

i-87123

Quick Start User Guide

1. Introduction

This user guide introduces how to apply the i-87123 into users' application quickly and easily. Therefore, it only provides the basic instructions. For more detail information about the driver, please refer to the i-87123 user manual in the product CD:

[\CANopen\master\i-87123\](#)

Or download it from the following web site:

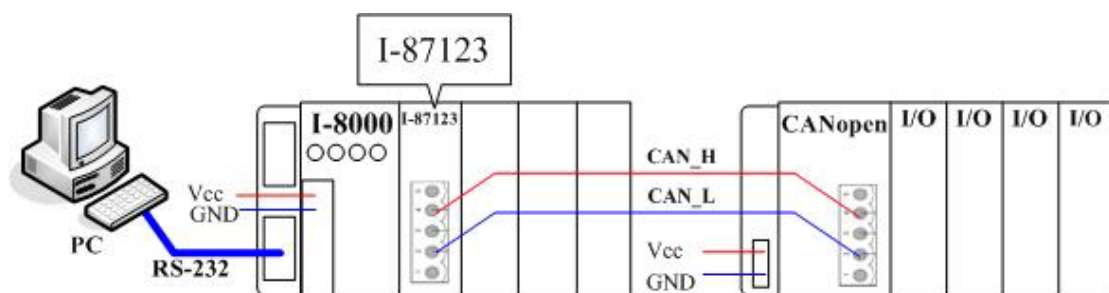
http://www.icpdas.com/products/Remote_IO/can_bus/i-87123.htm

2. Getting Start

Before following the steps below, users need to prepare some hardware, an i-87123, a CANopen slave device and a WinCon or an i-8000 series MCU.

2.1 Operating Procedure for I-8000 series MCU

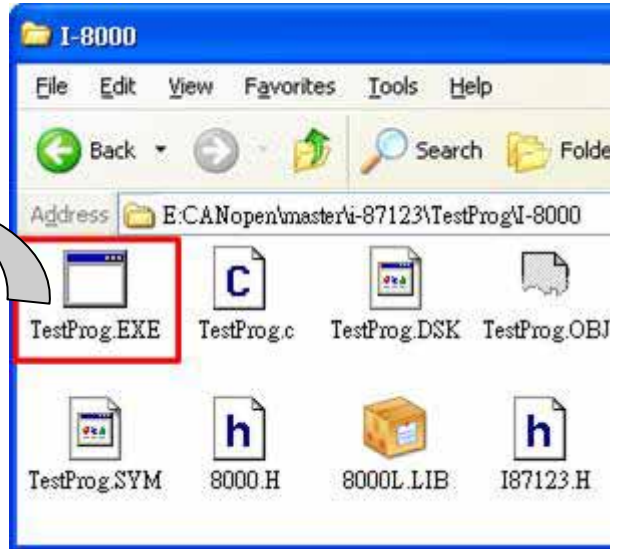
Step 1: Put i-87123 in slot 0 of i-8000 series MCU (ex. i-8411) and connect the CAN port of i-87123 with the CAN port of CANopen slave device as following figure. Then power on these hardware.



Step 2: Use 7188xw.exe to download the demo program, TestProg.exe from CAN CD “[:\CANopen\master\i-87123\TestProg\I-8000](#)” to i-8411.

```
7188XW 1.26 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=D:\7188XW
7188x for WIN32 version 1.26 (10/19/2004)[By ICPDAS. Tin.]
[Begin Key Thread...]Current set: Use COM1 115200,N,8,1
AutoRun:i87123qc.exe
Autodownload files: None
Current work directory="D:\7188XW"
original baudrate = 115200!
now baudrate = 115200!

C829(8KCAN)>load
File will save to B68E:000A
StartAddr-->B000:68E9
Press ALT_E to download file!
Input filename:TestProg.exe
Load file:TestProg.exe(crc=C91D,0000)
Send file info. total 300 blocks
Block 300
Transfer time is: 9.719000 seconds
C829(8KCAN)>>
```



