

# I-7565-CPM USB/CANopen Master Module

## Quick Start User Guide

### 1. Introduction

This Quick Start User Guide introduces users how to implement the I-7565-CPM module to their applications quickly. It helps you to familiarize yourself with the I-7565-CPM hardware configuration and utility operation. Therefore, it is only provided with the basic instructions. For more detail, please refer to the I-7565-CPM user manual in the product CD. Also, users can download the manual from the ICPDAS web site.

CD Path:

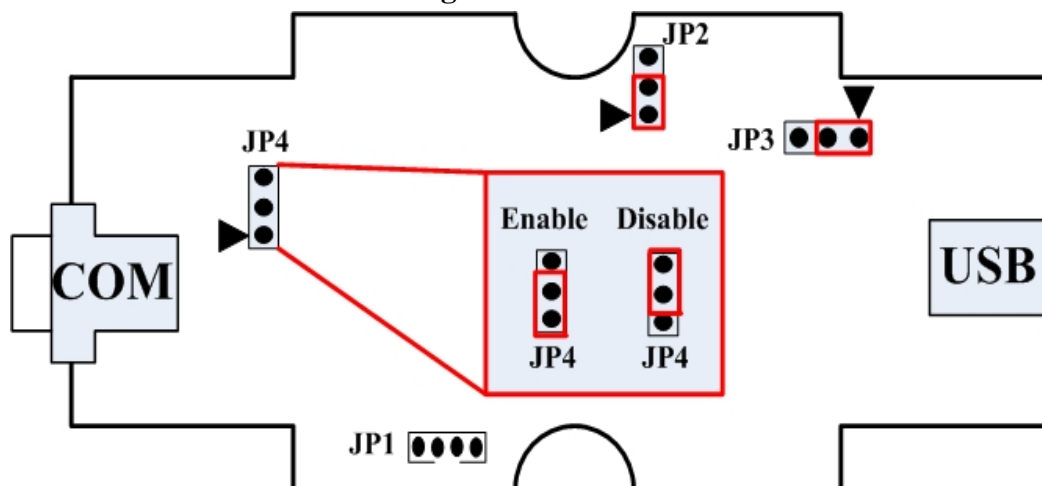
[CANopen/master/I-7565-CPM/user\\_manual](CANopen/master/I-7565-CPM/user_manual)

Web site:

[http://www.icpdas.com/products/Remote\\_IO/can\\_bus/I-7565-CPM.htm](http://www.icpdas.com/products/Remote_IO/can_bus/I-7565-CPM.htm)

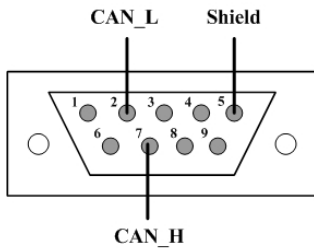
### 2. Terminator resister/Pin assignment/ Indicators

- 120 $\Omega$  Terminal Resister Setting



- **Pin assignment**

- (1) 9-pin D-Sub male connector



Pin No.	Signal	Description
1	N/A	Non-available
2	CAN_L	CAN_L bus line (dominant low)
3	N/A	Non-available
4	N/A	Non-available
5	Shield	Operational CAN Shield
6	N/A	Non-available
7	CAN_H	CAN_H bus line (dominant high)
8	N/A	Non-available
9	N/A	Non-available

- (2) Indicators



- **ACT LED**

If the I-7565-CPM is running normally, the ACT LED will be turned on always. If this LED is off, please check the power supply or contact to your distributor.

- **Tx/Rx LED**

It is applied to check the status of the transmission and reception of CAN messages. If I-7565-CPM is transmitting or receiving a CAN message, the Tx/Rx LED will blink. If I-7565-CPM's loading is heavy, the Tx/Rx LED will be always turned on.

- **ERR LED**

The ERR LED indicates the error status of the CAN physical layer. It also indicates the errors due to the software/hardware message buffer overflow.

- **PWR LED**

The power consumption of I-7565-CPM is 3W. If the power is given normally, the PWR LED and ACT LED will be turned on always. If this LED is off, please check the power supply or contact to your distributor.

### 3. Install I-7565-CPM Utility

We provide the I-7565-CPM Utility. There are several functions supported by the utility. They are shown as follows.

