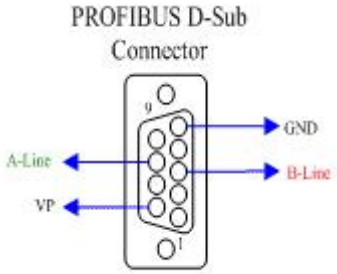
PROFI-5000 PROFIBUS Remote I/O Moodule

Quick Start

● Introduction

This user guide introduces the user how to implement the PROFI-5000 into their applications in a quick and easy way. Therefore, it only provides the basic instructions. For more detail information about the PROFI-5000 module, please refer to the PROFI-5000 user manual in the ICP DAS product CD or download it from ICP DAS web site.

● PROFI-5000 Connector and Pin Assignment

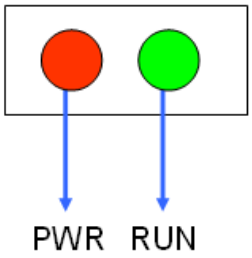


Pin No.	Signal	Meaning
3	B-Line	Receive/Transmit data – plus
5	GND	Power ground of active terminator
6	VP	Power 5 volt of active terminator
8	A-Line	Receive/Transmit data - minus

The PROFIBUS connector is a standard 9-pin D-Sub connector, there are only 4 pins used in PROFI-5000. The pins VP and GND support the 5 volt power to active terminal resistor, and the A-Line and B-Line is the data bus.

● Status Indicator

➢ **PROFI-5045/ PROFI-5050/ PROFI-5051/ PROFI-5052/ PROFI-5053/ PROFI-5055/ PROFI-5060**



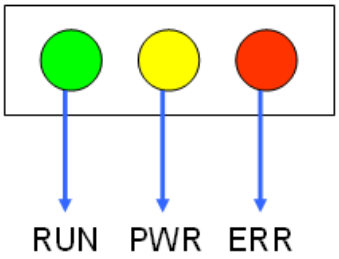
It provides two types of status indicator, they are PWR LED (Red) and RUN LED (Green).

Status Indicator	Meaning	Recommend solution
PWR ON & RUN OFF	Master not Ready, Address not Match or Cfg Fault	1. Check the address setting of module and DP-master. 2. Sets the DP-Master to operation mode. 3. Make sure of the consistency of Module Selection.

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PWR ON & RUN ON	Module is in clear mode or operation mode.	N/A

- **PROFI-5017/ PROFI-5017C/ PROFI-5018/ PROFI-5024**



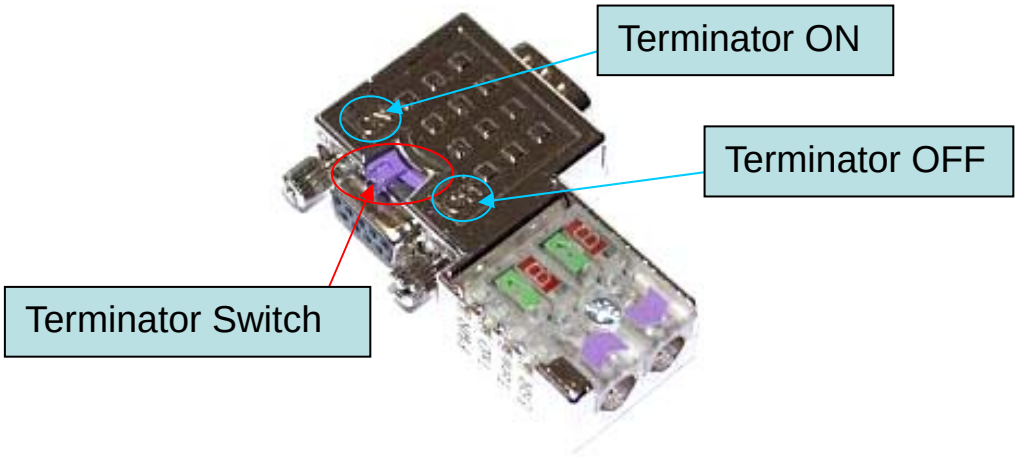
It provides three types of status indicator, they are PWR LED (yellow), ERR LED (red) and RUN LED (green). When the power is supplied to module, PWR LED will turn on; If CHK_CFG procedure is finished, RUN LED will turn on and ERR LED will turn off. The table explains the relationship between them.