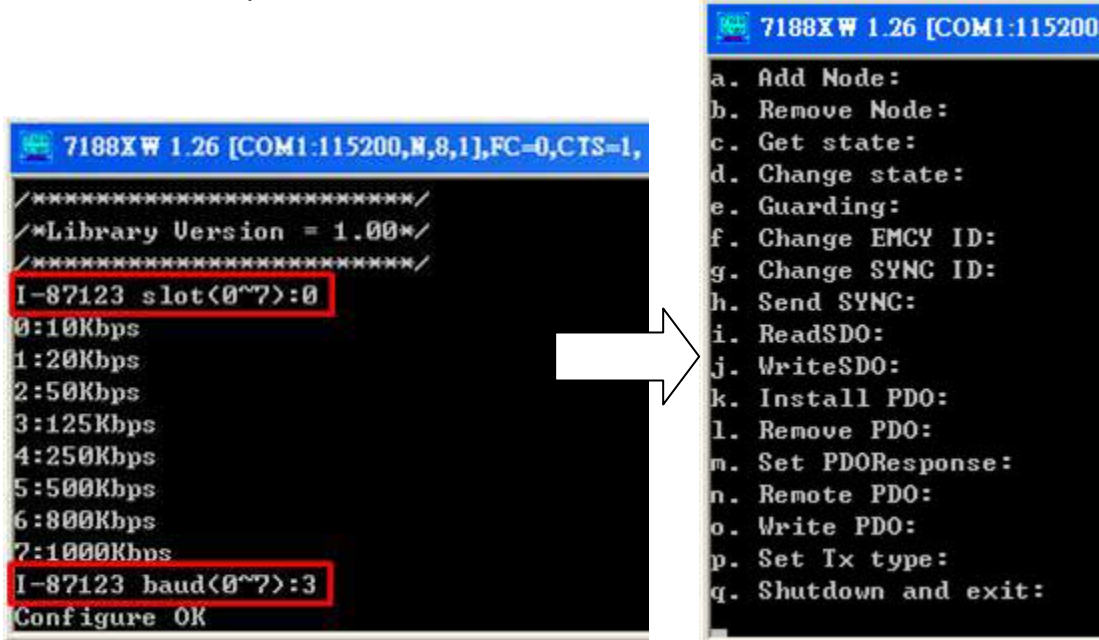
Step 3: Execute the TestProg.exe on i-8000 MCU.

```
7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C:\Program Files\7188E\PCDiag
7188x for WIN32 version 1.24 (10/31/2003)[By ICPDAS. Tin.]
Current set: Use COM1 115200,N,8,1
AutoRun:test.exe
Autodownload files: None
Current work directory="C:\Program Files\7188E\PCDiag"
original baudrate = 115200!
now baudrate = 115200!

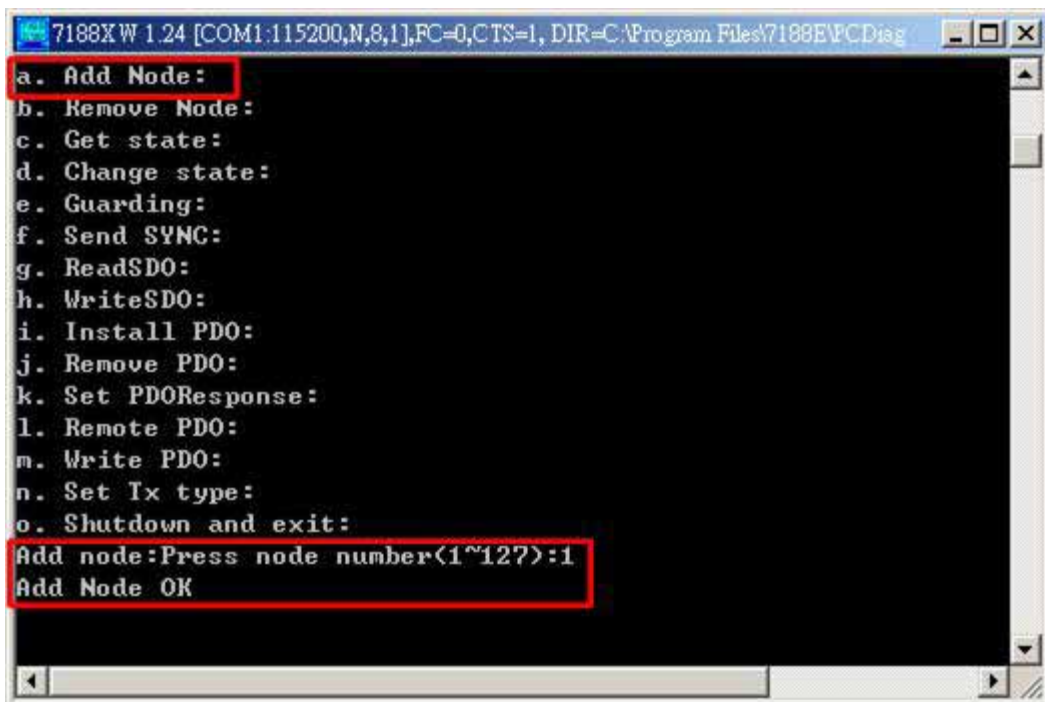
i-8000>run

/*****/
/*Library Version = 1.00*/
/*****/
I-87123 slot(0~7):
```

