CAN-8123/ CAN-8223/CAN-8423/CAN-8823
CANopen Slave Device

Quick Start User Guide

Introduction

This user guide introduces the user how to implement the CAN-8123/CAN-8223/CAN-8423 into their applications in a quick and easy way. Therefore, it only provides the basic instructions. For more detail information about the CAN-8123/CAN-8223/CAN-8423/CAN-8823, please refer to the CAN-8123/CAN-8223/CAN-8423/CAN-8823 user manual in the product CD or download it from following web site:

http://www.icpdas.com/products/Remote_IO/can_bus/can-8123.htm

or

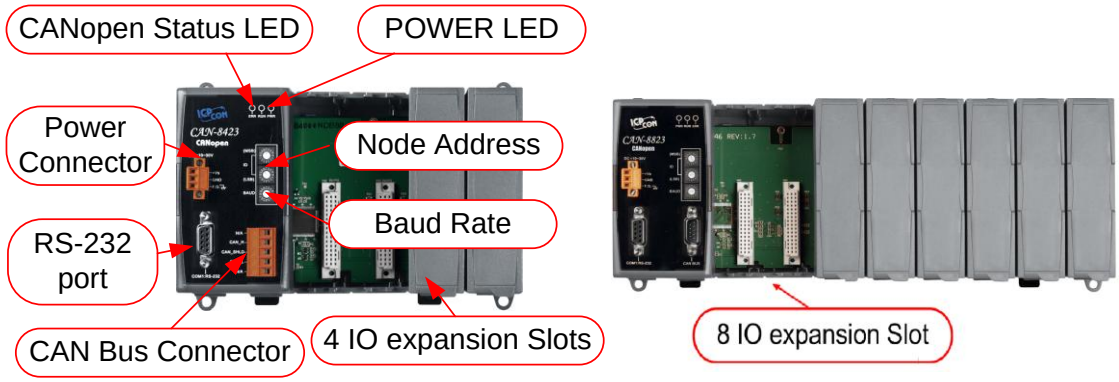
http://www.icpdas.com/products/Remote_IO/can_bus/can-8423.htm

http://www.icpdas.com/products/Remote_IO/can_bus/can-8823.htm

CAN-8123/CAN-8223 Hardware Structure

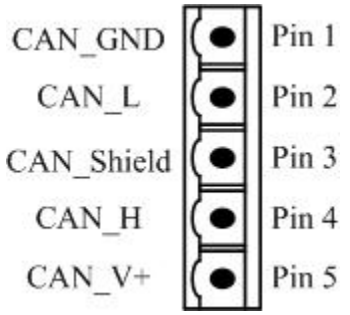


CAN-8423/CAN-8823 Hardware Structure



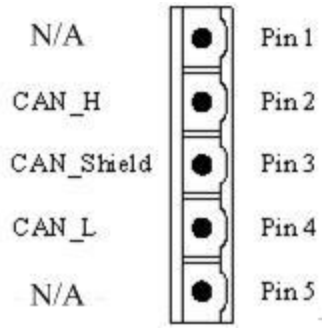
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CAN-8123/ CAN-8223 CAN bus connectors ping assignment



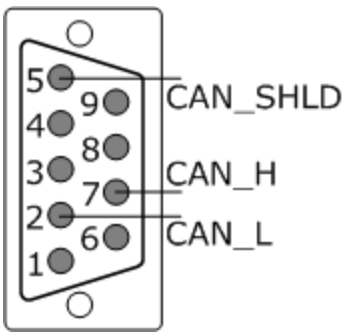
Pin	Signal	Description
1	CAN_GND	Ground (0V)
2	CAN_L	CAN_L bus line (dominant low)
3	CAN_SHLD	Optional CAN Shield
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_V+	CAN external positive supply

CAN-8423 CAN bus connectors ping assignment



Pin	Signal	Description
2	CAN_H	CAN_H bus line (dominant high)
3	CAN_SHLD	Optional CAN Shield
4	CAN_L	CAN_L bus line (dominant low)

CAN-8823 CAN bus connectors ping assignment



Pin	Signal	Description
2	CAN_L	CAN_H bus line (dominant high)
5	CAN_SHLD	Optional CAN Shield
7	CAN_H	CAN_L bus line (dominant low)

Power and CAN Connection

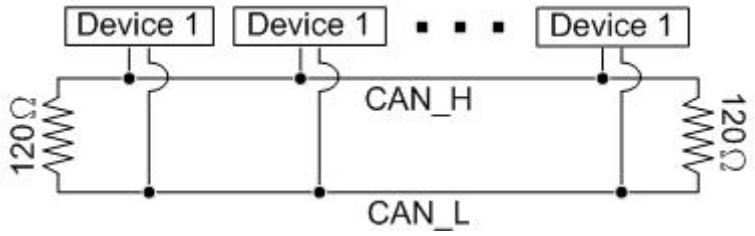
The CAN-8123/CAN-8223/CAN-8423 CAN connector is standard 5-pin screw terminal connector. The CAN-8823 CAN connector is D-Sub 9-pin. User can connect it directly to CAN-8123/CAN-8223/CAN-8423 with any other standard male 5-pin screw terminal and to CAN-8823 with D-Sub 9-pin connector. Take a note that the CAN-8423 power pin of CAN connector is useless. Therefore, users need to give CAN-8423 power by using power connector. Please refer to the CAN-8423 Hardware Structure described before.