Status Indicator	Meaning	Recommend solution
ERR ON & RUN OFF	Offline Mode	Check the address setting of module and DP-master.
ERR Flash(0.1 sec)	Stop Mode	Check the DP-Master is ready to communicate with module.
ERR Flash(0.5 sec)	Prm Fault	Check the setting of module in the master interface and make sure of the consistency.
ERR Flash(1 sec)	Cfg Fault	Same as above
ERR ON & RUN ON	Clear Mode	Sets the DP-Master from clear mode to operation mode
ERR OFF & RUN ON	Operate Mode	
PWR & ERR Flash lnterlace(0.5 sec)	Diag Exist (Diag. Msg. Request)	Check the Input/Output value that if exceed/under the limit

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Terminating Resistors

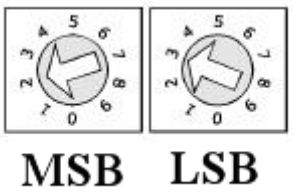
In order to minimize the reflection effect of the signal transmission, PROFIBUS device has to fit with an active terminal resistor at both first node and last node. The connection of active terminating resistors is shown in above circuit diagram. The PROFI-5000 doesn't have any terminating resistors inside. Therefore, users must add the terminator in external. In general, PROFIBUS connector has terminating resistors inside, and there is a switch to control the ON/OFF of the terminating resistors, as shown below.



Node Address

According to PROFIBUS specification, the station address which from 0 to 126 is valid, and the address 126 is a special address that supports the remote setting SSA telegram from Class 2 DP-Master.

- **PROFI-5045/ PROFI-5050/ PROFI-5051/ PROFI-5052/ PROFI-5053/ PROFI-5055/ PROFI-5060**



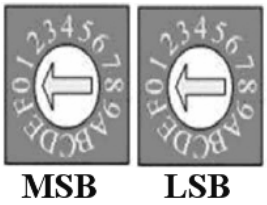
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- The figure shown above is the decimal rotary switch. It dominates the node (station) address of PROFI-5000. The left side switch is high nibble of address and the other one is low nibble of address.
- It doesn't support SSA service for setting node address.

EX 1 : MSB = 2, LSB = 3, node address => (2*10+3) = 23

- **PROFI-5017/ PROFI-5017C/ PROFI-5018/ PROFI-5024**



- The figure shown above is the decimal rotary switch. It dominates the node (station) address of PROFI-5000. The switch is which labeled MSB is high nibble of address and the other one is low nibble of address.
- Module applies the setting of rotary switch as its address if the address is valid. While the address is invalid, module loads the pre-saved value from EEPROM. Moreover, if the address is invalid (126) again, module awaits the SSA telegram and applies it. (Note: If you want to clear the setting stored at EEPROM, you just adjust rotary switch to FF before the power supplied).

Rotary Switch(dec)	Pre-saved address (EEPROM)	SSA Telegram	PROFI-5017(C) Station Address
0~125	Do not care	No Accept	Rotary Switch
126~254	0~125	No Accept	Pre-saved address(EEPROM)
	126(default)	Accept with address 0~125	SSA Telegram and save address to EEPROM
	127~254	impossible	N/A
255	Clear to 126	Accept with address 0~125	SSA telegram and save address to EEPROM

EX 1 : MSB = 0, LSB = B, node address => (0*16+11) = 11

EX 2 : MSB =7, LSB = 9, node address => (7*16+9) = 121

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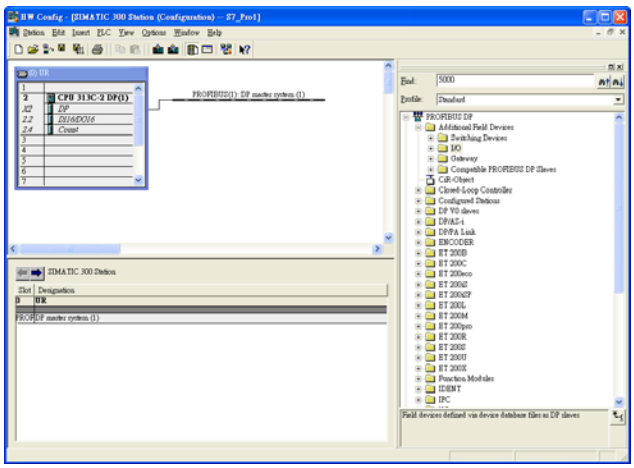
● PROFI-5000 – Setting and Module Installation (example for SIMATIC Step 7)

The following steps can help users to set and apply the PROFI-5000.

