

# The I-7231D CPS/DCON Gateway

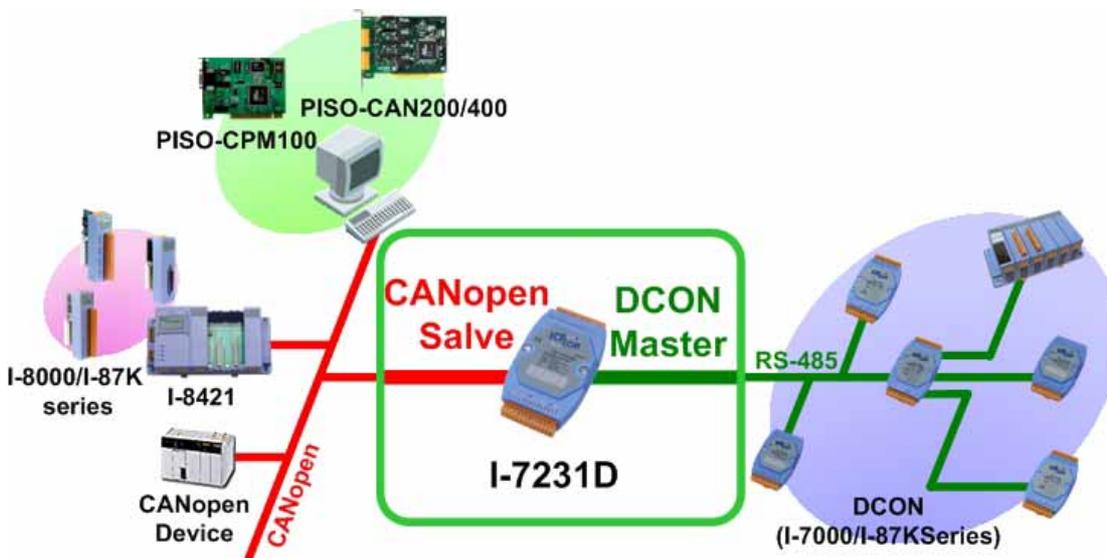
## Quick Start User Guide

### 1. Introduction

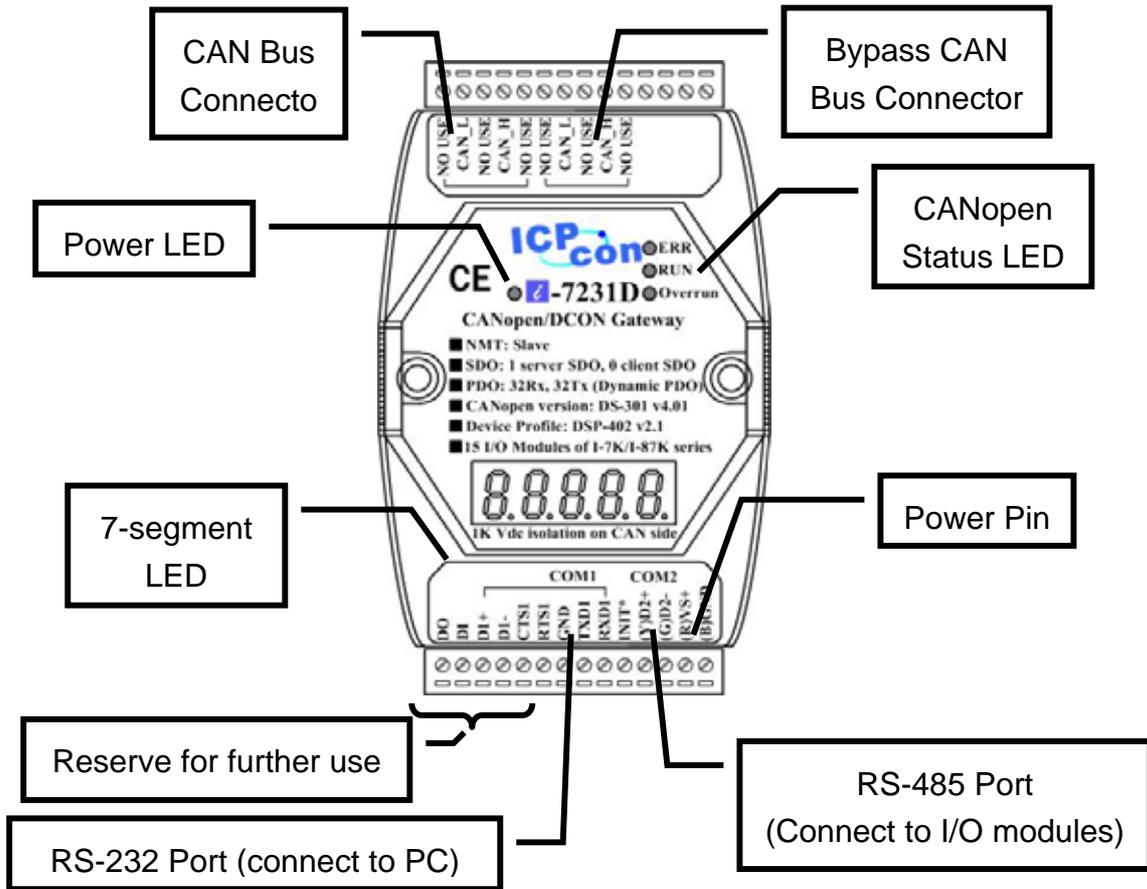
This user guide introduces the user how to implement the I-7231D module into their applications in a quick and easy way. Therefore, it only provides the basic instructions. For more detail information about the I-7231D, please refer to the I-7231D user manual in the product CD or download it from following web site:

<http://www.icpdas.com/download/can/index.htm>

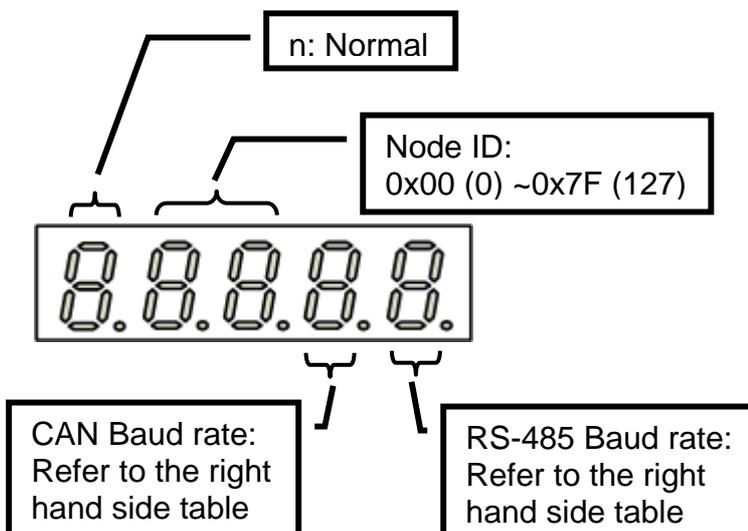
The purpose of this manual is focused on helping users to quickly familiarize themselves with the I-7231D module. Users can apply the I-7231D module as follows.