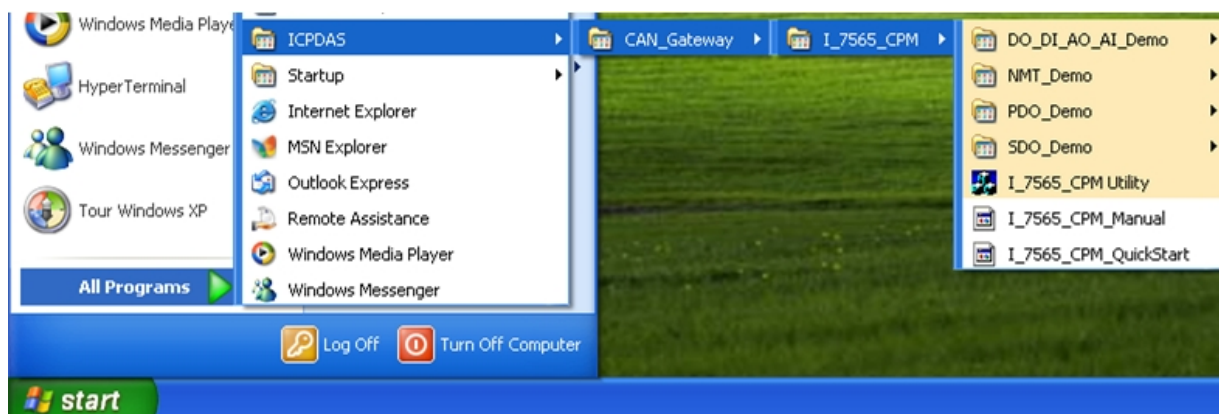
1. Configure NMT mode, SYNC COBID, SYNC transmission time, Guard time, Life time, EMCY COBID, PDO polling time and SDO polling time.
2. Install the PDO or SDO object so that users can use it by using the utility.
3. Remove CANopen node, PDO object or SDO object.
4. Support TxPDO, RxPDO, TxSDO, and RxSDO.
5. Record EMCY messages.

Step 1: Download the I\_7565\_CPM Utility setup file from the web site

<http://www.icpdas.com/download/can/index.htm> or the CD in the product box. The path is “/Napdos/iCAN/CANopen\_MASTER/I-7565-CPM”.

Step 2: Execute the I\_7565\_CPM SETUP.exe file to install the CANopen master utility on your PC.

Step 3: After finishing the installation of the I-7565-CPM Utility, users can find the I-7565-CPM Utility, the NMT\_Demo, the PDO\_Demo, the SDO\_Demo, and the DO\_DI\_AO\_AI\_Demo, as follows.



## 4.Driver installation of I-7565-CPM

When finishing the I-7565-CPM utility installation. The USB driver of I-7565-CPM can be found at the C:\ICPDAS\CAN\_Gateway\I\_7565\_CPM\USB Driver\i-756x driverinstaller.exe, that will be used in 98/NT/Me/2000/XP windows environments. Then the installation process will copy the related material to the indicated directory and register the driver on your computer. The driver target directory is below for the different systems.

