ICPDAS CAN Series Driver

Driver for CAN bus Communication with PC / PAC (WinPAC, ViewPAC, XPAC, XPAC-CE6) and CAN modules (CAN / CANOpen / DeviceNet / PowerMeter).

Contents

1. General Information

1.1 CAN Module Support List

The following are the CAN modules supported by IDCAN driver.

- **Manufacturer :** ICP DAS Co., Ltd.
- **CAN Module List :**

[PC Platform]

- **CAN** : **I-7530 / I-7540D / I-7565 / I-7565-H1 / I-7565-H2 / PISO-CAN200 / PISO-CAN400 / PISO-CM100**
- **CANopen** : **I-7565-CPM / PISO-CPM100**
- **DeviceNet** : **I-7565-DNM / PISO-DNM100**
- **CAN PowerMeter** : **PISO-CM100-PM**

[PAC Platform (WinPAC / ViewPAC / XPAC-8000(XPe) / XPAC-8000-CE6)]

- **CAN** : **I-8120W**
- **CANopen** : **I-8123W**
- **DeviceNet** : **I-8124W**
- **CAN PowerMeter** : **I-8120W-PM**

Note :
1. The following modules support "**HotSwap**" function.
   - **CAN** : **I-8120W**
   - **CANopen** : **I-8123W**
   - **DeviceNet** : **I-8124W**
   - **CAN PowerMeter** : **I-8120W-PM**
2. **Multi CAN modules can be access simultaneously in the same InduSoft project by using just one IDCAN driver.**

2.2 Driver Characteristics

The IDCAN driver package consists of the following files, which are automatically installed in the **/DRV** subdirectory of IWS Web Studio:

- **IDCAN.INI**: Internal driver file. *You must not modify this file*.
- **IDCAN.MSG**: Internal driver file containing error messages for each error code. *You must not modify this file.*
- **IDCAN.PDF**: This document, which provides detailed information about the IDCAN driver.
- **IDCAN.DLL**: Compiled driver for CAN bus communication.

Note :
Users can free download the driver and demo from the web site :
*(1) PC => **http://www.icpdas.com/products/Software/InduSoft/Download_PC.htm***
*(2) PAC => **http://www.icpdas.com/products/Software/InduSoft/Download_PAC.htm***

2. Driver Installation

The ICPDAS “IDCAN” driver will not be installed in InduSoft automatically after InduSoft software is installed. So users must install IDCAN driver first before using the IDCAN driver in InduSoft. The IDCAN driver can be downloaded from ICPDAS web site:
(1) For PC => http://www.icpdas.com/products/Software/InduSoft/Download_PC.htm.
(2) For PAC => http://www.icpdas.com/products/Software/InduSoft/Download_PAC.htm

2.1 Driver Installation for PC

Please follow the below steps to install IDCAN driver in PC.
(1) Execute “IWS_IDCAN_Driver_v1.xx.exe”.
(2) Choose “CAN Series Driver for PC” option.

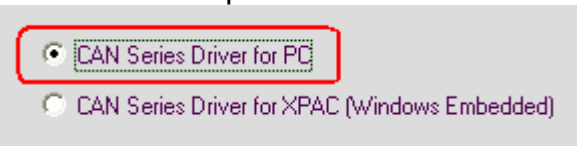

Fig. 2.1-1

2.2 Driver Installation for XPAC-8000

(1) Execute “IWS_IDCAN_Driver_v1.xx.exe”.
(2) Choose “CAN Series Driver for XPAC (Windows Embedded)” option.

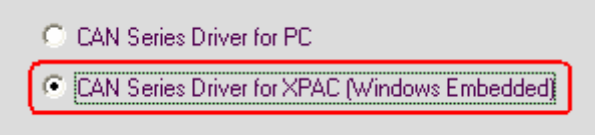

Fig. 2.2-1

2.3 Driver Installation for WinPAC / ViewPAC

(1) Install “IDCAN” driver for PC first. Please refer to section 2.1.
(2) Copy “IWS_IDCAN_Driver_WinPAC_v1.xx.cab” file to WinPAC.
(3) Execute “IWS_IDCAN_Driver_WinPAC_v1.xx.cab”.

2.4 Driver Installation for XPAC-8000-CE6

(1) Install “IDCAN” driver for PC first. Please refer to section 2.1.
(2) Copy “IWS_IDCAN_Driver_XPACce6_v1.xx.cab” file to XPAC-8000-CE6.
(3) Execute “IWS_IDCAN_Driver_XPACce6_v1.xx.cab”.

3. Driver Configuration

When the IDCAN driver is installed in InduSoft, users just need to select the driver in InduSoft project and configure the driver form. The detailed description for driver configuration is as below.

3.1 Select IDCAN Driver

(1) From the main menu bar, select **Insert** . Add/Remove **Driver** to open the Communication Drivers dialog.

(2) Select the **IDCAN** driver from the Available Drivers list, and then click the **Select** button.

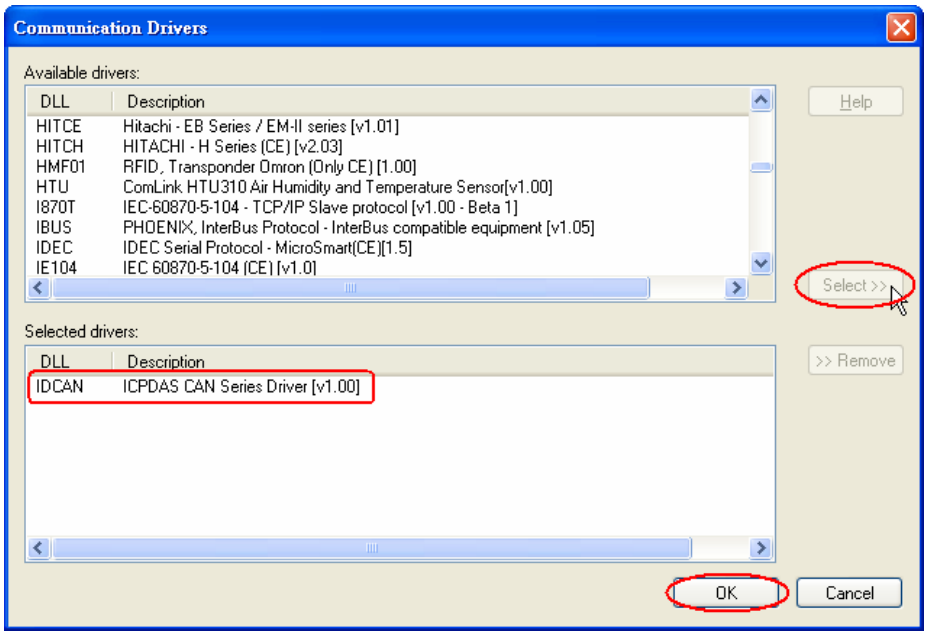

Fig. 3.1-1

(3) When the **IDCAN** driver is displayed in the **Selected Drivers** list, click the **OK** button to close the dialog.