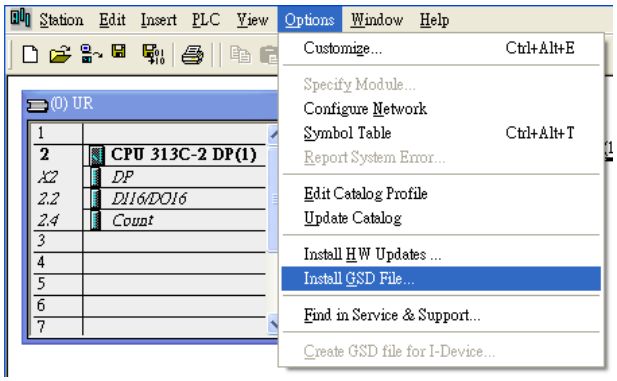
1. Address Setting:

2. Load GSD file into the DP-Master Configuring software

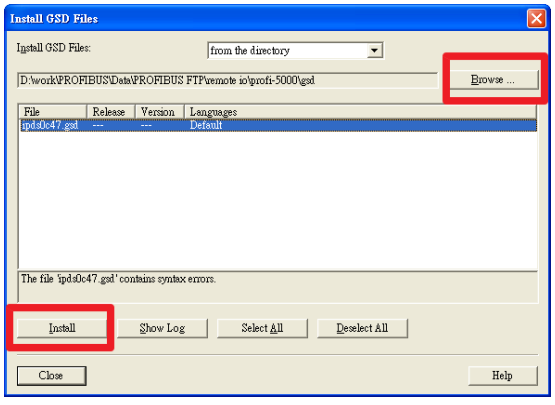
a. Open HW Config



b. Select Option -> Install GSD files

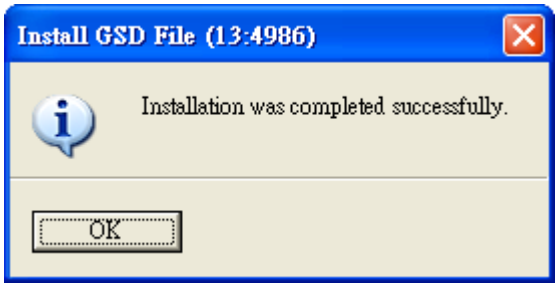


c. Click “Browse” to select GSD file, and then click “Install”



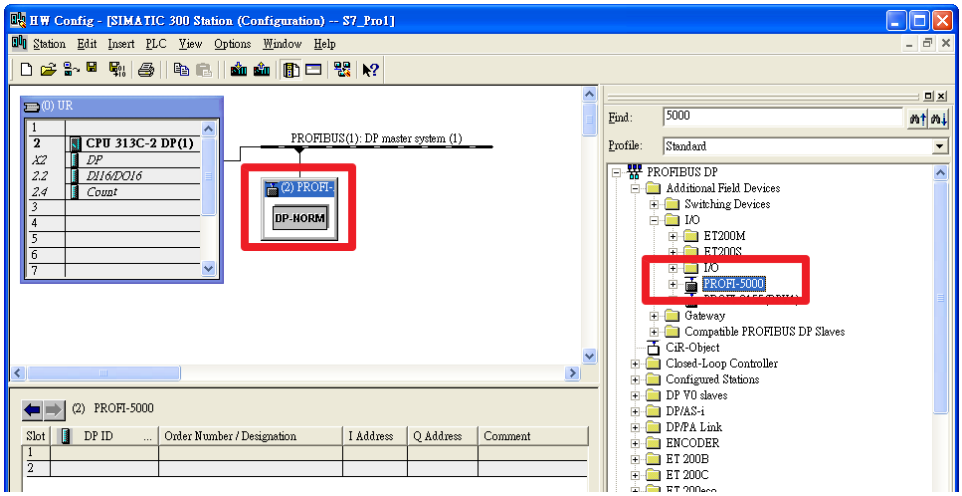
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d. Install OK