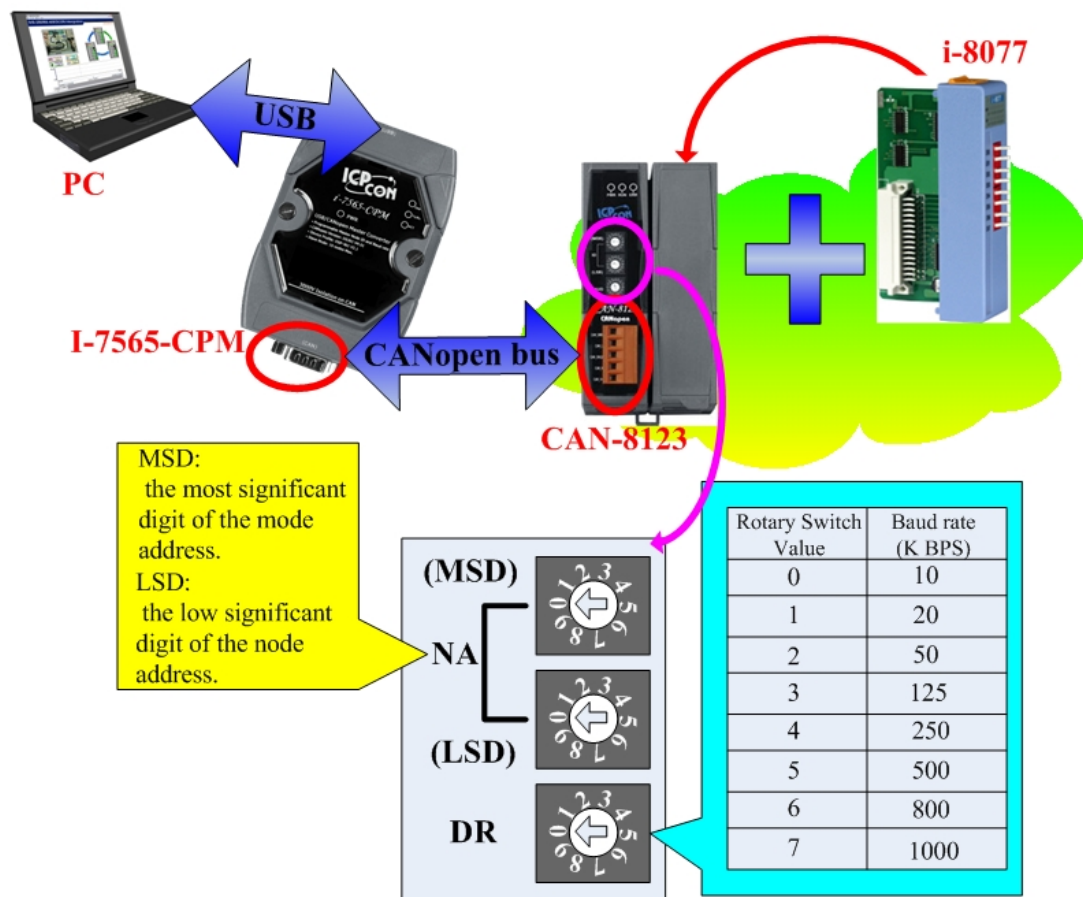
Windows NT/2000 – WINNT\SYSTEM32\DRIVERS

Windows 98/Me/XP – WINDOWS\SYSTEM32\DRIVERS

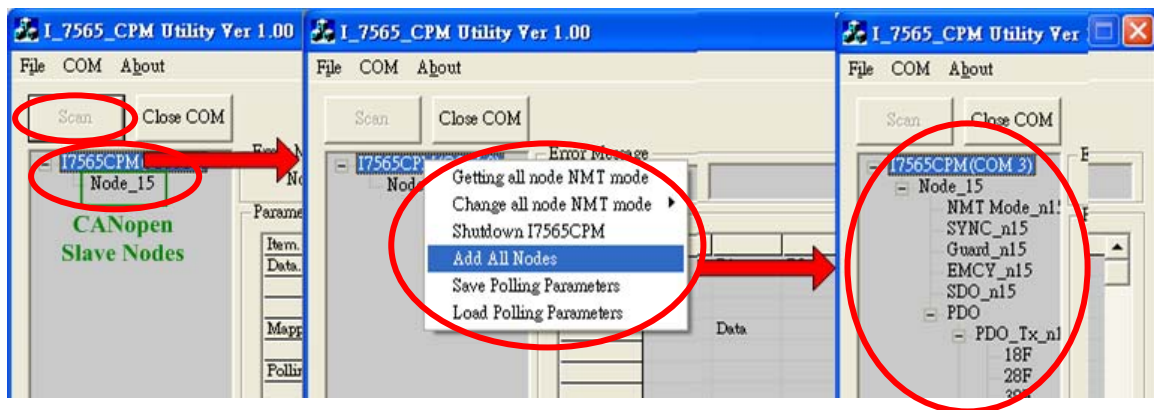
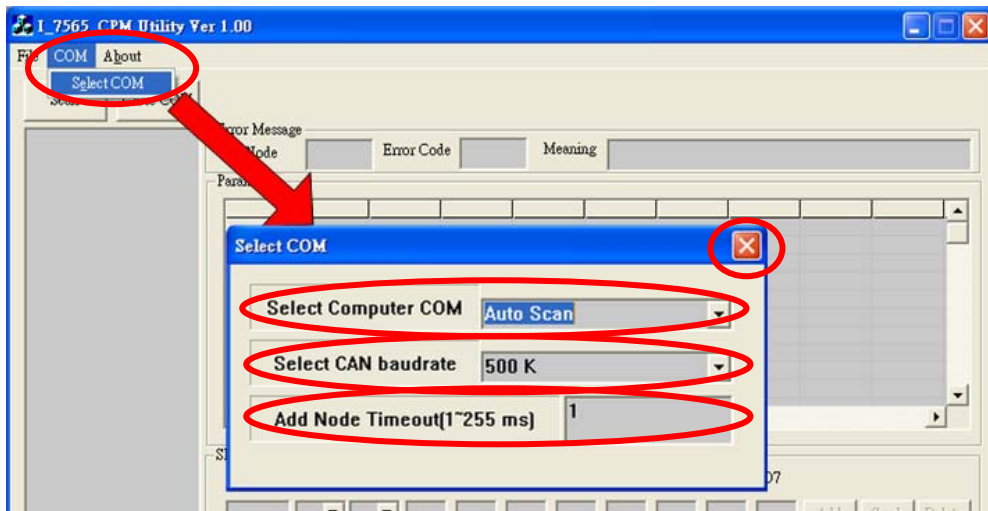
## 5.Using I-7565-CPM Utility