3.2 Configure IDCAN Driver

(1) Configuring the Communication Settings

In IDCAN driver, the Communication setting is disabled.

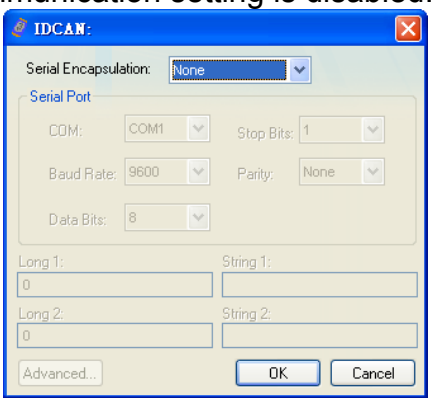

Fig. 3.2-1

(2) Configuring the Driver Worksheets

[1] Insert a new IDCAN driver form.

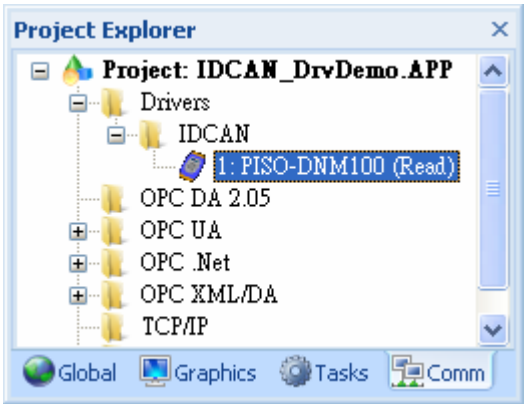

Fig. 3.2-2

[2] Configure the IDCAN driver form.

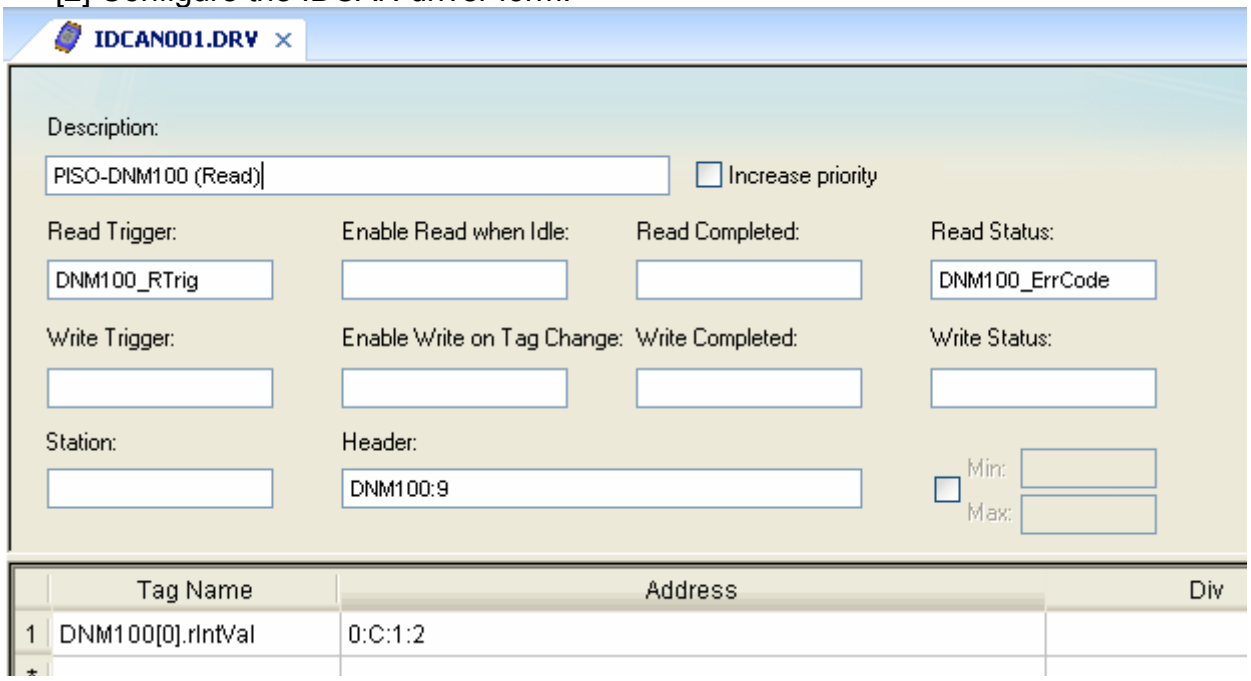

Fig. 3.2-3

Caution:
Users can only apply the tag name up to 500 columns in the same driver worksheet

3.2.1 Header & Tag Name & Address Field Configuration

The following are the parameter format and content tables of "**Header**", "**Address**" and "**Tag Name**" field for all CAN modules.

(1) The Table 3.2-1 is the parameter format of "**Header**" and "**Address**" fields for all CAN modules in PC and CE platform.

(2) The Table 3.2-2, Table 3.2-3 and Table 3.2-4 are the parameter content of "**Header**", "**Address**" and "**Tag Name**" fields for all CAN modules.

