

PROFI-8855 – PROFIBUS Remote I/O Unit

Quick Start User Guide

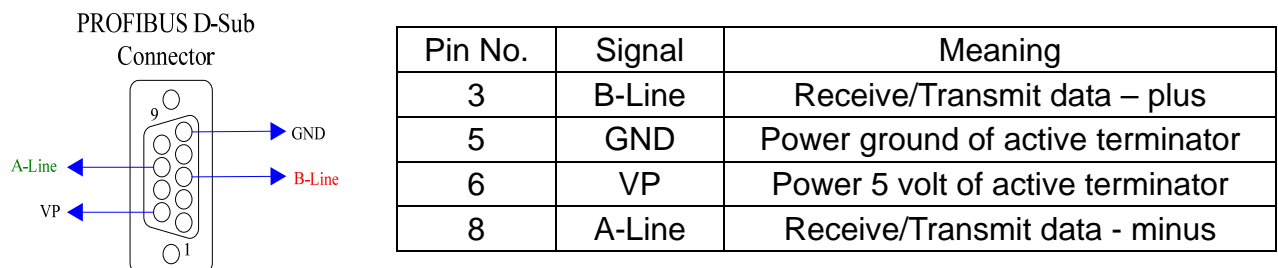
● Introduction

This user guide introduces the user how to implement the PROFI-8855 into their applications in a quick and easy way. Therefore, it only provides the basic instructions. For more detail information about the PROFI-8855, please refer to the PROFI-8855 user manual in the ICP DAS product CD or download it from ICP DAS web site.

●PROFI-8855 Hardware Structure

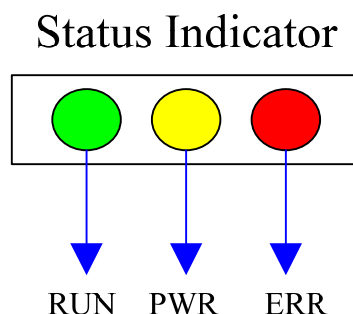


● PROFI-8855 Connector and Pin Assignment



The PROFIBUS connector is a standard 9-pin D-Sub connector, there are only 4 pins used in PROFI-8855. 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



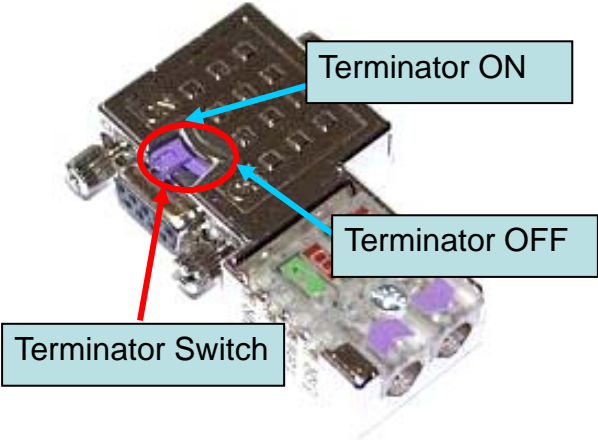
PROFI-8855 provide three types of status indicators, they are PWR LED (yellow), ERR LED (red) and RUN LED (green).

| Status Indicator | Meaning | Recommend solution |
|-------------------------|---|---|
| ERR ON & RUN OFF | PROFI-8855 is offline with no valid baud rate (offline mode*) | Check the address setting of PROFI-8855 and DP-master. |
| ERR Flash (0.1 Sec) | PROFI-8855 detects baud rate, but is still offline.(stop mode*) | Check the DP-Master is ready to communicate with PROFI-8855. |
| ERR Flash (0.5 Sec) | PROFI-8855 Prm is Fault.(Note 1) | Check the setting of PROFI-8855 in the master interface and make sure of the consistency. |
| ERR Flash (1 Sec) | PROFI-8855's Cfg is fault(Note 2) | Same as above |
| ERR ON & RUN ON | PROFI-8855 is in clear mode*. | Sets the DP-Master from clear mode to operation mode |
| ERR OFF & RUN ON | PROFI-8855 is in operation mode*. | |
| PWR & ERR Flash (1 Sec) | PROFI-8855 detect module(s) offline | Find the reason of the fault of corresponding module. |

● 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-8855 doesn't have any terminating

