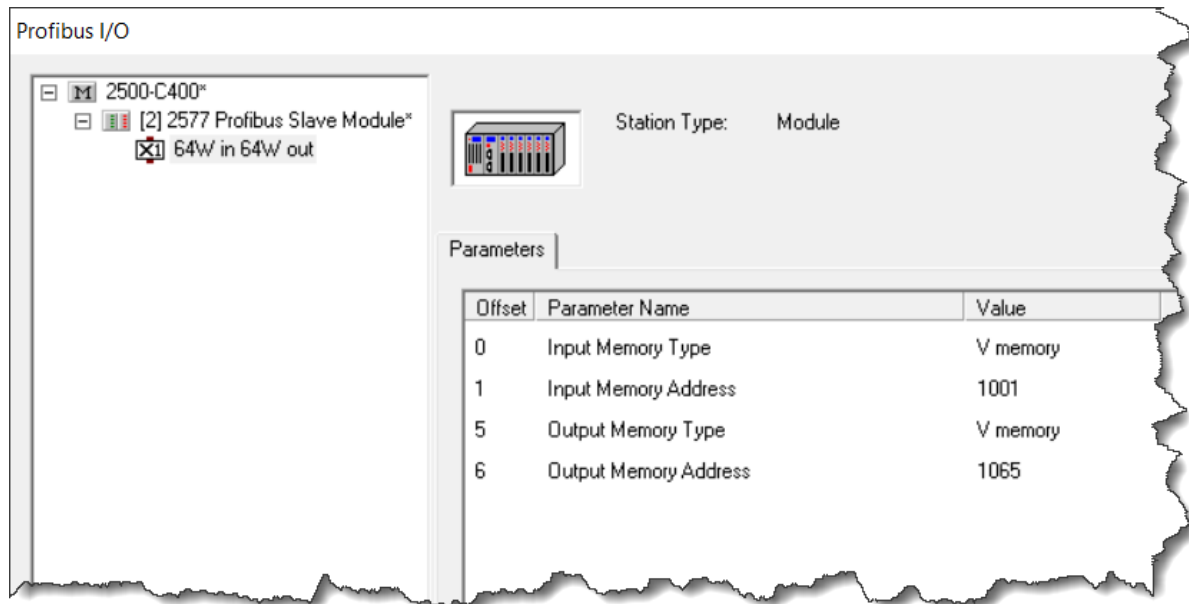

For 32 Word, 64 Word and 110 Word only V-Memory or WX-Memory type are available. For smaller blocks more Memory types are available. See Chapter 2.6 of *CTI 2577 Installation and Operation Guide* for more details. Configure the starting address for the Input Memory block and the starting address for the Output Memory block. **These are the Addresses used for Data Exchange in the Profibus Slave CTI PLC where the 2577 card is installed.**

Input Memory will be read by the Profibus Master
Output Memory will be written by the Profibus Master

In below example V-memory 1001-1064 will be read by the Profibus Master; V-Memory 1065-1128 will be written by the Profibus Master.

Profibus I/O

Offset	Parameter Name	Value
0	Input Memory Type	V memory
1	Input Memory Address	1001
5	Output Memory Type	V memory
6	Output Memory Address	1065

Save and download the configuration to the Profibus Master Controller.
Connect the cables between Profibus Master and Profibus Slave.
Check the status of the LED's on the front plate of the 2577 Card.
For further details see Chapter 3 of the *CTI 2577 Installation and Operation Guide.*
Test the communication between the Profibus Master and slave PLC.