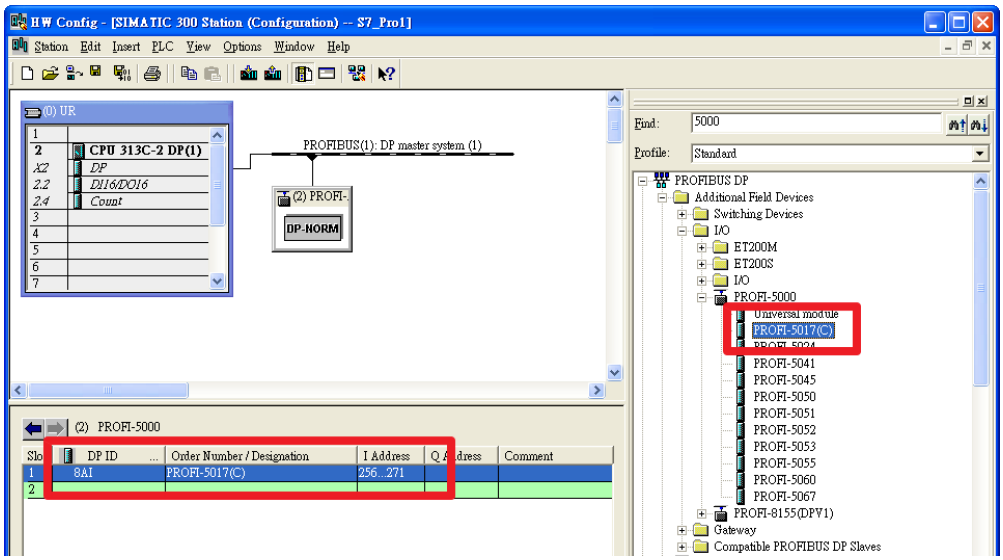


3. Select I/O modules

a. Choose PROFI-5000



b. add I/O module that you want to use.

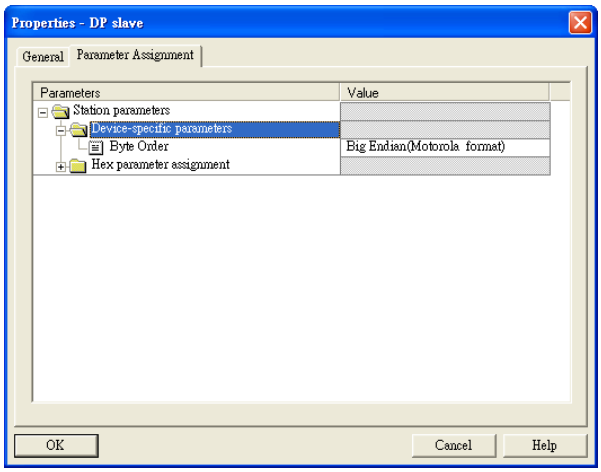


c. Modify system parameters and module parameters(modify by user's preference)

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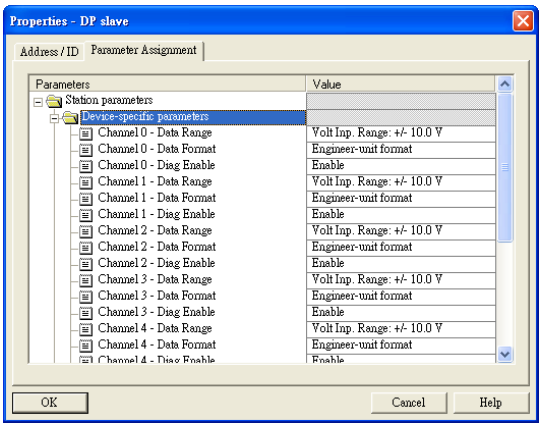
➢ System parameters: Double click PROFI-5000





➢ Module parameters: Double click module

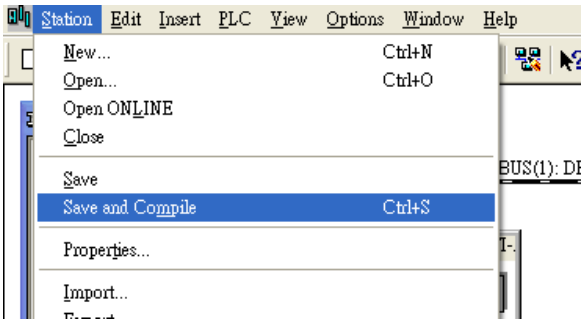




4. Download Setting and Program into DP-Master

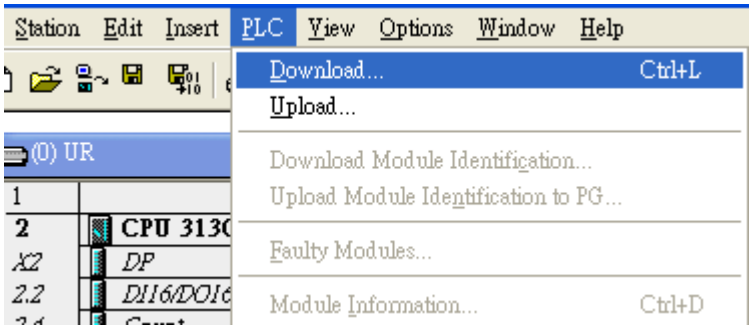
Users load the setting and program into DP-Master, and let it go.

a. Select Station -> Save and Compile



b. Select PLC -> Download

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After the procedure finish, DP-Master will establish the connection with PROFI-5000 and execute program automatically. RUN_LED indicates the status of connection that you can observe.

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