Table. 3.2-1 (Parameter Format)

WinXP (PC & XPAC-8000) WinCE (WinPAC / ViewPAC / XPAC-8000-CE6)		
[Module]	**[Header]** **Name : Addr : Baud : Filter**	**[Address]** **Ch : ID : Mode : Len : RTR**
CAN (R/WTag => String)		
I-7530	Name : Addr	**R =>** Ch **W =>** Ch : ID : Mode : Len : RTR
I-7540D	Name : Addr	Same
I-7565	Name : Addr	Same
I-7565-H1	Name : Addr : Baud	Same
I-7565-H2	Name : Addr : Baud1_Baud2	Same
PISO-CAN200	Name : Addr : Baud1_Baud2 : Filter1_Filter2	Same
PISO-CAN400	Name : Addr : Baud1_Baud2_Baud3_Baud4 : Filter1_Filter2_Filter3_Filter4	Same
PISO-CM100	Name : Addr : Baud : Filter	Same
I-8120W	Name : Addr : Baud : Filter	Same
DeviceNet (R/WTag => Integer)		
I-7565-DNM	Name : Addr	**R/W =>** Ch : ID : Mode : Len
PISO-DNM100	Name : Addr	Same
I-8124W	Name : Addr	Same
CANopen (R/WTag => Integer)		
I-7565-CPM	Name : Addr : Baud	**R/W =>** Ch : ID : Mode : Len
PISO-CPM100	Name : Addr : Baud	Same
I-8123W	Name : Addr : Baud	Same
PowerMeter (RTag => Real)		
PISO-CM100-PM	Name : Addr	**R/W =>** Ch : ID : Mode
I-8120W-PM	Name : Addr	Same

Table. 3.2-2 (Parameter Content for "Header")

"Header" Field				
	Name	**Addr**	**Baud**	**Filter**
CAN				
I-7530	**I7530**	ComPort No.	xxx	xxx
I-7540D	**I7540D**	ComPort No.	xxx	xxx
I-7565	**I7565**	ComPort No.	xxx	xxx
I-7565-H1	**I7565H1**	ComPort No.	1~8 / 83.333**f**	xxx
I-7565-H2	**I7565H2**	ComPort No.	0~8 / 83.333**f**	xxx
PISO-CAN200	**CAN200**	Board No.	0~8 / 0F12**h**	AccCode_AccMask
PISO-CAN400	**CAN400**	Board No.	0~8 / 0F12**h**	AccCode_AccMask
PISO-CM100	**CM100**	Board No.	1~8 / 0F12**h**	AccCode_AccMask
I-8120W	**I8120W**	Slot No.	1~8 / 0F12**h**	AccCode_AccMask
DeviceNet				
I-7565-DNM	**I7565DNM**	ComPort No.	xxx	xxx
PISO-DNM100	**DNM100**	Board No.	xxx	xxx
I-8124W	**I8124W**	Slot No.	xxx	xxx
CANopen				
I-7565-CPM	**I7565CPM**	ComPort No.	1 ~ 8	xxx
PISO-CPM100	**CPM100**	Board No.	1 ~ 8	xxx
I-8123W	**I8123W**	Slot No.	1 ~ 8	xxx
PowerMeter				
PISO-CM100-PM	**CM100PM**	Board No.	xxx	xxx
I-8120W-PM	**I8120WPM**	Slot No.	xxx	xxx

Note :

[1] "xxx" means the parameter is no use in the module.

[2] The "**Baud**" parameter is "**0**" means the CAN port is disabled. The others are as below.

1	2	3	4	5	6	7	8
10K	**20K**	**50K**	**125K**	**250K**	**500K**	**800K**	**1M**

[3] If users want to use "**user-defined CAN baud**" function, in CAN200, CAN400, CM100 and I-8120W modules, please add '**h**' in the end like **041C**h. In I-7565-H1/H2 modules, please add '**f**' in the end like **83.333f** (Kbps).

[4] The filter format is AccCode_AccMask like 00000000**h**FFFFFFFF**h**.

Table. 3.2-3 (Parameter Content for "Address")

"Address" Field					
	Ch	**ID**	**Mode**	**Len**	**RTR**
CAN					
I-7530	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
I-7540D	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
I-7565	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
I-7565-H1	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
I-7565-H2	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
PISO-CAN200	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
PISO-CAN400	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
PISO-CM100	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
I-8120W	CAN Port	CAN-ID	Mode	0 ~ 8	0 / 1
DeviceNet					
I-7565-DNM	Start Byte	NodeID	1 (Polling)	1 ~ 4	xxx
PISO-DNM100	Start Byte	NodeID	1 (Polling)	1 ~ 4	xxx
I-8124W	Start Byte	NodeID	1 (Polling)	1 ~ 4	xxx
CANopen					
I-7565-CPM	Start Byte	CobID	NodeID	1 ~ 4	xxx
PISO-CPM100	Start Byte	CobID	NodeID	1 ~ 4	xxx
I-8123W	Start Byte	CobID	NodeID	1 ~ 4	xxx
PowerMeter					
PISO-CM100-PM	CAN Port	NodeID	DataName	xxx	xxx
I-8120W-PM	CAN Port	NodeID	DataName	xxx	xxx

Note :

[1] "xxx" means the parameter is no use in the module.

[2] The second parameter "**ID**" of Address Field is the "**Hex**" format and the others are the "**Dec**" format.

[3] The "**NodeID**" means the CAN slave module ID.

[4] The "**DataName**" value in PowerMeter module is as below.

	Channel A	**Channel B**	**Channel C**	**Channel D**
V (voltage)	0	9	18	27
I (current)	1	10	19	28

kW	2	11	20	29
kvar	3	12	21	30
kVA	4	13	22	31
PF (Power Factor)	5	14	23	32
kWh	6	15	24	33
kvarh	7	16	25	34
kVAh	8	17	26	35

Table. 3.2-4 (Parameter Content for "Tag Name")

"Tag Name" Field		
	Write	**Read**
CAN	**String Tag**	**String Tag**
I-7530	**DataL_DataH**	**ID_Mode_Len_RTR_DataL_DataH_TimeL_TimeH**
I-7540D	Same	Same
I-7565	Same	Same
I-7565-H1	Same	Same
I-7565-H2	Same	Same
PISO-CAN200	Same	Same
PISO-CAN400	Same	Same
PISO-CM100	Same	Same
I-8120W	Same	Same
DeviceNet	**Integer Tag**	**Integer Tag**
I-7565-DNM	**Integer Tag**	**Integer Tag**
PISO-DNM100	Same	Same
I-8124W	Same	Same
CANopen	**Integer Tag**	**Integer Tag**
I-7565-CPM	**Integer Tag**	**Integer Tag**
PISO-CPM100	Same	Same
I-8123W	Same	Same
PowerMeter	**Real Tag**	**Real Tag**
PISO-CM100-PM	**xxx**	**Real Tag**
I-8120W-PM	xxx	Same

Note :

[1] The **ID**, **DataL** and **DataH** value of string tag are the "**Hex**" format. The others are "**Dec**" format.

[2] DataL and DataH are the Lo-DWORD and Hi-DWORD value of CAN message.