Step 4: Input the slot No. 0 and select the baud 125Kbps of i-87123 (Assume that the baud of CANopen slave device is 125Kbps.). Then, the i-87123 will be configured and the total functions (a ~ q) of this demo will be represented.



Step 5: Input 'a' to use Add Node function and input '1' to add the CANopen slave device with node ID 1. Afterwards, the other functions (b ~ p) will be available with this node. Users can also input 'q' to exit this program.



```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C:\Program F
d. Change state:
e. Guarding:
f. Send SYNC:
g. ReadSDO:
h. WriteSDO:
i. Install PDO:
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
Guarding:Press node number(1~127):1
Guarding:Press guard time(0~65535 ms):1000
Guarding:Press life time(0~255):2
Guarding OK

```

Set guarding

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C:\Program Files\718
d. Change state:
e. Guarding:
f. Send SYNC:
g. ReadSDO:
h. WriteSDO:
i. Install PDO:
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
SYNC:Press SYNC COB ID(hex):80
SYNC:Press cyclic type(0:non-cyclic, 1:cyclic):1
SYNC:Press cyclic timer(0~65535 ms):1000
SendSYNC OK

```

Set SYNC

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C
e. Guarding:
f. Send SYNC:
g. ReadSDO:
h. WriteSDO:
i. Install PDO:
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
Read SDO:Press node number(1~127):1
Read SDO:Press index(hex):1000
Read SDO:Press sub-index(hex):00
SDO data: [43][00][10][00][91][11][71][00]

```

Read data with SDO protocol

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C:\Program Files\7188EVC Diag
g. ReadSDO:
h. WriteSDO:
i. Install PDO:
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
Write SDO:Press node number(1~127):1
Write SDO:Press index(hex):6200
Write SDO:Press sub-index(hex):01
Write SDO:data length and data(hex)<len,d0,d1,d2,d3>:1,ff
Write SDO data OK.
PDO: [181] [FF][00]

```

Write data with SDO protocol

```

7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C
g. ReadSDO:
h. WriteSDO:
i. Install PDO:
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
Remote PDO:Press COB ID(hex):281
Remote data: [1][00][00][00][31][00][41][00]
RemotePDO OK

```

Remote data with remote PDO protocol