### 5.1 Example for the demo application

The I-7565-CPM utility provides some useful and easy-to-use functions. Before using it, users need to prepare a computer, an I-7565-CPM, a CAN-8123 and an I-8077, as follows. (CAN-8123+I-8077 is a DI/DO CANopen slave)



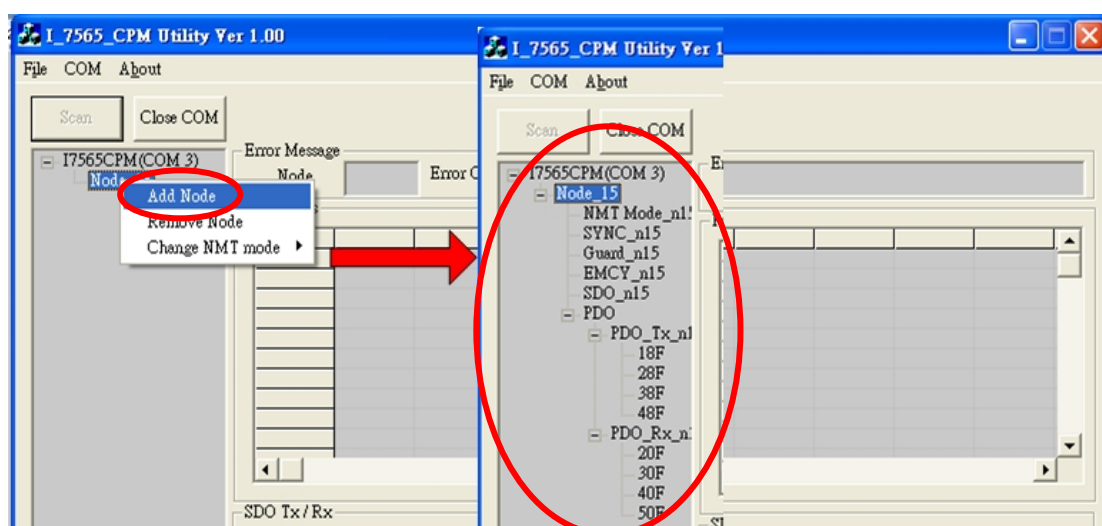
Afterwards, run the Utility, I-7565-CPM.exe. The application interface will be shown as follows. Click the “Select COM” item to select the computer COM port, CAN bus baud rate and “Add Node Timeout”. The “Add Node Timeout” is the time interval between each two commands in adding node procedure. Then click X button to close the dialog. Click the “Scan” button in the main window to scan the I-7565-CPM. If there is an I-7565-CPM connected with users’ computer, the CANopen slaves which are in the same CANopen network with I-7565-CPM will be scanned.



Select the “I7565CPM” item in the list, right click it, and select “add all Nodes” to add all scanned nodes. Then, users can configure the parameters of these CANopen nodes on the tree view. All of the selectable items in the right-clicked dialog are described below.