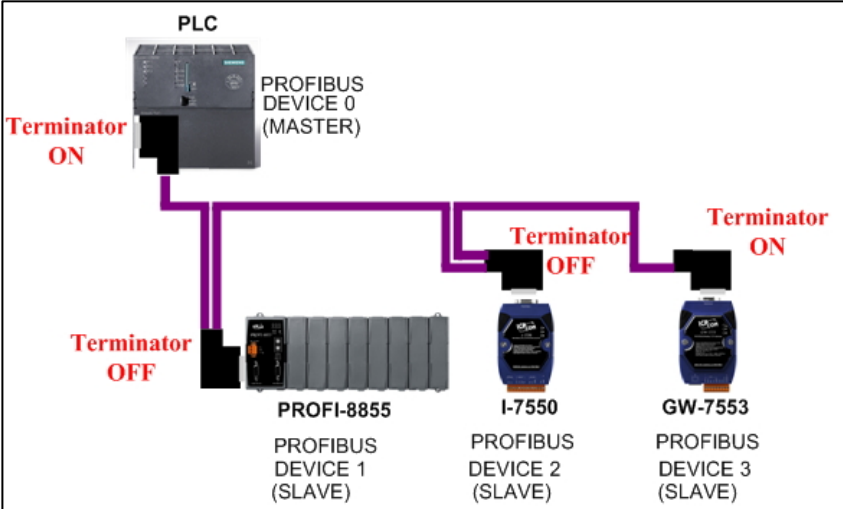
resistors inside. Therefore, users must add the terminator in external. In general, PROFIBUS connector has terminating resistors inside, and there is a switch to control the ON/OFF of the terminating resistors, as shown below.



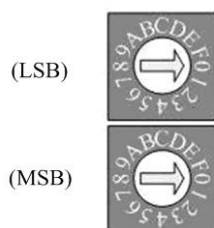
● PROFIBUS Connection

The PROFIBUS interface of the PROFI-8855 is a DB9 female connector. It is recommended to use a standard PROFIBUS cable and connector (DB9 male).

NOTE: Both side of the PROFIBUS cable which connect PROFI-8855 can add a core to reduce noise.



● Node Address



The figure shown above is the hexadecimal rotary switch. It dominates the node (station) address of PROFI-8855. The switch which labeled MSB is high nibble of address and the other one is low nibble of 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-8855 uses the value of rotary switch as its address if the address is valid. While the address is invalid, PROFI-8855 will load the pre-saved value in EEPROM. Moreover, if the address is invalid (126) again, PROFI-8855 awaits the SSA telegram and applies it. (Note: If you want to clear the setting stored in EEPROM, you should adjust rotary switch to FF before the power is supplied).

| Rotary Switch(dec) | Pre-saved address (EEPROM) | SSA Telegram | PROFI-8855 Station Address |
|--------------------|----------------------------|---------------------------|---|
| 0~125 | Don't 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 of PROFI-8855 => $(0*16+11) = 11$

EX 2 : MSB =>7, LSB => 9,
node address of PROFI-8855 => $(7*16+9) = 121$

● PROFI-8855 – Setting and Module Installation

The following steps can help users to set and apply the PROFI-8855.

1. Module Installation:

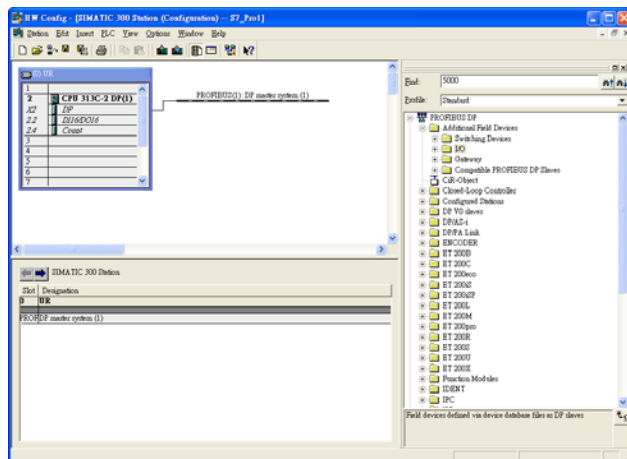
In the expansion slots, users install the modules, and make sure of correct installation. Notice that address mapping is order by slot id of installed module (from left to right), and the expansion slot that without module will be skipped.