```

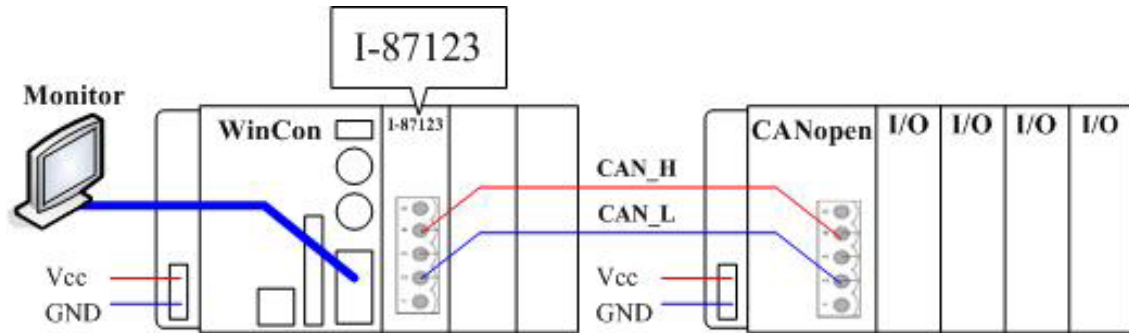
7188XW 1.24 [COM1:115200,N,8,1],FC=0,CTS=1, DIR=C:\Program Files\7188EVC
j. Remove PDO:
k. Set PDOResponse:
l. Remote PDO:
m. Write PDO:
n. Set Tx type:
o. Shutdown and exit:
Add node:Press node number(1~127):1
Add Node OK
Write PDO:Press COB ID(hex):201
Write PDO:Press data offset:0
Write PDO:Press data length:2
Write PDO:Press data <d0,d1,d2,d3,d4,d5,d6,d7>:ff,ff
WritePDO OK
PDO: [181] [FF][FF]

```

Write data with PDO protocol

2.2 Operating Procedure for WinCon series MCU

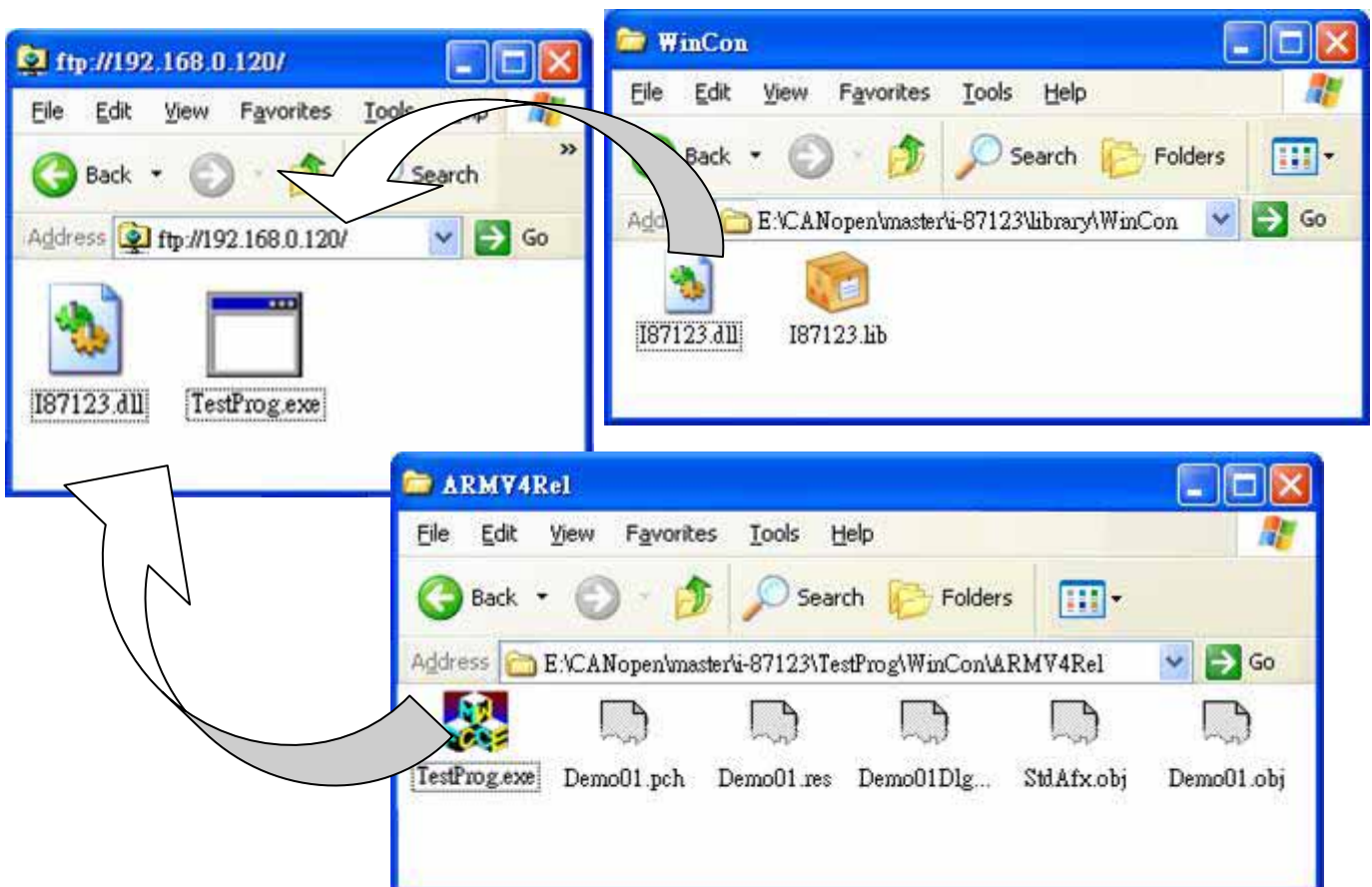
Step 1: Put i-87123 in slot 1 of WinCon and connect the CAN port of i-87123 with the CAN port of CANopen slave device as follow figure. Then power on these hardware.