[3] TimeL and TimeH values are just supported by I-7565-H1/H2, CAN200/400, CM100 and I-8120W modules.

[4] The time unit of TimeL and TimeH in CAN200/400 is "**0.1us**" and in I-7565-H1/H2, CM100 and I-8120W is "**0.1ms**".

Note: Always creates two different driver worksheets for Input and Output modules.

3.3 CAN Module Configuration

Before running the IDCAN driver, the module communication parameter (like baud rate, Filter … etc) must be configured correctly via module utility tool. The following is the description of parameter configuration for all CAN modules.

3.3.1 I-7530 Module Configuration

1. Set the following parameters by using I-7530 utility.
   (1) Set COM_Baud=115200; DataBit=8; StopBit=1;
   Parity=None; CheckSum=No; Error Response=No
   (2) Set "**CAN Spec.**" and "**CAN Baud**" parameters of CAN bus network.
   (3) Set "**CAN Acceptance Code and Mask**" parameters for the filter-ID setting. If they are all "00000000", it means all CAN-ID will be accepted.
   (4) Disable "Pair Connection" function.

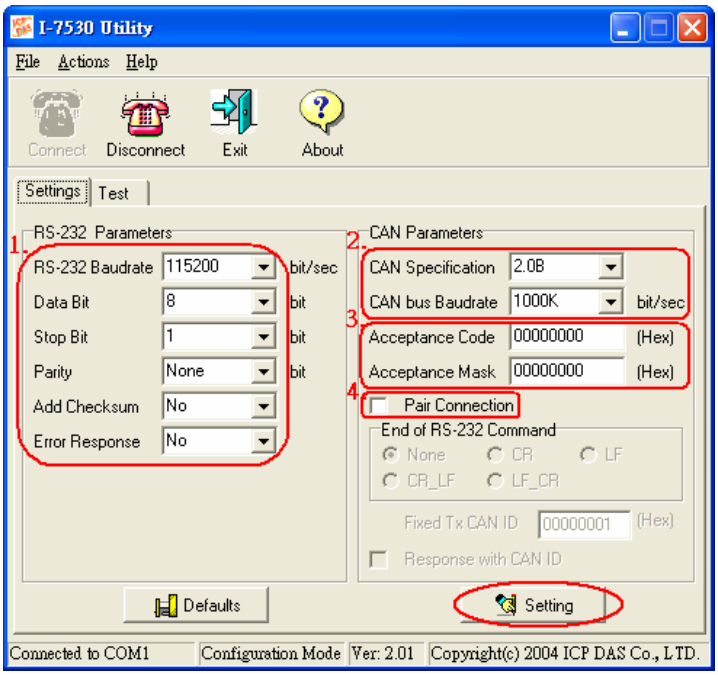

Fig. 3.3.1-1 I-7530 Utility

3.3.2 I-7540D Module Configuration

1. After Installing "VxComm_Driver" program, then run the "VxComm Utility".
   (1) Click "Search Servers" button
   (2) Click "Add Server(s)" button
   (3) Set "Port 3" (CAN Port) of I-7540D to be a Virtual COM. (like COM20)
   (4) Execute "Restart Driver"

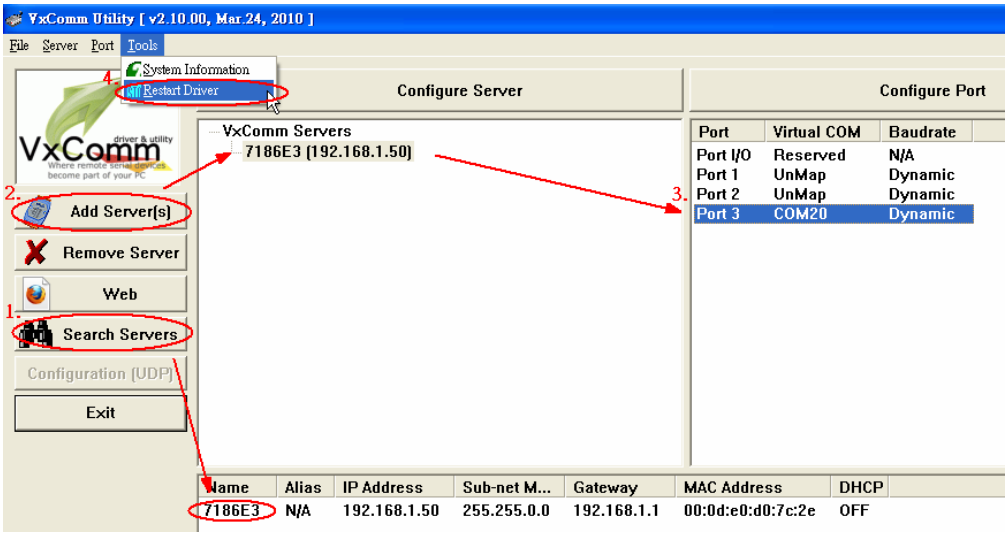

Fig. 3.3.2-1 VxComm Utility

2. Set the following parameter by using I-7540D Utility.
   (1) Set "**CAN Spec.**" and "**CAN Baud**" parameters of CAN bus network.

(2) If set Acceptance Code=00000000 and Mask=FFFFFFFF, it means all CAN-ID will be accepted.

(3) Set Error Resp=No；TimeStamp Resp=No.

(4) Disable "Pair Connection" function.