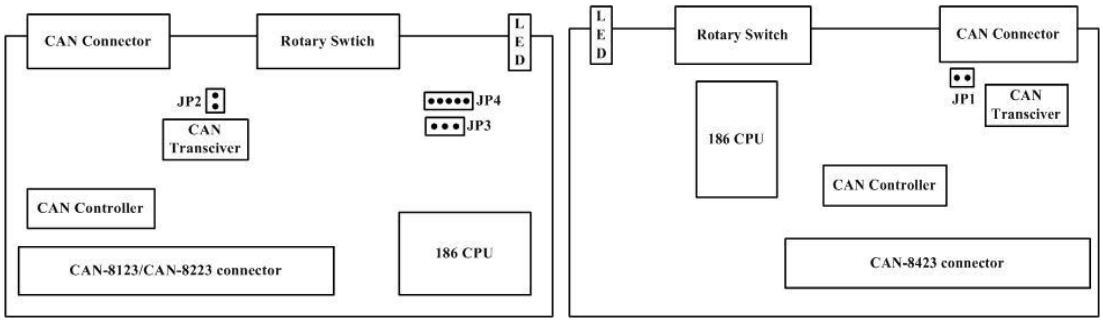
Terminal Resistance

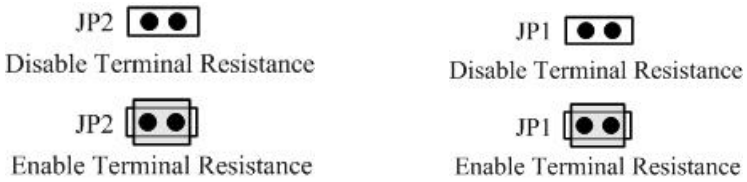
In order to minimize the reflection effects on the CAN bus line, the CAN bus line has to be terminated at both ends by two terminal resistances. The CAN-8123/CAN-8223/CAN-8423/CAN-8823 has the 120Ω terminal resistance inside. The JP2 of the CAN-8123/CAN-8223 and the JP1 of the CAN-8423/CAN-8823 is for terminal resistance.

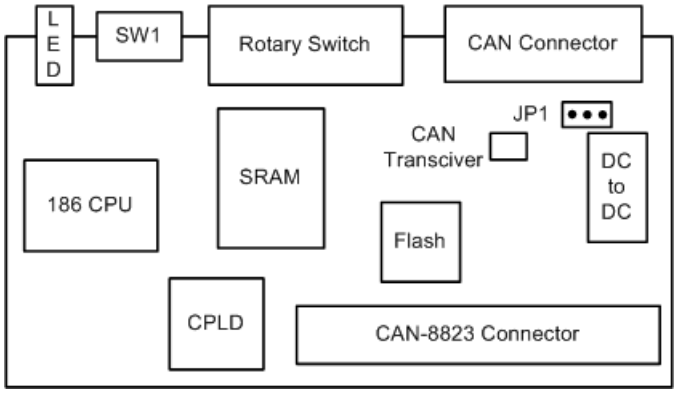
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Their position and jumper status are shown in the following figure.











Install CANopen Slave Utility

Step1: Download the CANopen Slave Utility file from the web site

http://www.icpdas.com/download/index.htm

or CD-ROM disk following the path:

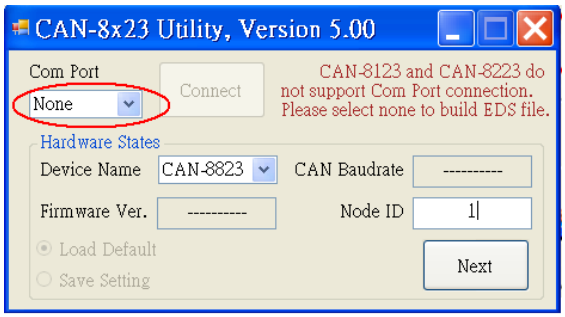
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"/CANopen/Slave/CAN-8x23/Utility/CANopen_SL.exe"

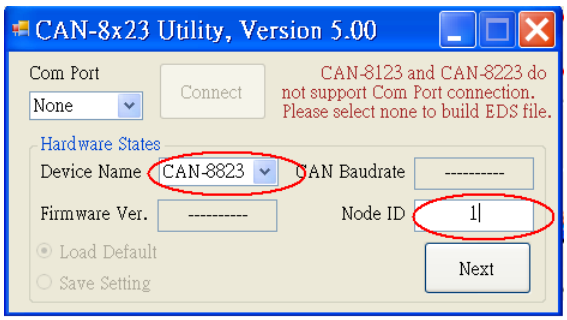
Step 2: Execute the CANopen_SL2.0.exe file to configure the CANopen Slave.

CAN-8123/ CAN-8223 Configuration (Off-line mode)

Step 1: Select "None" in the "COM Port" area.