## 2. Hardware structure



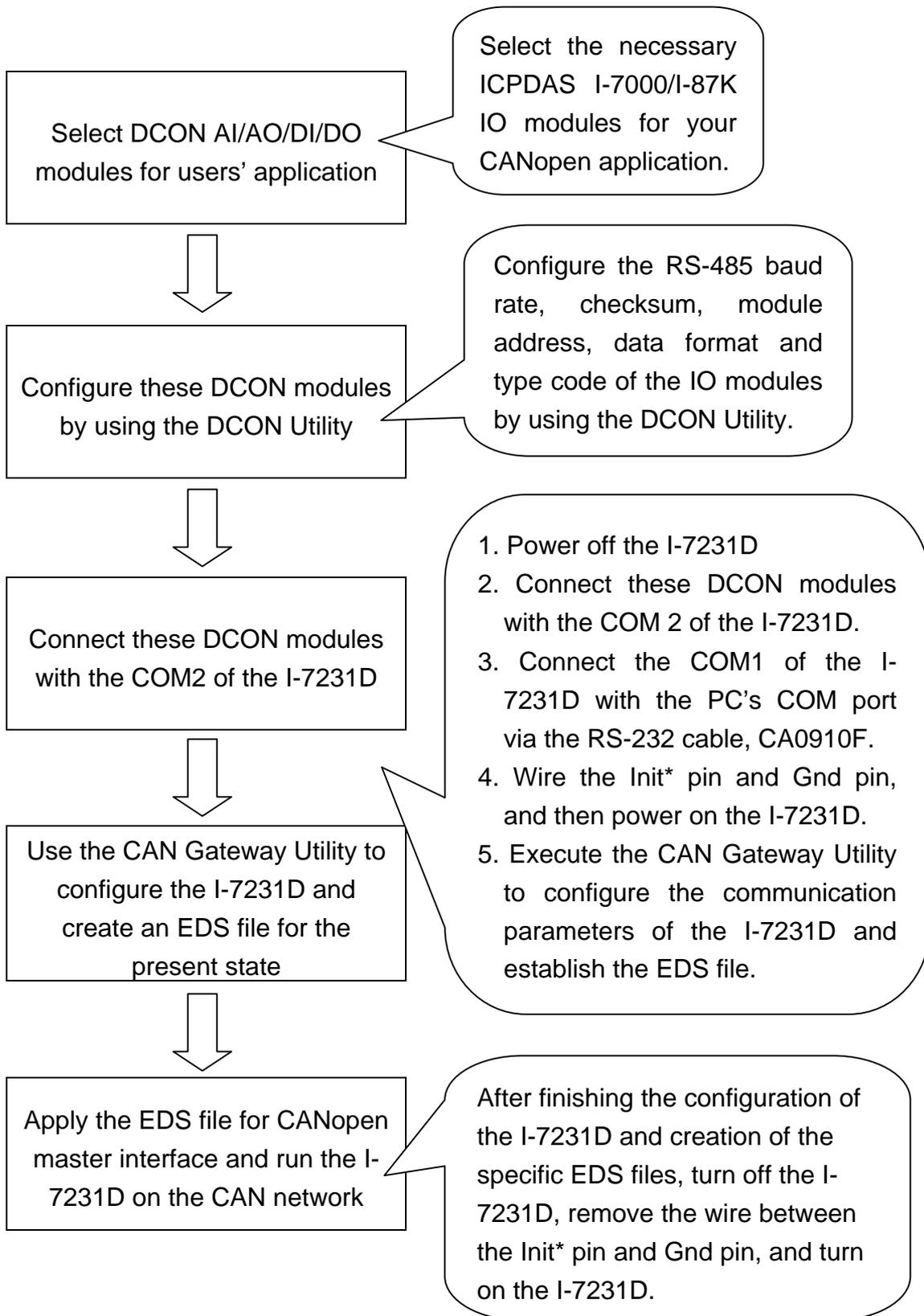
## 3. 7-segment LED



7-segment LED Number	CAN Baud rate	RS-485 Baud rate
0	10 K bps	1200 bps
1	20 K bps	2400 bps
2	50 K bps	4800 bps
3	125 K bps	9600 bps
4	250 K bps	19200 bps
5	500 K bps	38400 bps
6	800 K bps	57600 bps
7	1000 K bps	115200 bps

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## 4.How to Start



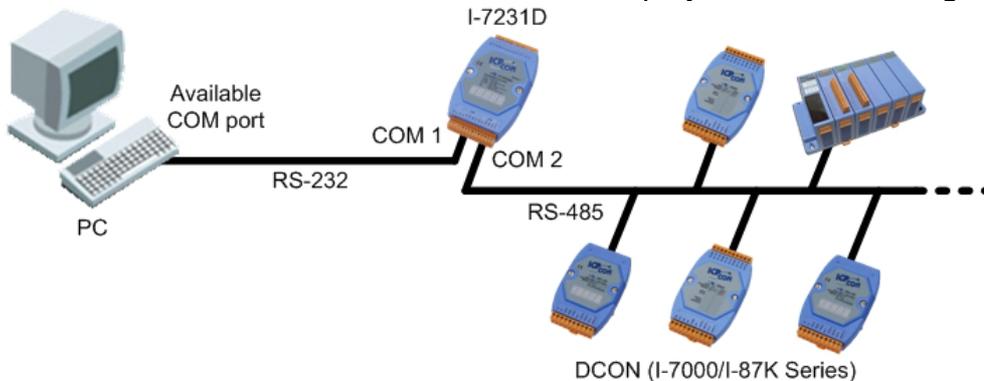
## 5. Configuration Installation

Step1: Install the CAN Gateway Utility into your PC. Users can get the setup file from the web site <http://www.icpdas.com/download/index.htm> or the product CD in the path of "/Napdos/ iCAN/CAN\_Gateway\_Utility/".