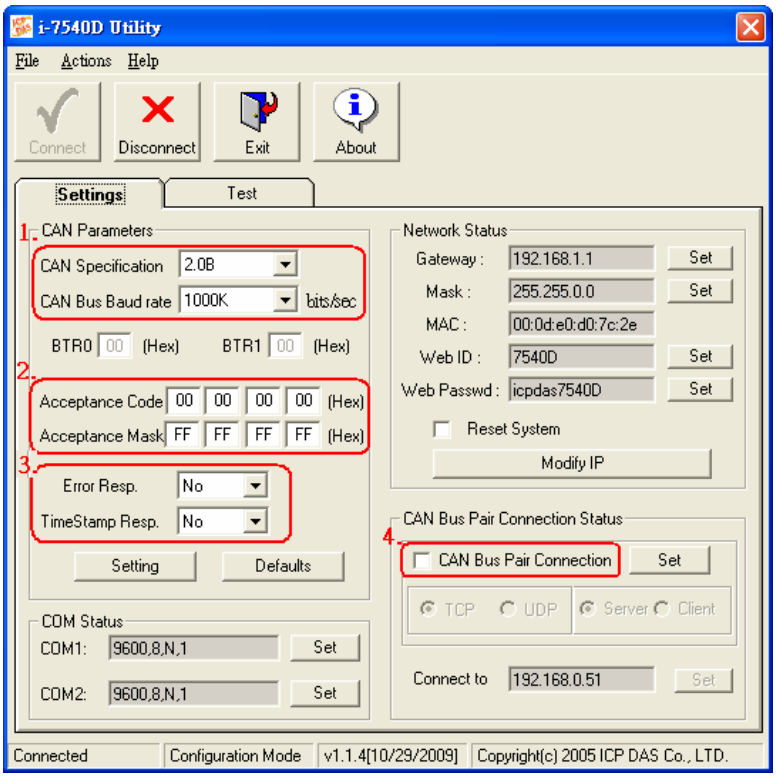

Fig. 3.3.2-2 I-7540D Utility

3.3.3 I-7565 Module Configuration

1. Set the following parameter by using I-7565 utility.

(1) Set CheckSum=No. ; Error Response=No

(2) Set "**CAN Spec.**" and "**CAN Baud**" parameters of CAN bus network.

(3) Set "**CAN Acceptance Code and Mask**" parameters for the filter-ID setting. If they are all "00000000", it means all CAN-ID will be accepted.

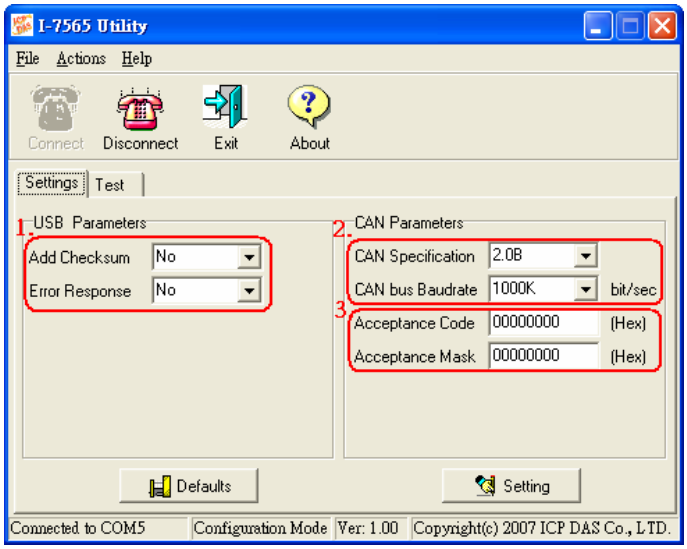

Fig. 3.3.3-1 I-7565 Utility

3.3.4 I-7565-H1/H2 Module Configuration

1. Set the following parameter by using I-7565-H1/H2 utility.
   (1) User can set **CAN-ID filter** function in “Module Config” of I-7565-H1/H2 utility.

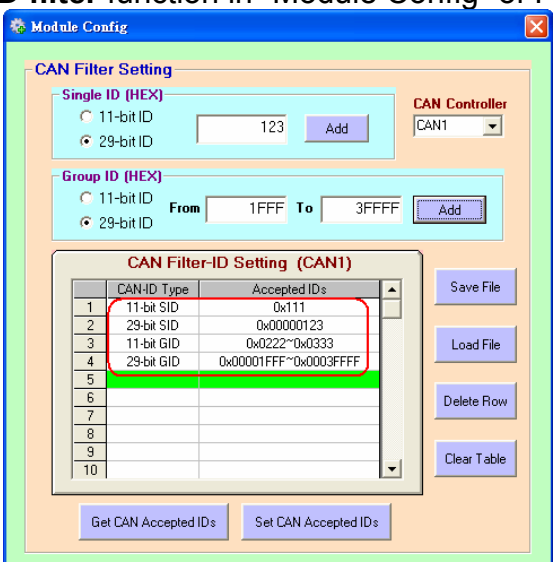

Fig. 3.3.4-1 I-7565-H1/H2 Utility

3.3.5 CAN200/400 / CM100 / I-8120W Module Configuration

1. In CAN200/400, CM100 and I-8120W modules, users don’t need to configure any module parameter.

3.3.6 DeviceNet Module Configuration

1. Set the following parameter by using DNM_Utility.
   (1) Select DNM module.

Fig. 3.3.6-1 DNM Utility (PC & CE)

   (2) Click “Active Module” or “Active Board” button to enable DNM module.
   (3) Set “CAN baud” and then click “Search all Devices” button to search all DeviceNet devices.
   (4) Add DeviceNet devices to DNM module like Fig. 3.3.6-2 and Fig. 3.3.6-3.
   (5) Exit DNM Utility.

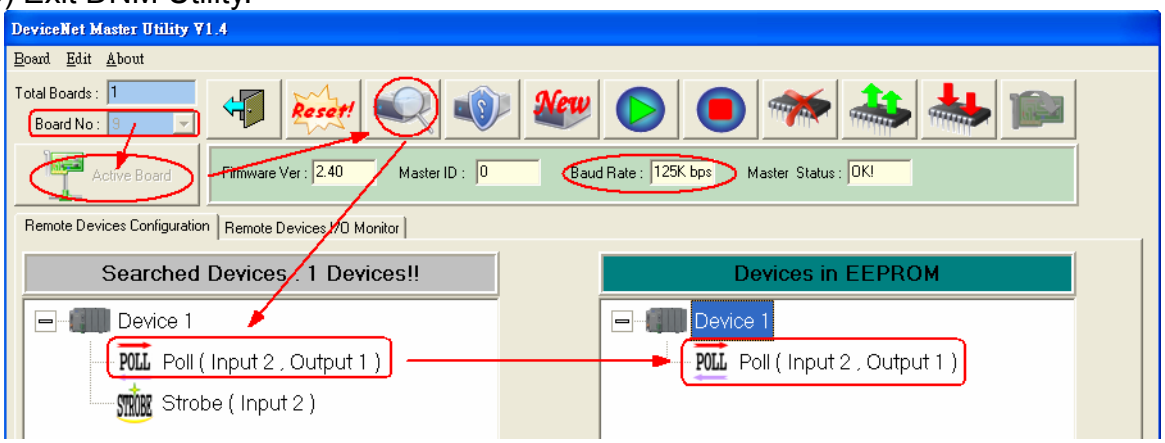

Fig. 3.3.6-2 Add DeviceNet devices to DNM module (PC)