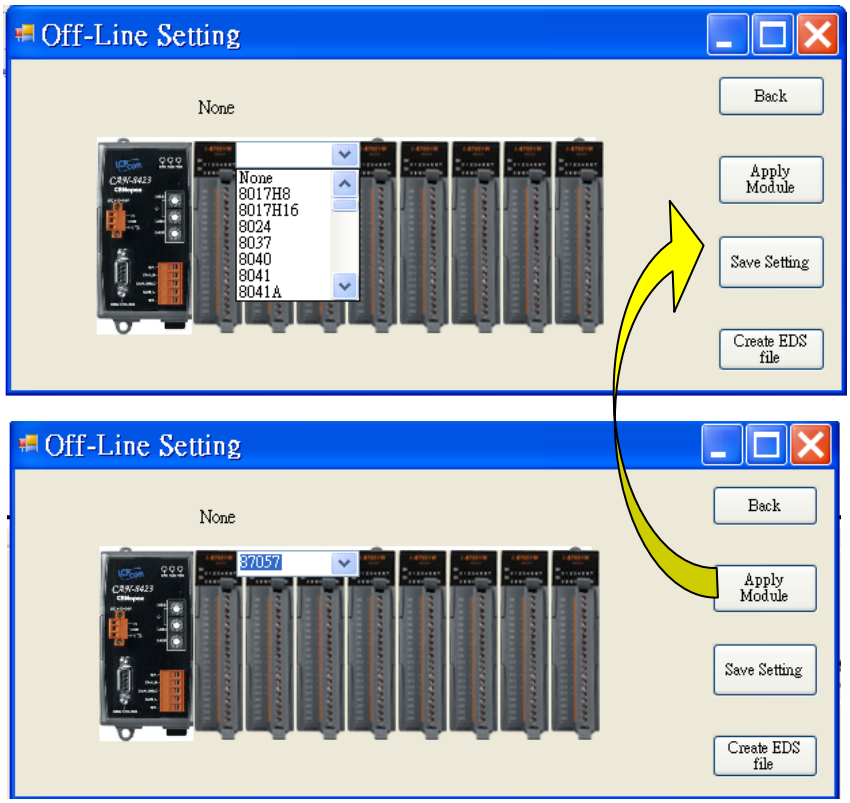
Step 2: Take the CAN slave device (CAN-8823 with node ID 1) as an example, Users have to fill in "NODE ID" with 1 and choose "Device Name" with CAN-8823. Then, press "Next" button.



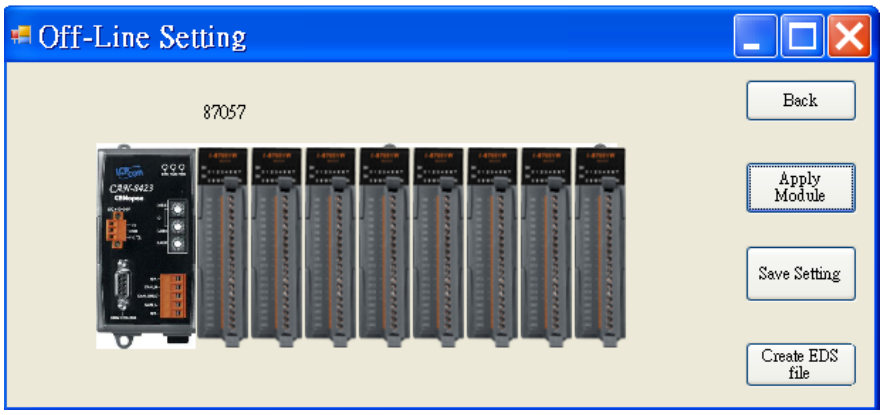
Step 3: Then, select a specific device presented in the "Off line Setting" frame, and choose a correct slot module inserted.

For example, if the I-87057 and I-8051 modules are inserted in slot 0 and slot 1 respectively, please select 87057 in the list box, and click "Apply Module" to save the configuration.

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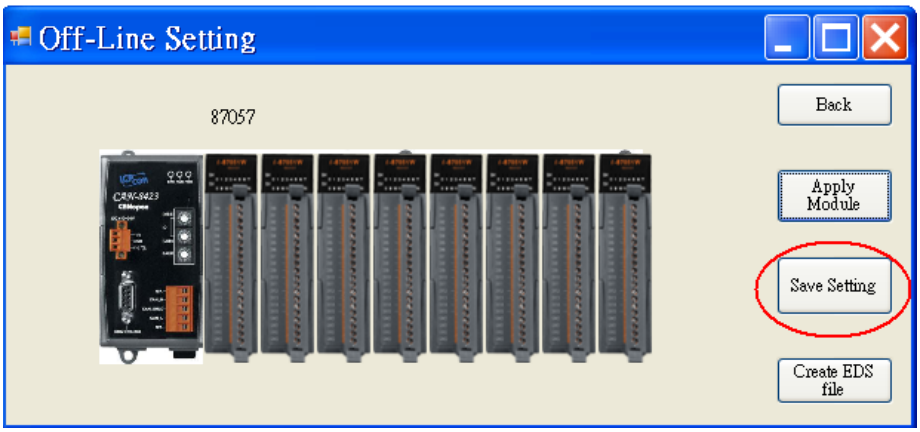


Step 4: After finishing the configuration, users can one-left click on the slot module in the “Off Line Setting” frame if need to change the configuration. If the configuration is successful, users can see the correct module name when mouse moving in, for example 87057 on the top of the slot module..

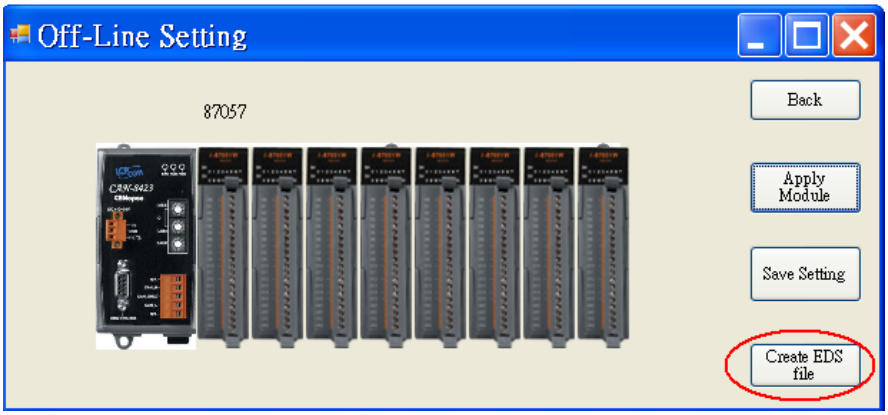


Step 5: Then, repeat the step 3~4 to configure the slot 1 to I-8042 module. Then, click “Save Setting” button to finish the off-line parameter settings..