2. Address Setting:

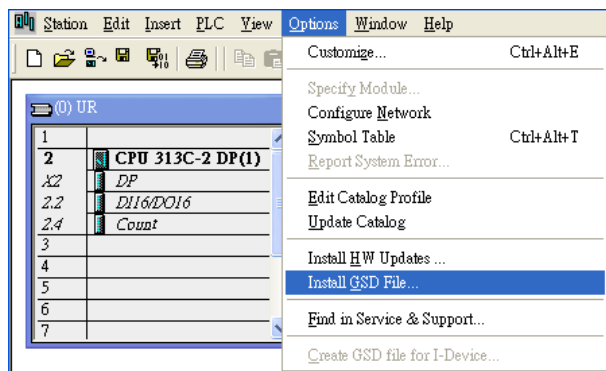
There are two hexadecimal rotary switches in PROFI-8855 panel. They dominate the address of PROFI-8855. The switch labeled LSB is represented the low nibble of the address, and the switch labeled MSB is represented the high nibble of the address. For advance setting, please refer to PROFI-8855 User's Manual.

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

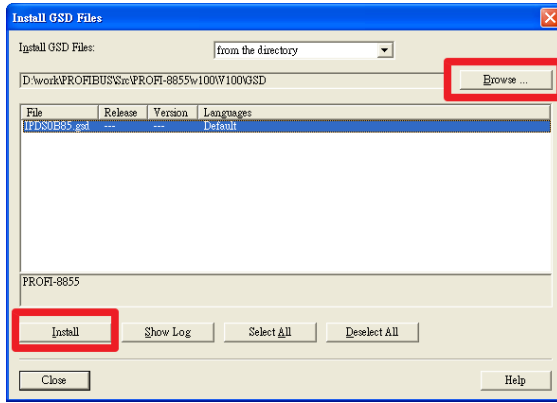
a. Open HW Config



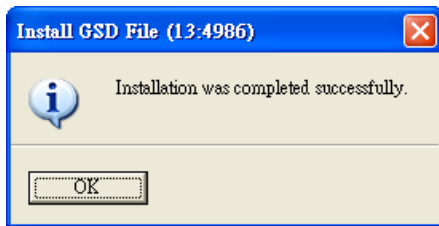
b. Select Option -> Install GSD files



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

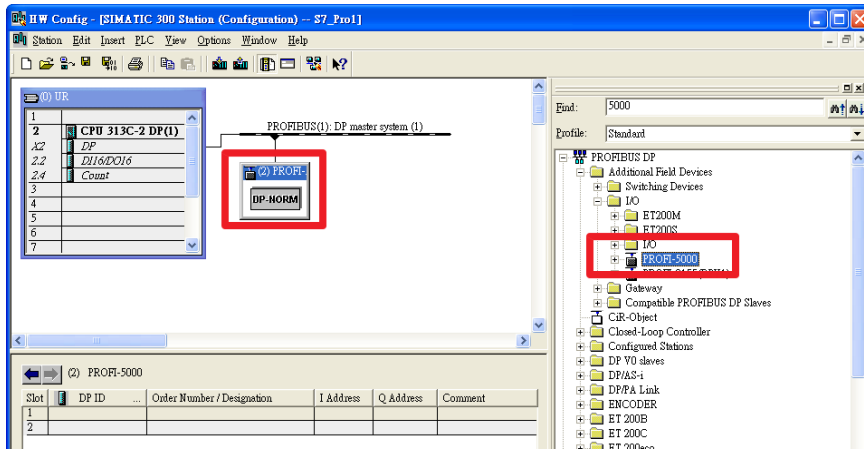


d. Install OK

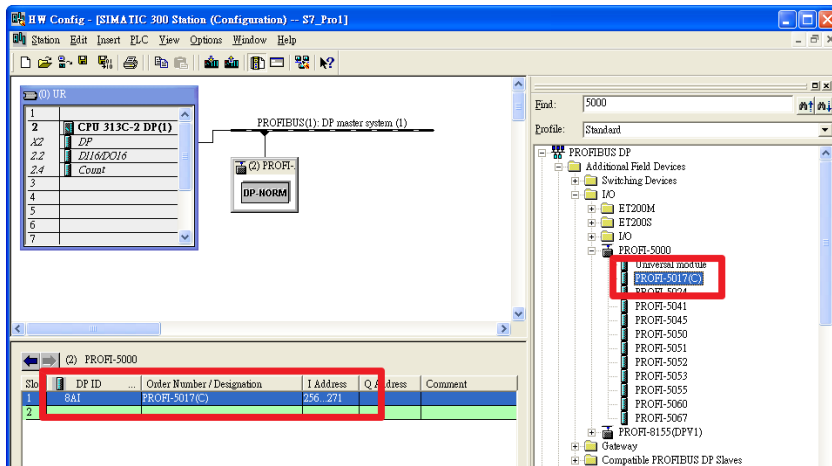


4. Select I/O modules

a. Choose PROFI-8855



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



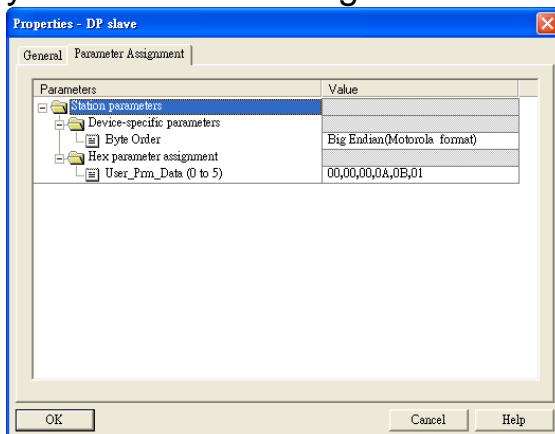
5. Set Parameter Data

Wait parameterization is an important step before data exchange. In this stage, DP-Master provides the essential parameter to PROFI-8855 include user parameters and module parameters. Therefore, it must finish this setting before data exchange.