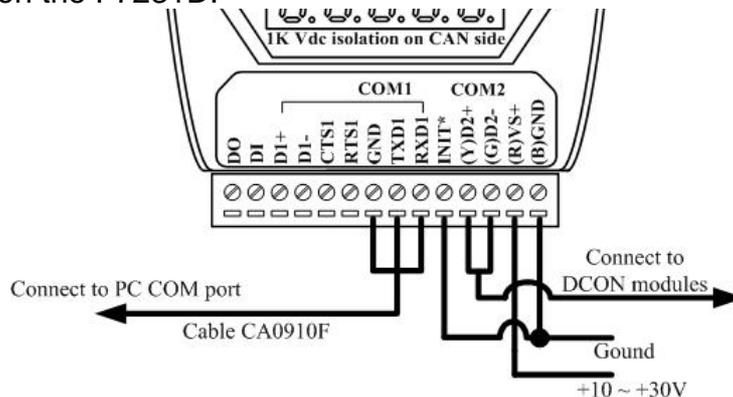
Step2: Before running the CAN Gateway Utility, the DCON modules hanged on the COM2 of the I-7231D need to be configure firstly. The following procedure may be useful for DCON modules configuration.

- Connect the PC RS-485 COM port with the RS-485 port of the one of the DCON modules. If there is no RS-485 COM port on your PC, the RS-232/RS-485 converter, I-7520, may be needed.
- Power on this DCON module. And, configure it follow the steps described in the quick start of the DCON Utility on-line Help.
- Afterwards, power off the DCON Module, and disconnect this DCON module with the PC RS-485 COM port.
- Repeat the first three steps until all DCON modules have been configured.

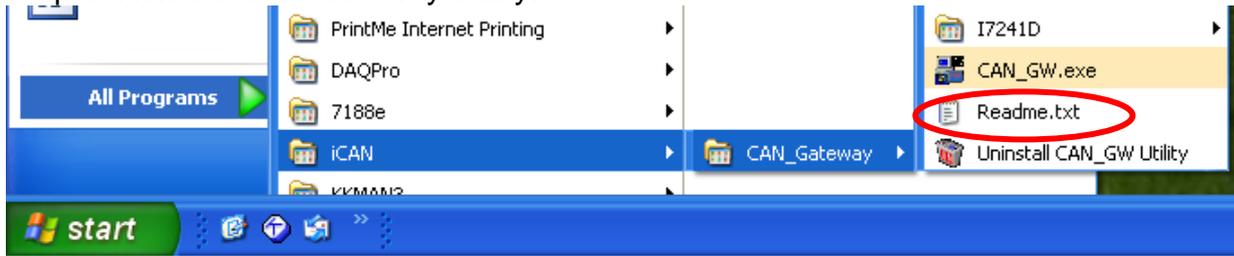
After finishing the configuration, please connected the COM1 of the I-7231D with the available COM port of your PC. Also, connect the configured I-7000/87K modules with the COM2 of the I-7231D. The architecture is displayed in the following figure.



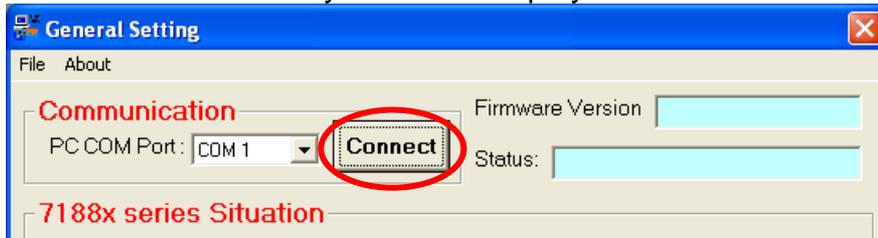
Step 3: Turn off the I-7231D firstly. Connect the INIT\* pin and the GND pin on the I-7231D. Then, turn on the I-7231D.