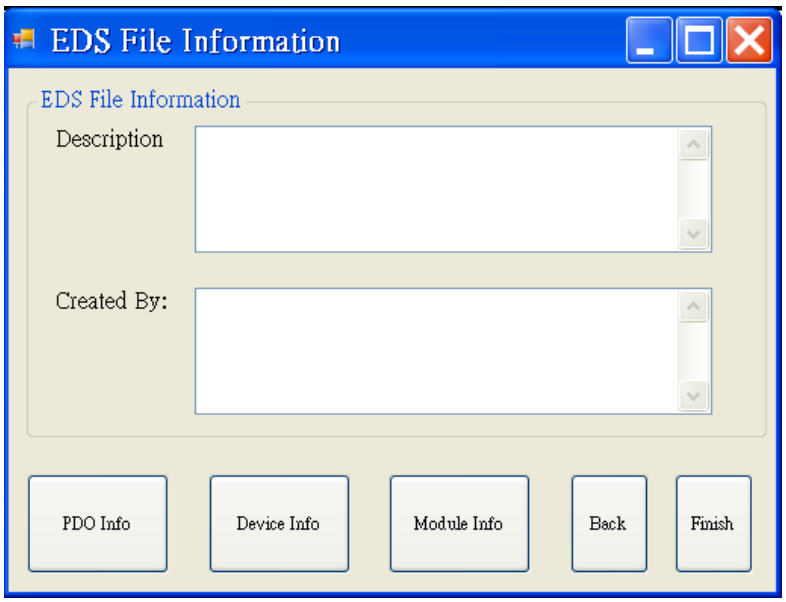
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Step 6: Then users can press button “Create EDS Module” for create CANopen slave EDS file.



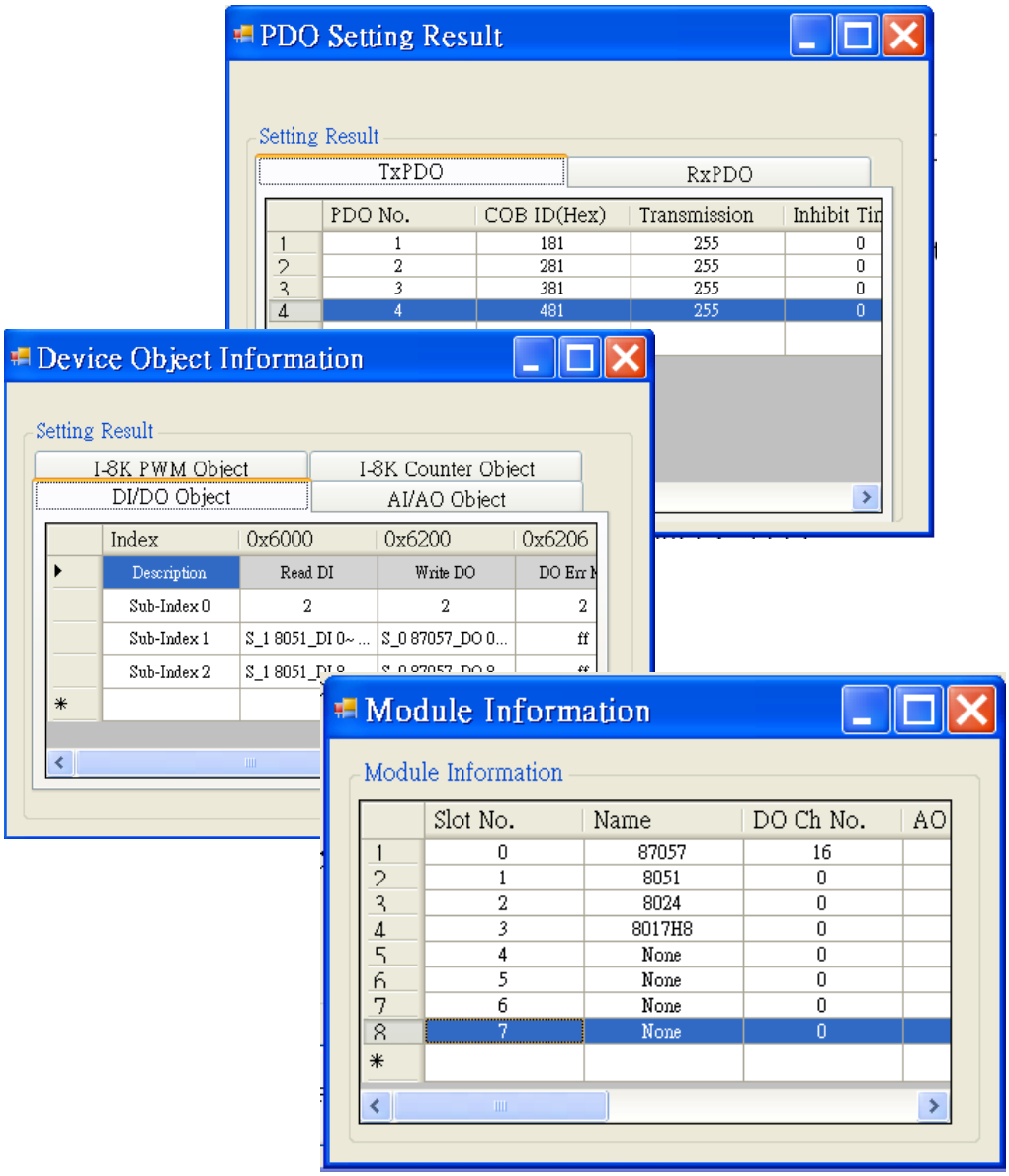
Step 7: The two fields, “description” and “create by”, can help users to do some notes in EDS files. If these two fields are empty, the “ICPDAS CANopen I/O Slave Device” and “ICPDAS” will be used as the default value when creating the EDS file.