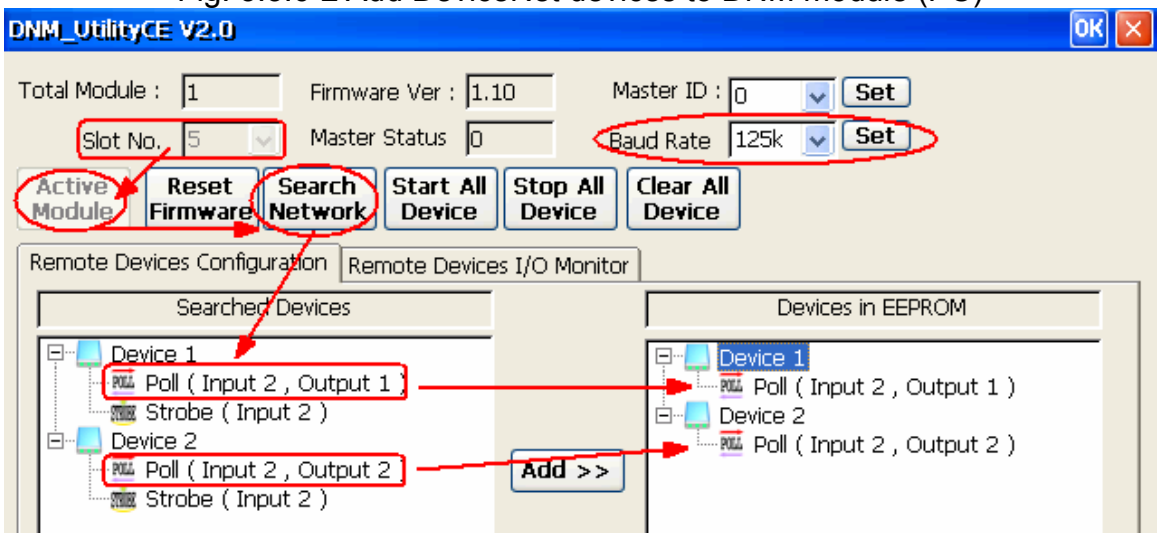

Fig. 3.3.6-3 Add DeviceNet devices to DNM module (CE)

3.3.7 CANopen Module Configuration

1. In I-7565-CPM / PISO-CPM100 modules, users don't need to configure any module parameter.

3.3.8 PowerMeter Module Configuration

1. Set the following parameter by using CAN Power Meter Utility.
   (1) Select CAN Power Meter module.
   (2) Click "Active" button to enable CAN Power Meter module and then click "Parameter" button to open "Parameter Configuration" screen like Fig. 3.3.8-1

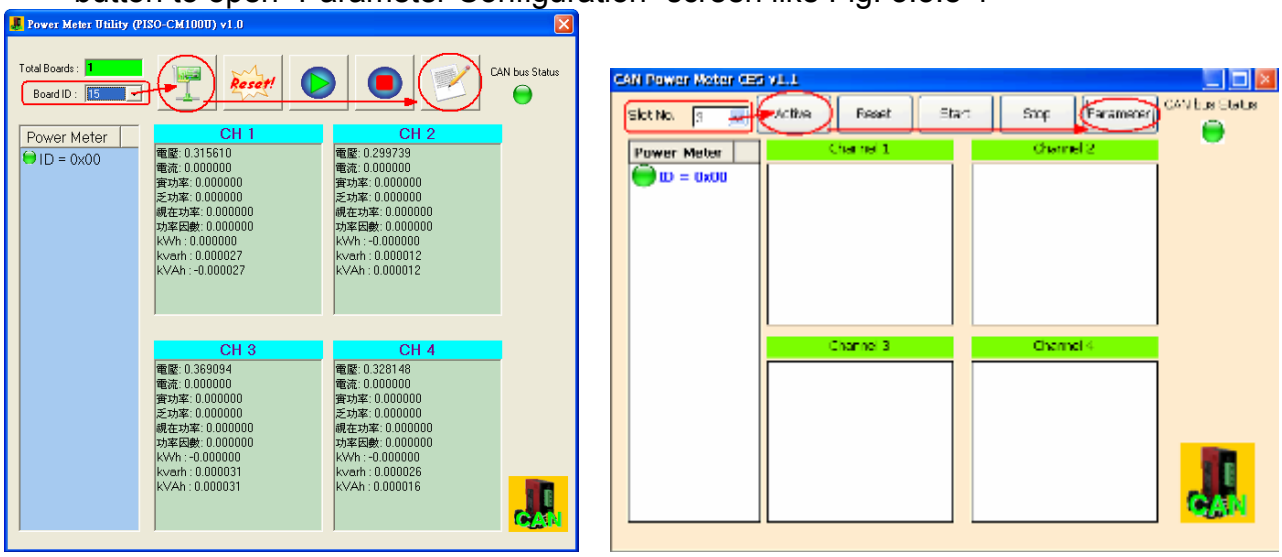

Fig. 3.3.8-1 CAN Power Meter Utility (PC & CE)

   (3) Set "CAN baud" and "Auto Resp. Time" value.
   (4) Select "Power Meter Device ID" and then click "Set Power Meter" button like Fig. 3.3.8-2.
   (5) Exit CAN Power Meter Utility.