1. **Getting all node NMT mode** → show the NMT states of all nodes in the filed “parameters” immediately.
2. **Change all node NMT mode** → Change the NMT states of all nodes, such as Stop mode, Pre-Operation mode, Reset Node mode and Reset Communication mode.

3. **Shutdown I7565CPM** → Shutdown the I-7565-CPM and change the NMT states of all CANOpen nodes to Pre-operation mode.
4. **Add All Nodes** → Add all scanned CANOpen nodes into the management list of the I-7565-CPM. Afterwards, users can use these nodes in the tree view of the utility.
5. **Save Polling Parameters** → User can set the polling parameters of the PDO and SDO, then use this function to save the PDO and SDO polling configuration into the EEPROM of the I-7565-CPM. Please refer to chapter 4 of the user manual for how to configure the polling parameters of the PDO and SDO.
5. **Load Polling Parameters** → Load the PDO and SDO configuration from the EEPROM of the I-7565-CPM.



If users just want to add some node, select the CANOpen nodes in the tree view, right click it, and select the item “Add Node” in the pop-up dialog.

In order to configure this node after finishing the adding procedure, users can use the following method in the right-clicked dialog.

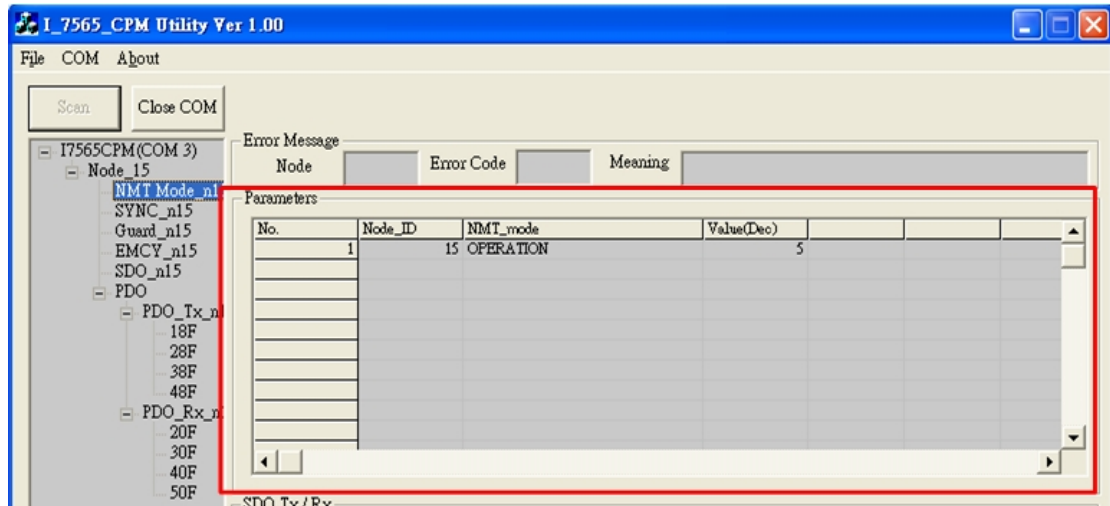
1. **Add Node** → Add the specified CANOpen nodes into the management list of the I-7565-CPM. Afterwards, users can use it in the tree view of the utility.
2. **Remove Node** → Remove the CANOpen slave node from the management list and clear the relative information in the EEPROM of the I-7565-CPM.
3. **Change NMT mode** → Change the NMT state of the specified node. The NMT state may be Stop mode, Pre-Operation mode, Reset Node mode or Reset Communication mode.