Step 8: Users can select the “PDO Info”, the “Device Info“ and the “Module Info” button for

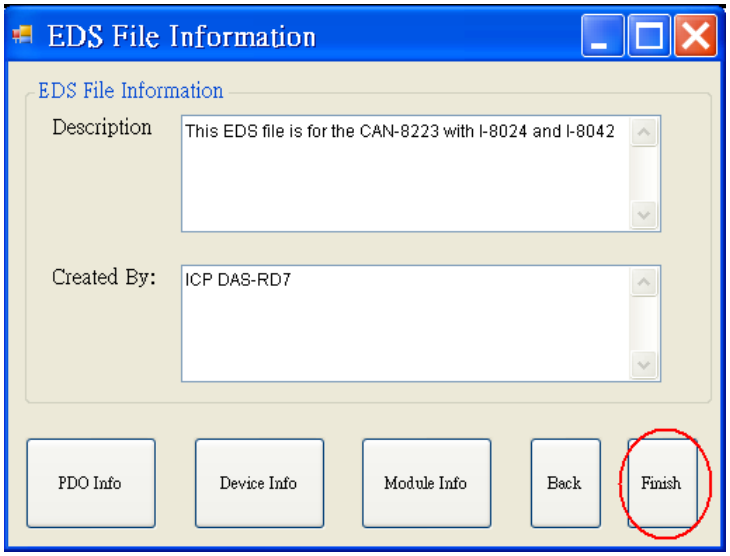
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purpose to view the PDO objects, device profile and slot module configuration information. These information dialogs are shown below.



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If everything is ok, click the “Finish” button to create the EDS file.

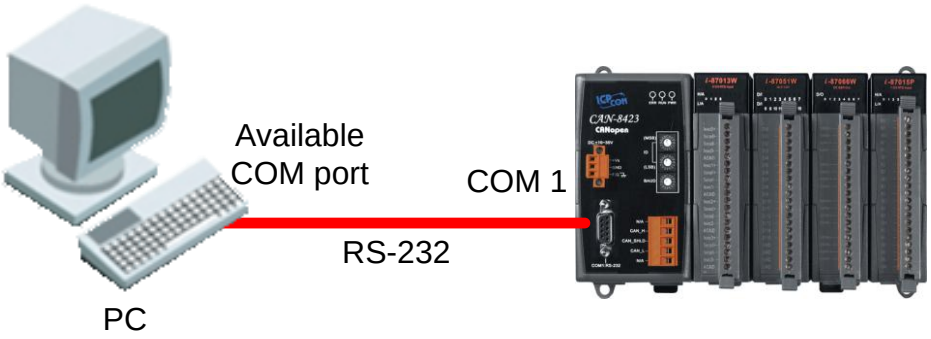


Note: If users use off-line method to get the EDS file, the objects which are used to record the input/output range of the analog modules will be described to default value in the EDS file. However, the I-87K slot modules hold the input/output range parameter settings in their own EEPROM. It may cause the mismatch between real input/output range setting and EDS file. By the way, II-8KCPSx needs to configure the input/output range settings by using CANopen SDO protocol. For more detail, please refer to the section 5.5 in CAN-8123/CAN-8223/CAN-8423/CAN-8823 user manual.

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CAN-8423/CAN-8823 Configuration (On-line mode)

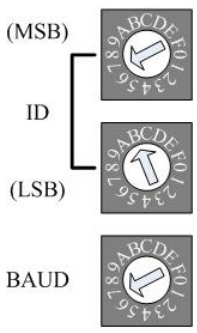
Before using the CAN Slave utility, please make sure that you have connected COM1 of the CAN-8423/CAN-8823 with the available COM port on your PC. The architecture is displayed in the following figure. In this example, the CAN-8423 will be used, and slot modules, I-87057, I-8051, I-8024 and I-8017H are plugged in the slot 0, 1, 2, 3 respectively (If users don't have any slot module, they can also follow this demo to configure their CAN-8423. But some situation or information relative with slot modules will be difference).



Step 1: Turn off the CAN-8423. Set the "Baud" rotary switch of CAN-8423 to 9 for configuration mode. Then Turn on the CAN-8423.



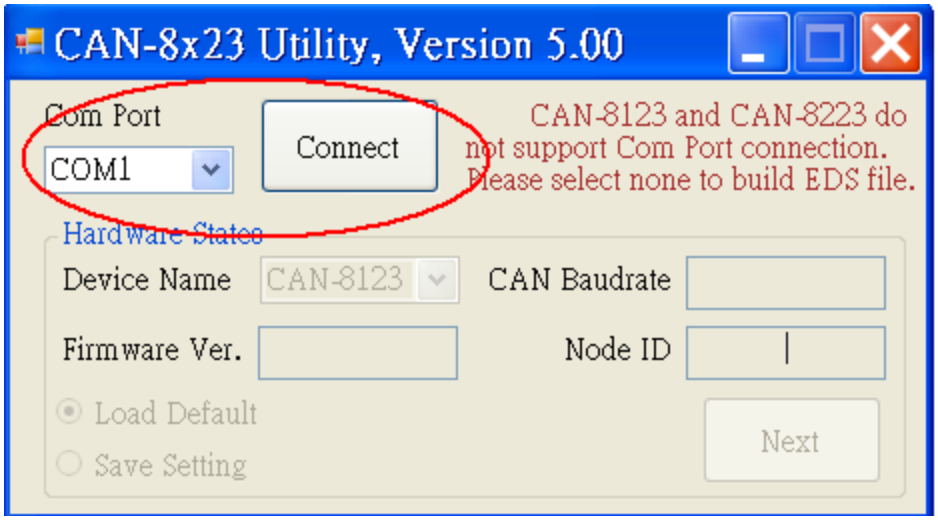
Step 2: Use the "ID" rotary switch and "Baud" rotary switch to set the baud rate of CAN-8423. The node ID is useless when the value exceeds the 7F (127 for decimal format) because of the CANopen spec definition. The relationship between the rotary switch value and practical baud rate is displayed in the following table. Here, use ID 123 and baud rate 1000Kbps for the demo. Therefore, set the "ID" rotary switch to "7B" (7B=7*16+B=112+11=123) and "Baud" rotary switch to 7.