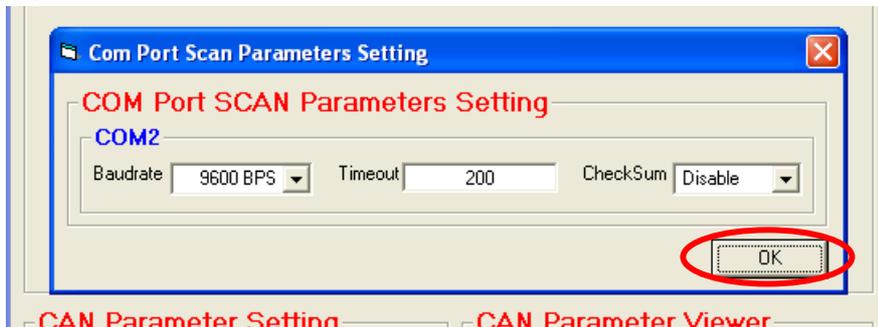
Step 4: Run the CAN Gateway Utility.



Step 5: The first screen of the Utility would be displayed as follows.



Step 6: Press the “Connect” button to connect the CANopen gateway. Then the “Com Port Scan Parameter Setting” dialog will pop up as follows. Please set the proper value for the RS-485 communication parameters. These parameters need to match with the DCON modules parameters. Then, press the “OK” button to begin the modules scans.

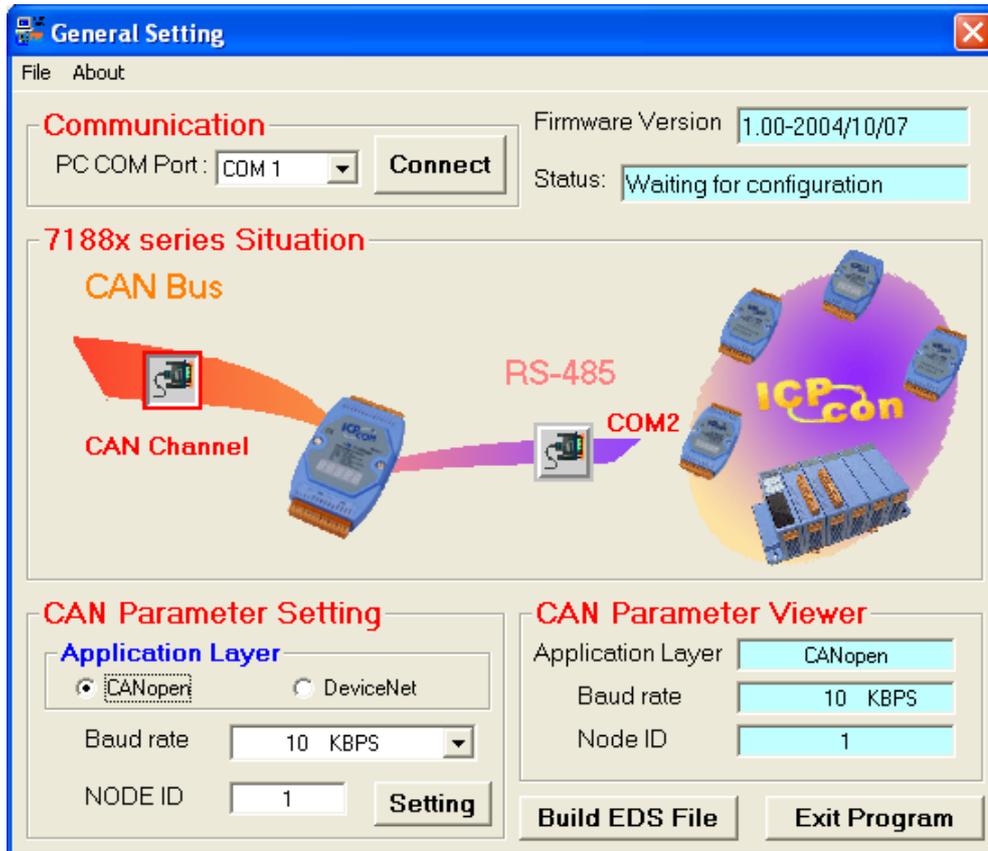


Step 7: When the DCON modules have been scanned, the scan result will be compared with the parameters stored in the EEPROM of the I-7231D. If any difference has been detected, the warning message will pop up as follows.