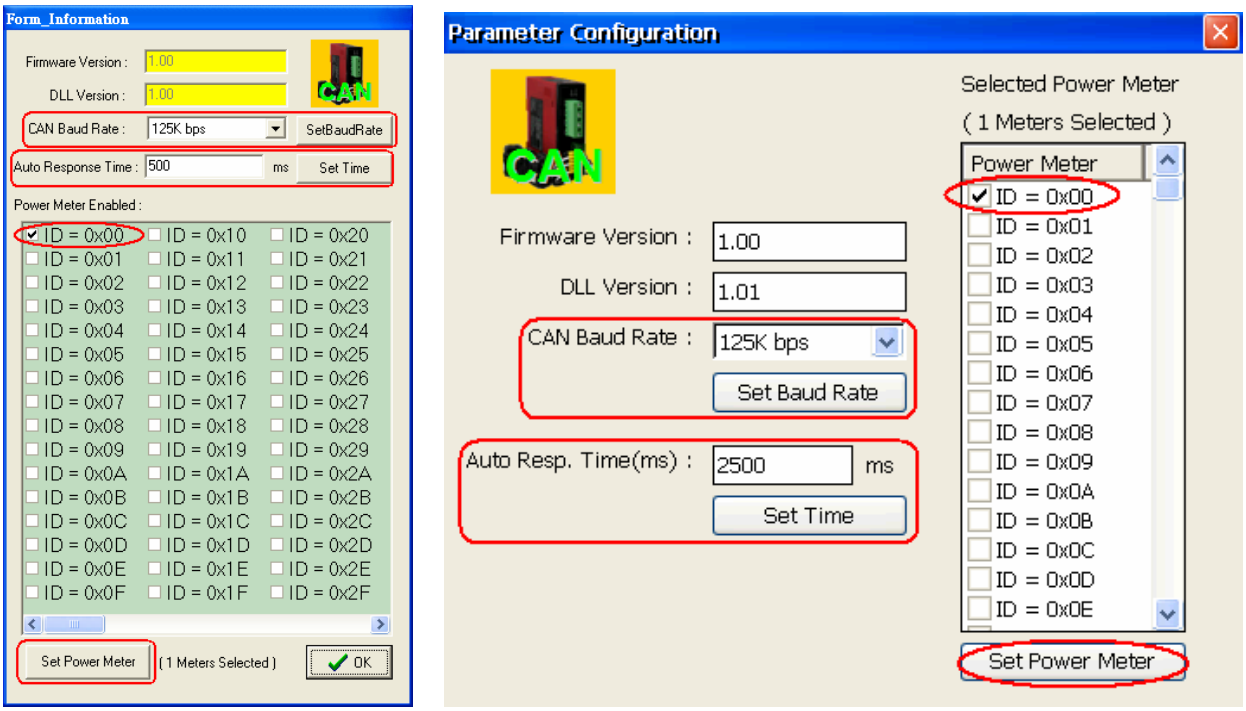

Fig. 3.3.8-2 Parameter Configuration (PC & CE)

3.4 Executing the Driver

To verify if the driver is correctly enabled and started, use the menu option **Home -> Tasks** button and verify the task Driver Runtime is set to **Automatic**. After that clicking "OK" button and start InduSoft project to run the driver.

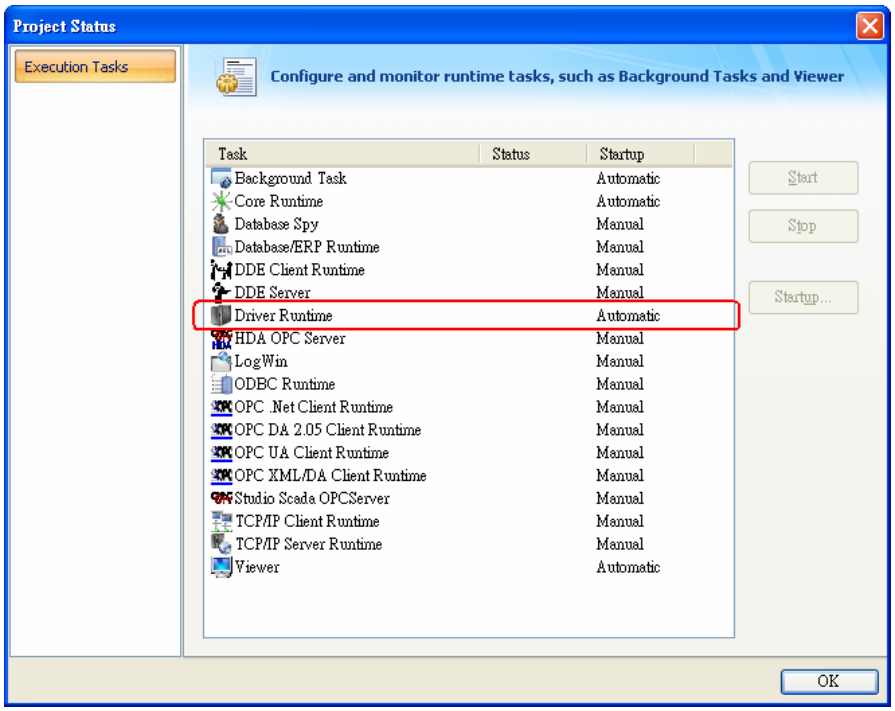

Fig. 3.4-1 Driver Runtime (Automatic)

3.5 Example For Driver Configuration

The following are the configuration examples for all CAN modules by using IDCAN driver.

3.5.1 Example for CAN Converter Modules

(1) **Send CANMsg :** (For **all CAN modules** with ComPort is "**11**" or BoardID/SlotNo is "**6**")
Mode=1, **CANID**=0x1234567, **RTR**=0, **DLC**=8, **DataL**=0x11223344, **DataH**=0xABCDEF90 with **CANBaud**=250Kbps via **CAN1** port.

Module	Header Field	Address Field	Tag Name Field (String Tag)
I-7530	I7530:11	1:1234567:1:8:0	11223344_ ABCDEF90
I-7540D	I7540D:11	1:1234567:1:8:0	11223344_ ABCDEF90
I-7565	I7565:11	1:1234567:1:8:0	11223344_ ABCDEF90
I-7565-H1	I7565H1:11:5	1:1234567:1:8:0	11223344_ ABCDEF90
I-7565-H2	I7565H1:11:5_0	1:1234567:1:8:0	11223344_ ABCDEF90
CAN200	CAN200:6:5_0	1:1234567:1:8:0	11223344_ ABCDEF90
CAN400	CAN400:6:5_0_0_0	1:1234567:1:8:0	11223344_ ABCDEF90
CM100	CM100:6:5	1:1234567:1:8:0	11223344_ ABCDEF90
I-8120W	I8120W:6:5	1:1234567:1:8:0	11223344_ ABCDEF90

(2) **Send CANMsg :** (For **I-7565-H2** with Comport = "**8**")
[CAN1]
Mode=0, **CANID**=0x7FF, **RTR**=0, **DLC**=6, **DataL**=0x12345678, **DataH**=0xABCD with **CANBaud**=125Kbps
[CAN2]
Mode=1, **CANID**=0xABCD, **RTR**=0, **DLC**=3, **DataL**=0x123456 with **CANBaud**=500Kbps

Module	Header Field	Address Field	Tag Name Field (String Tag)
I-7565-H2	I7565H2:8:4_6	CAN1=>1:7FF:0:6:0 CAN2=>2:ABCD:1:3:0	CAN1=>12345678_ ABCD CAN1=>123456