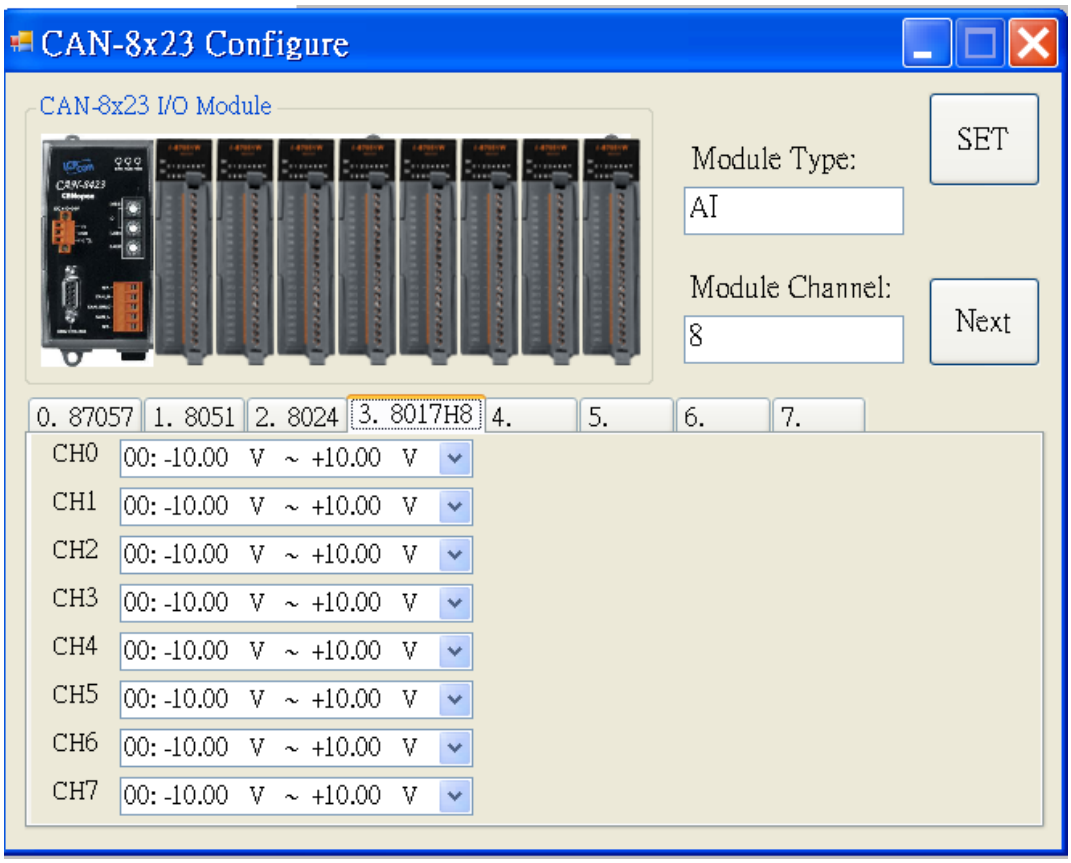
Rotary Switch Value	Baud rate (K BPS)
0	10
1	20
2	50
3	125
4	250
5	500
6	800
7	1000

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Step 3: To execute the CAN_SL.exe file, and to display the figure, users have to connect a PC COM port and the CAN-8423 or CAN-8823 well. Here, take the PC COM 1 as an example. Click “Connect” button to get the information stored in the CAN-8823.