1. User Parameter:

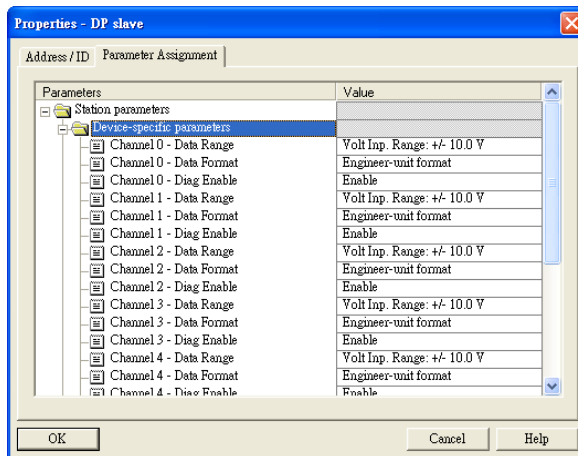
“User parameter” also called “system parameter” is the basic parameters. The number of parameter is fixed regardless of the number of modules. In PROFI-8855, there are two kinds of parameter. They are Byte Order and Diagnosis Report Period.

Byte-Order Parameter: If your system obeys the INTEL data format, you should select Little-Endian mode; otherwise, you should select Big-Endian mode.



2. Module Parameters:

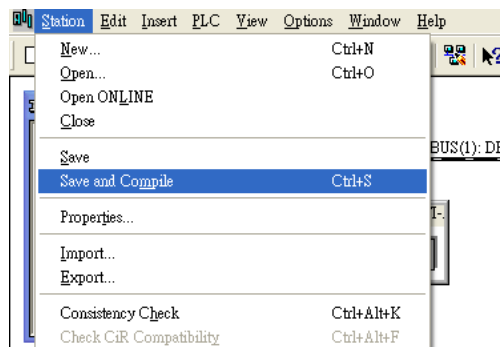
The most of modules must be initialized before applying them. Module parameters provide information about Operation Code, Data Code or Enable Diagnosis, etc... Please refer to the manual to know more information about these parameters.



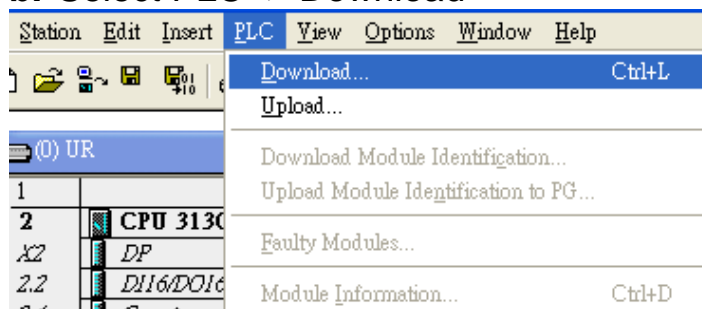
6. Download Setting and Program into DP-Master

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

a. Select Station -> Save and Compile



b. Select PLC -> Download



After finishing the procedure, DP-Master will establish the connection with PROFI-8855 and execute program automatically. RUN_LED indicates the status of connection that you can observe.