Application Note



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		Search Base	
Base: O	Enabled	Next Base	
I/O Module Definition Slot I/O Addr X	Y WX WY SF	Prev Base	
	0 0 0 No 0 0 0 No 0 0 0 No	Clear Base	
	0 0 0 No 0 0 0 No	Edit Slot	
7 0 0 8 17 0	0 0 0 No 0 0 0 No 0 2 6 Yes	Edit I/O Slot	×
9 0 0 10 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0	0 0 0 No 0 0 0 No	E Edit Slot Slot: 8 1/0 Address: 17 Num. of X Bits: 0 Num. of Y Bits: 0	
Accept	Cancel	Num. of WX Words: 2 Num. of WY Words: 6 Special Fn: • Yes • OK Cancel	No



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

Profibus I/O		×
12 2500-C400	Station Type: Host Type:	Master DP I/O State: Offline 2500-C400
	Master Bus Parameters	Hardware Directory X
Help	PROFIBUS Address: 1 Station Name: Slaves: Slave Name	Controllers Controllers Controllers Controllers Conders Conders Controllers Conders C
		Add Slave Llose



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.

Profibus I/O					\geq
 M 2500-C400* 2 2577 Profibus Slave Module* 		Station Type: Device File:	Slave CTI2577.GSI	DP I/O State:) Status:	Offline Offline
	Slave Paramet	ers			
	PROFIBUS Ad Station N	dress: 2 lame:	>	Sla C	ve Status Enabled Disables
	Modules:				
	Slot Modu	ıle	1/0 Address	X Y W	x wy>
	En	d Slave Config			3

 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.

Profibus I/O					×
2500-C400* [1] [2] 2577 Profibus Slave Module*	Slave Parameters PROFIBUS Address: 2 Station Name:	Slave CTI2577.GSD	DP I/O State: Offline Status: Offline Slave Status © Enabled © Disabled		
	Modules: Slot Module	sert Module		×	Insert Module
	End Slave Config	1W in 1W out 2W in 2W out			Delete Module
		4W in 4W out 8W in 8W out			Go to Module
		16W in 16W out 32W in 32W out			$\times\!$
		64W in 64W out 110W in 110W out			Y <→ WY
		(Empty slot)			Unify
					Compact
					Restore
					Expand Definition
Help	<		Add Module C	lose	Smart Connect

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.

Profibus I/O							
 ▶ 2500-C400 □ 11 (2) 2577 Profibus Slave Module* ▶ 64W in 64W out 		Station Type: Device File:	Slave CTI2577.GSD	DP I/O St Status:	ate: (Offline Offline	
	Slave Paramete	ers					1
	PROFIBUS Add Station N	dress: 2			Slave S Er Di	itatus nabled sabled	
	Modules:			L			
	Slot Modu	le	1/0 Address X	Y	WX	WY	Comment
	1 64W	in 64₩ out	129 0	0	64	0	1
	2		193 0	0	0	64	
	Enc	d Slave Config					4
have a firmer		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				~~~	m d

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.

Profibus I/O		
 ■ 2500-C400* ■ [2] 2577 Profibus Slave Module* ■ 64W in 64W out 	Station Type: Module Parameters	
	Offset Parameter Name 0 Input Memory Type 1 Input Memory Address 5 Output Memory Type 6 Output Memory Address	Value V memory V memory V memory V memory V memory 16777215

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		>
 ■ 2500-C400* ■ 12 2577 Profibus Slave Module* ▲ 64W in 64W out 	Station Type: Module Parameters	
	Offset Parameter Name 0 Input Memory Type 1	Value V memory
	1 Input Memory Address 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.

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