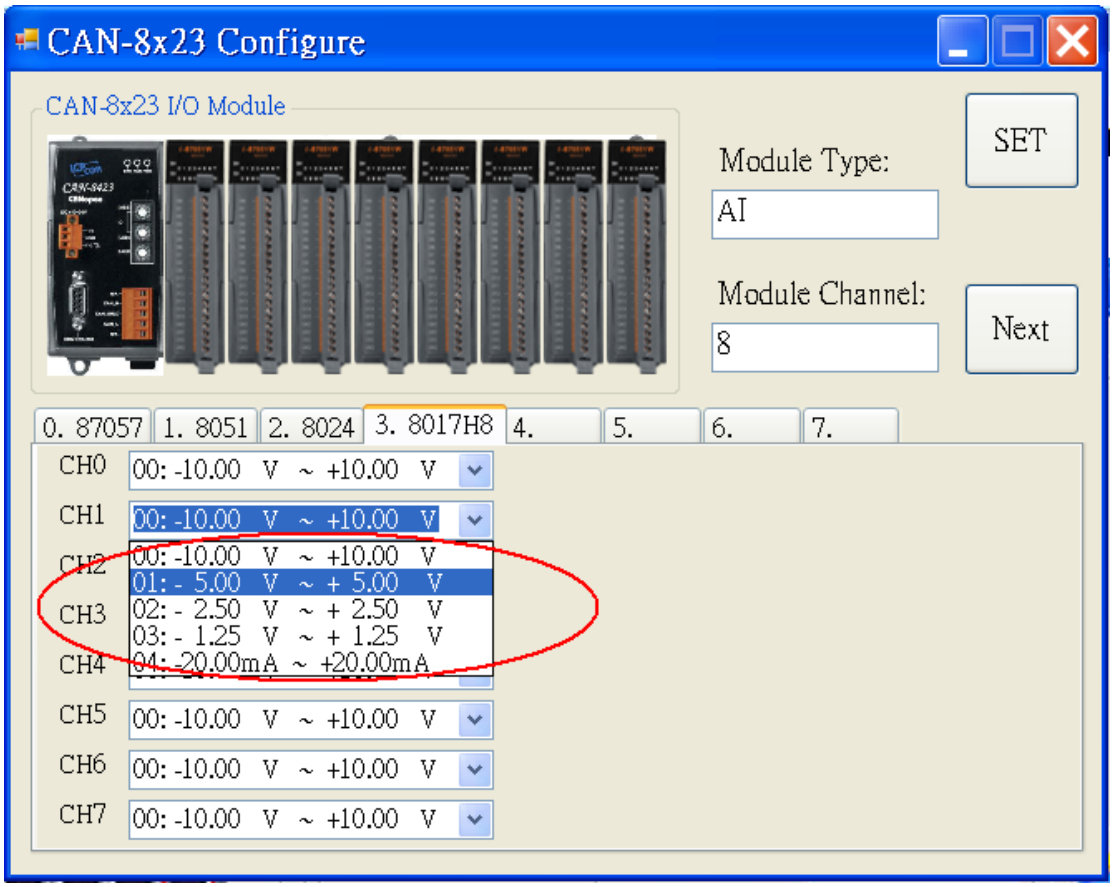
Step 4: Then, users can set the slot information of CAN-8823 in the below of “CAN-8x23 Configure” frame.



Step 5: Please select the slot module 3 in the control tab area, and choose the output range in

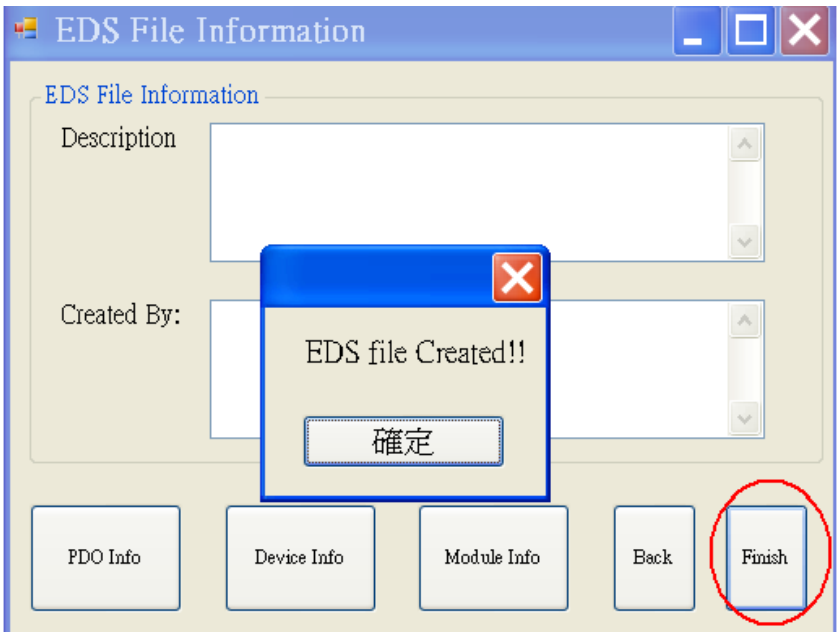
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the channel area. Here, take the selection -5.00V~+5.00V as an example. Because of the feature of I-8017H8 slot module, output range on each channel will be changed in the same way after users select the output range in one of the channels.



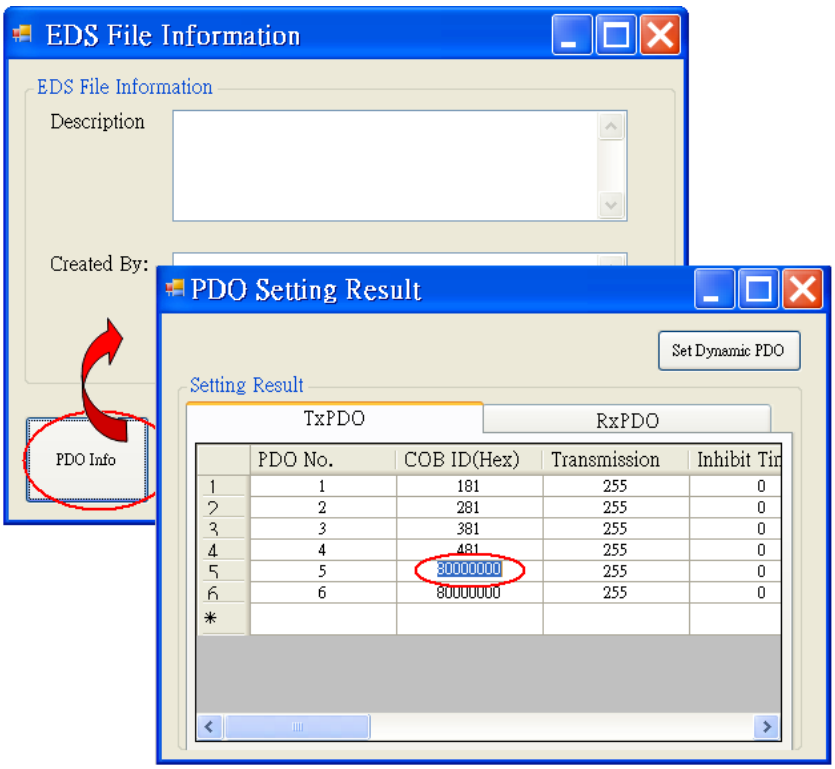
Step 6: After setting the proper output range, users can click “Set” button to store the configuration. If all of slot module configurations are finished, click “Next” button to next step