## 5.2 NMT Function

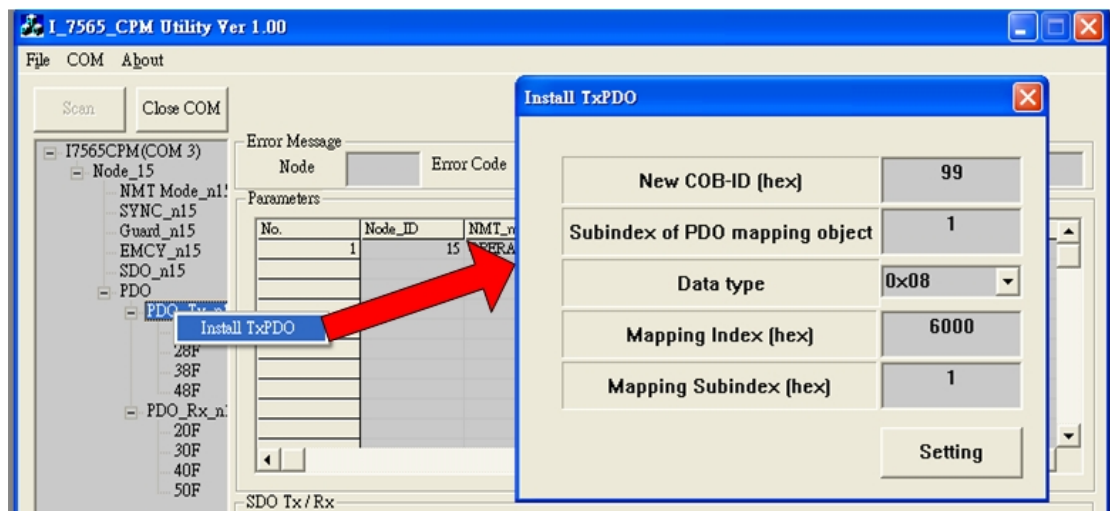
When user clicks the item “NMT\_Mode\_nx”, the parameter will be shown in the filed “Parameters” as follows.

**NMT\_Mode\_nx, (x → ID Number(1, 2, ...or127)).**

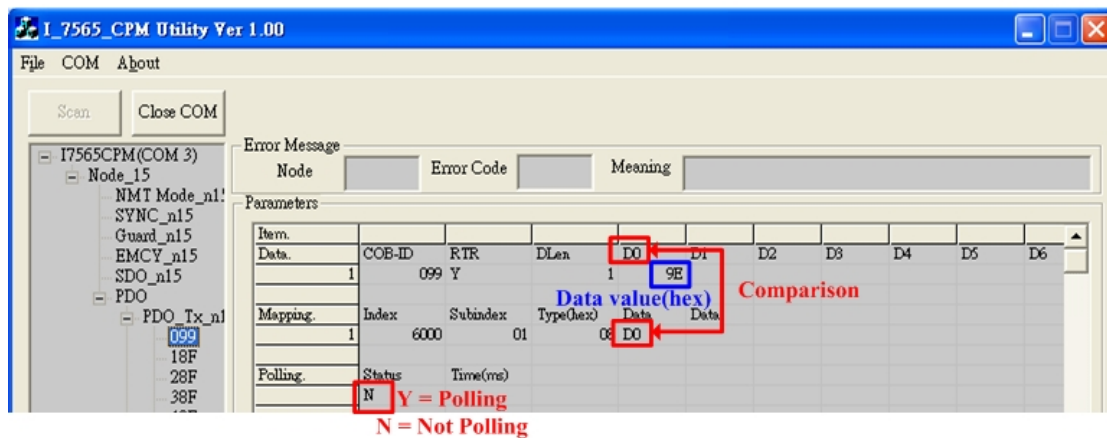


## 5.3 TxPDO Function

If users want to add a new PDO, click the “PDO\_Tx\_nx” item (Note: x → ID Number(1, 2, ...or127)) in the list, then right click to select “Install TxPDO” item. The “Install TxPDO” dialog will be shown. Users have to set the “New COB-ID”, the “Subindex of PDO mapping object”, the “Data type”, the “Mapping index” and “Mapping sub-index” in the “Install TxPDO” dialog. The “New COB-ID” is the COB-ID of the object 0x1800~0x19FF. The “Subindex of PDO mapping object”, “Data type”, “Mapping Index (hex)”, and “Mapping Subindex (hex)” is the parameters of the object 0x1A00~0x1BFF.



After finishing the configuration of the TxPDO, users can see the parameters of the specified TxPDO on the “Parameters” field by selecting the specified TxPDO COB-ID in the tree view.



Users can select the specified PDO COB-ID in the tree view, and right click to select “Setting” item to configure the PDO parameter, such as transmission type and polling time. All of the selectable items in the right-clicked dialog are described below.

1. **Remove TxPDO** → Remove selected PDO form a CANopen node.
2. **Setting** → Set PDO transmission type or polling time of a CANopen node.
3. **Remove Polling** → Remove selected PDO polling time.