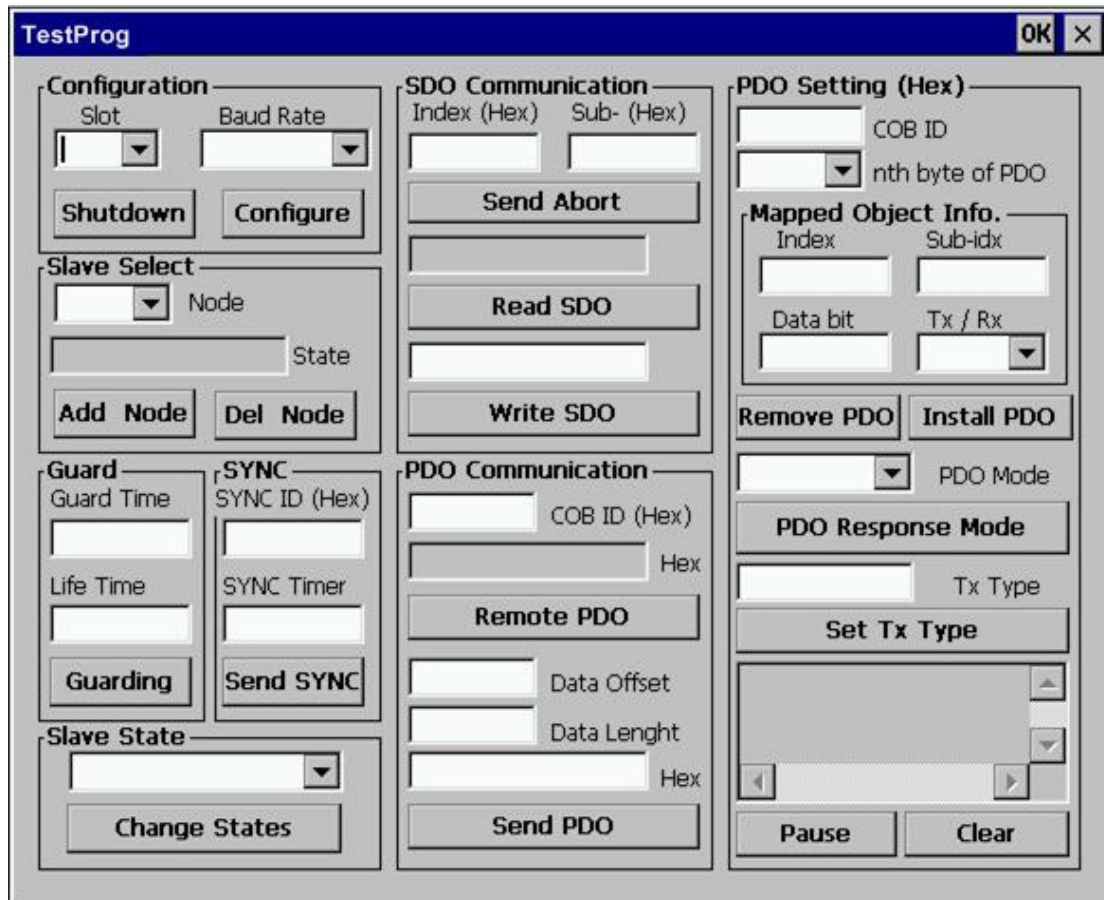
Step 2: Use FTP to download TestProg.exe and i87123.dll in to WinCon. Users can get these two files from the following paths of CAN CD.

“:\\CANopen\master\i-87123\TestProg\WinCon\ARMV4Rel”

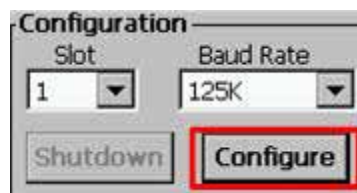
“:\\ CANopen\master\i-87123\library”



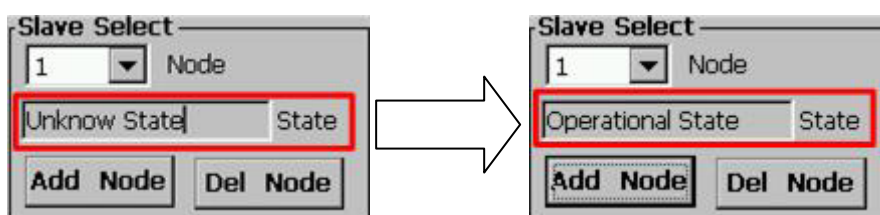
Step 4: Execute the TestProg.exe test program on WinCon.



Step 5: Select the slot No. and CAN baud rate of the i-87123. Then click the Configure button. Here, assume the baud of CANopen slave device is 125Kbps.



Step 6: Select the CANopen node ID of the CANopen slave device and click the Add Node button to add the CANopen slave into the node list of i-87123. If add completely, the state of slave device will be obtained.



Step 7: Afterwards, users can control and monitor the slave device by several communication methods, such as NMT SDO, PDO, and so on.

Guard
 Guard Time

 Life Time

Set guarding

SYNC
 SYNC ID (Hex)

 SYNC Timer

Set SYNC

Slave State

Set slave state

SDO Communication
 Index (Hex) Sub- (Hex)

Read data with SDO protocol

SDO Communication
 Index (Hex) Sub- (Hex)

Write data with SDO protocol

PDO Communication
 COB ID (Hex)
 Hex

 Data Offset
 Data Length
 Hex

Send data with PDO protocol

PDO Communication
 COB ID (Hex)
 Hex

Remote data with remote PDO protocol