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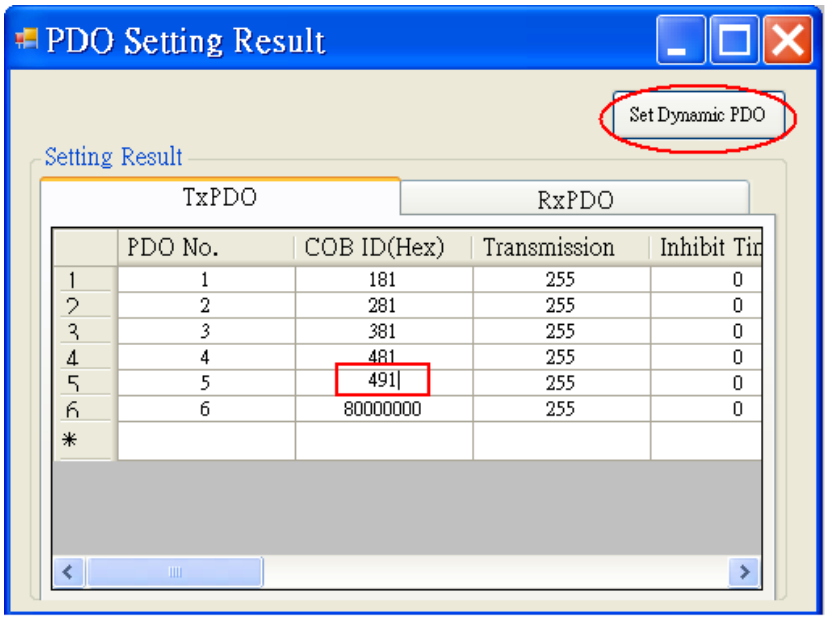
Step 7: Then, “EDS File Information” window will pop out. Users can fill the “Description” and “Create by” fields for the EDS file. Also, users can see the CANopen objects information and modules information by clicking the buttons.

If User wants to set dynamic PDO COB-ID, input the COB-ID into the field of “PDO setting Result” window.



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Then press button “ Set Dynamic PDO” to store the dynamic PDO COB-ID.

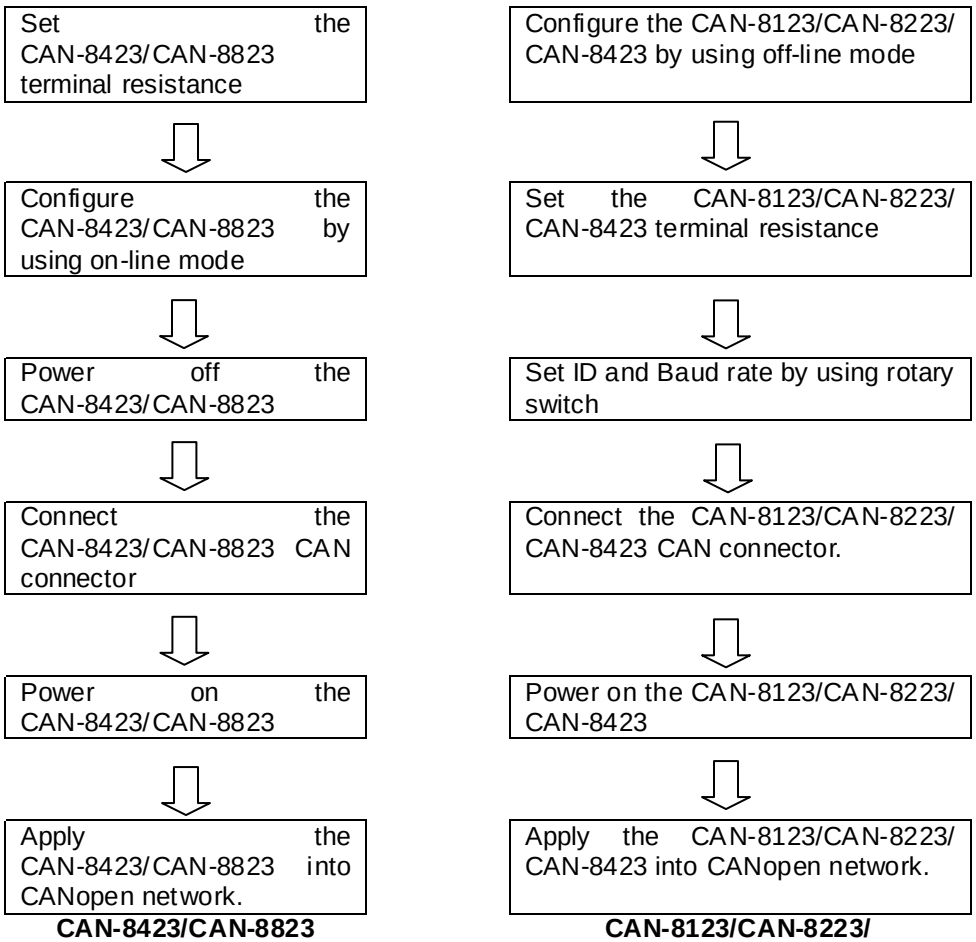


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Note1: The CAN-8423/8823 can also create the EDS file by using off-line mode, and set the analog input range or analog output range by using the CANopen SDO protocol.

Note2: The function, dynamic PDO setting, is only supported on-line mode.

Application Procedure



CAN-8423/CAN-8823 Procedure

CAN-8123/CAN-8223/ CAN-8423/CAN-8823 Procedure

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