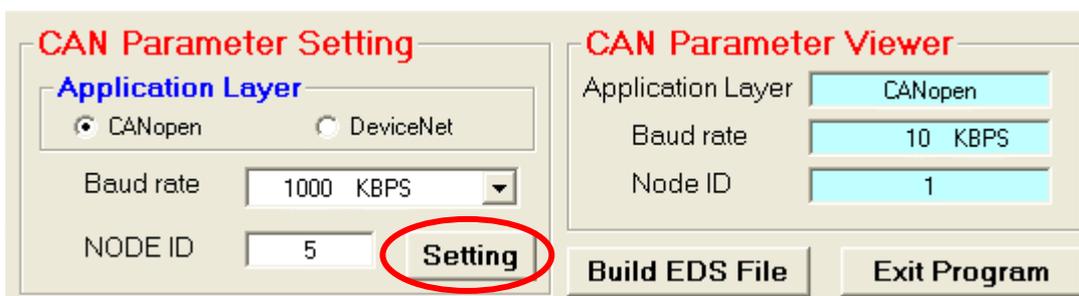


Because the default connected modules are I-7012, I-7021, I-7053 and I-7057. If uses connect the I-7231D at first time with any different I/O module described above, the “Some EEPROM Data is Error!” warning message may pop up. In this case, the

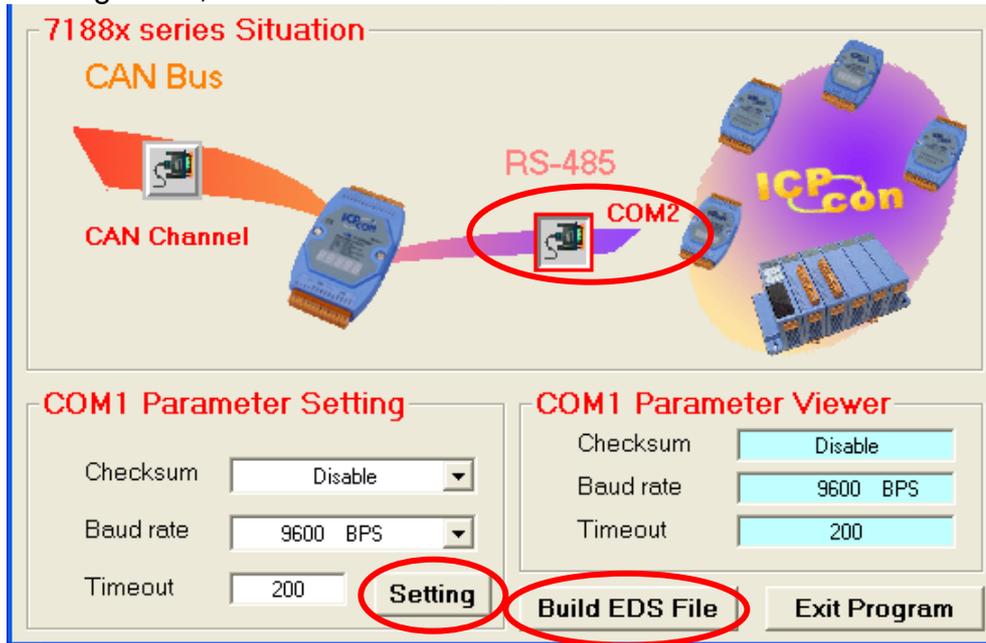
default value will be shown on each parameter setting field. Otherwise, the last setting value will be displayed on each parameter setting field.



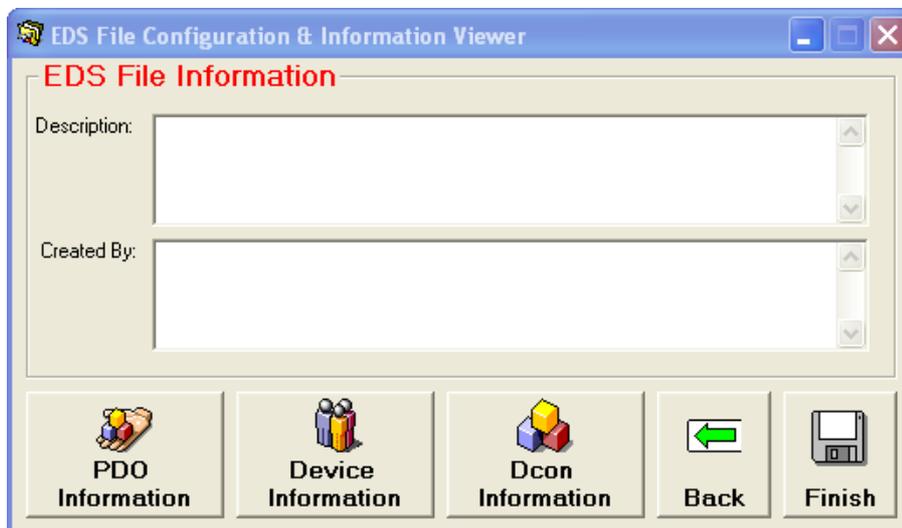
Step 8: Click the “CAN Channel” button so that the CAN bus configuration information will be given. Then, users can set the necessary CAN bus communication information. Afterwards, click the “Setting” button to finish the CAN parameter setting. The CAN Parameter Viewer frame on the right hand side indicates the parameter setting result. After clicking the “Setting” button, users can see that the each field of the CAN Parameter Viewer frame is changed to the value configured in the CAN Parameter Setting frame on the left hand side.



Step 9: Click the “COM2  ” button to configure the RS-485 parameters of the CPS\_DCON gateway. After finishing the configuration, click the “Setting” button to save the setting result, and click “Build EDS File” button to the next.



Step 10: The two fields, “description” and “create by”, can help user to do some notes in the EDS file. If these two fields are empty, the “ICPDAS CANopen slave/DCON master Gateway” and “ICPDAS” will be used as the default value when creating the EDS file.



Step 11: User can click the “PDO Information”, “Device Information”, and “Dcon Information” button to view the PDO objects, device profile and I-7000/87K configuration information. These information dialogs are shown below.

**Rx/Tx PDO Parameters**

**Setting Result**

Receive PDO				Transmit PDO		
PDO NO.	COB-ID (Hex)	Transmission Type	Inhibit Time	Event Timer	Mapping 0	Mapping 1
1	205	255	Reversed	Reversed	0x4-7011P:00~01	-----:---
2	305	255	Reversed	Reversed	-----:---	-----:---
3	405	255	Reversed	Reversed	-----:---	-----:---
4	505	255	Reversed	Reversed	-----:---	-----:---

**Manufacturer Specific/Standardized Device Object Dictionary**

**Setting Result**

Manufacturer Specific Object Dictionary		Standardized Device Object Dictionary		
Index	0x2000	0x2001	0x2002	0x2003
Description	Module W/R Error Count	Module WDT Enable/Disable	Module WDT Timer	Module WDT Status
Subindex0	6	6	6	6
Subindex1	0 (0x1-7017C)	0 (0x1-7017C)	0 (0x1-7017C)	0 (0x1-7017C)
Subindex2	0 (0x2-7013)	0 (0x2-7013)	0 (0x2-7013)	0 (0x2-7013)
Subindex3	0 (0x3-7058)	0 (0x3-7058)	0 (0x3-7058)	0 (0x3-7058)
Subindex4	0 (0x4-7011P)	0 (0x4-7011P)	0 (0x4-7011P)	0 (0x4-7011P)
Subindex5	0 (0x5-7013)	0 (0x5-7013)	0 (0x5-7013)	0 (0x5-7013)
Subindex6	0 (0x6-7033)	0 (0x6-7033)	0 (0x6-7033)	0 (0x6-7033)

**DCON Information**

**DCON Information**

No.	Address	Name	Type Code	Data Format	DO Ch Num	AO Ch Num	DI Ch Num	AI Ch Num
1	0x01	7017C	0x0D	0x00	0	0	0	
2	0x02	7013	0x20	0x00	0	0	0	
3	0x03	7058	0x40	0x00	0	0	8	
4	0x04	7011P	0x05	0x00	2	0	1	
5	0x05	7013	0x20	0x00	0	0	0	
6	0x06	7033	0x27	0x00	0	0	0	

If every thing is ok, click the “Finish” button to create an EDS file and save the related information into the EEPROM of the I-7231D. Then, user can use this EDS on any CAN master interface.

Step 12: Power off the I-7231D, and remove the wire between the Init\* pin and GND pin on the I-7231D. Then, power on the I-7231D. When the I-7231D has finished the initialization, the RUN LED on the I-7231D will be flashed about twice per second, and the I-7231D is into the NMT pre-operational state. For more information about the CANopen system and CANopen communication set, please refer to the I-7231D user manual.