(3) **Receive CANMsg :** (For **I-8120W** with SlotNo = "**3**")
CANBaud=1000Kbps

Module	Header Field	Address Field	Tag Name Field (String Tag)
I-8120W	I8120W:3:8	1	StrTag

The data format of "StrTag" will be "ID_Mode_Len_RTR_DataL_DataH_TimeL_TimeH"

3.5.2 Example for DeviceNet Modules

(1) **Read AI Value :** (For **all DNM modules** with ComPort is "**12**" or BoardID/SlotNo is "**5**")

Read ch0 AI value (2Bytes) of Node 1. (StartByte is according to configuration in DNM_Utility)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-7565-DNM	I7565DNM:12	0:1:1:2	IntTag
DNM100	DNM100:5	0:1:1:2	IntTag
I-8124W	I8124W:5	0:1:1:2	IntTag

(2) **Read DI Value :** (For **DNM100** with BoardID is "**7**")

Read ch0~7 DI value (1Bytes) of Node 12. (StartByte is according to configuration in DNM_Utility)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
DNM100	DNM100:7	0:C:1:1	IntTag

(3) **Write AO Value :** (For **I-8124W** with SlotNo is "**1**")

Write ch1 AO value (2Bytes) of Node 5. (StartByte is according to configuration in DNM_Utility)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-8124W	I8124W:1	2:5:1:2	IntTag

(4) **Write DO Value :** (For **I-7565-DNM** with ComPort is "**15**")

Write ch8~15 DO value (1Bytes) of Node 6. (StartByte is according to configuration in DNM_Utility)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-7565-DNM	I7565DNM:15	1:6:1:1	IntTag

3.5.3 Example for CANopen Modules

(1) **Read AI Value :** (For **all CPM modules** with ComPort is "**12**" or BoardID/SlotNo is "**5**")

Read ch0 AI value (2Bytes) of Node 1. (CobID is according to configuration in module)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-7565-CPM	I7565CPM:12	0:281:1:2	IntTag
CPM100	CPM100:5	0:281:1:2	IntTag
I-8123W	I8123W:5	0:281:1:2	IntTag

(2) **Read DI Value :** (For **CPM100** with BoardID is "**7**")

Read ch0~7 DI value (1Bytes) of Node 12. (CobID is according to configuration in module)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
CPM100	CPM100:7	0:181:12:1	IntTag

(3) **Write AO Value :** (For **I-8123W** with SlotNo is "**1**")

Write ch1 AO value (2Bytes) of Node 5. (CobID is according to configuration in module)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-8123W	I8123W:1	2:301:5:2	IntTag

(4) **Write DO Value :** (For **I-7565-CPM** with ComPort is "**15**")

Write ch8~15 DO value (1Bytes) of Node 16. (CobID is according to configuration in module)

Module	Header Field	Address Field	Tag Name Field (Int Tag)
I-7565-CPM	I7565CPM:15	1:201:16:1	IntTag

3.5.4 Example for PowerMeter Modules

(1) **Read Voltage Value :** (For **all PowerMeter modules** with BoardID/SlotNo is "**5**")

Read voltage value of channel A and the Node-ID of PowerMeter module (like PM-2133 / 2134) is 3.

Module	Header Field	Address Field	Tag Name Field (Real Tag)
CM100-PM	CM100PM:5	1:3:0	RealTag
I-8120W-PM	I8120WPM:5	1:3:0	RealTag

(2) **Read Current Value :** (For **CM100-PM** with BoardID is "**7**")

Read current value of channel B and the Node-ID of PowerMeter module (like PM-2133 / 2134) is 10.

Module	Header Field	Address Field	Tag Name Field (Real Tag)
CM100-PM	CM100PM:7	1:A:10	RealTag

(3) **Read kWh Value :** (For **I-8120W-PM** with SlotNo is "**1**")

Read kWh value of channel C and the Node-ID of PowerMeter module (like PM-2133 / 2134) is 12.

Module	Header Field	Address Field	Tag Name Field (Real Tag)
I-8120W-PM	I8120WPM:1	1:C:24	RealTag

4. Troubleshooting

After each attempt to communicate using this driver, the tag configured in the field **Read Status or Write Status** will receive the error code regarding the kind of failure that occurred. The error messages are shown as below for all CAN modules.

4.1 General ErrorCode For All CAN Modules

[All CAN Modules]

ErrCode	Description	Possible causes & solutions
0	No_Error	
-1001	IWS_MODTYPE_ERR	Module Not Support in IDCAN Driver (IDCAN_Def)
-1002	IWS_DATALEN_ERR	(IDCAN_Def)

4.2 CAN Converter Module ErrorCode

[I-7530 / I-7565]

ErrCode	Description	Possible causes & solutions
1	Invalid header	The RS-232 command string header is not “t”,”T”,”e”,”E”,”S”,”C”,”P0”, ”P1” nor “RA”.
2	Invalid length	The data byte of the CAN Message does not matchthe data length of the CAN Message. For example: **Error**: t001512345<CR> / **Right**: t00150102030405<CR>
3	Invalid checksum	The checksum from the RS-232 command string does not matched with the checksum calculated by the I-7530. For example: **Error**: t0012112209<CR> / **Right**: t00121122FD<CR>
5	Timeout	The ASCII command strings are sent incomplete. For example: **Error**: T0018 / **Right**: T0018<CR>
25 / 65533	Open Com Fail	Invalid com port number or com port is in use. -Check if com port number is valid. -Check if com port is in use.

[I-7540D]

ErrCode	Description	Possible causes & solutions
1	Invalid header	The RS-232 command string header is not “t”,”T”,”e”,”E”.
2	Invalid length	The length of command string is invalid. For example: **Error**: t0013112233 / **Right**: t0013112233<CR>
3	Invalid CAN identifier	The CAN identifier bits depend on CAN specification CAN 2.0A: total 11 bits, 0x000 ~ 0x7FF CAN 2.0B: total 29 bits, 0x00000000 ~ 0x1FFFFFFF
4	Invalid CAN data length	The data byte of the CAN Message does not match the data length of the CAN Message. For example: **Error**: t001512345<CR> / **Right**: t00150102030405<CR>
25 / 65533	Open Com Fail	Invalid com port number or com port is in use. -Check if com port number is valid. -Check if com port is in use.

[I-7565-H1/H2]

ErrCode	Description	Possible causes & solutions
1	DEV_ModName_Err	The Module Name Error
2	DEV_ModNotExist_Err	The Module doesn't exist in this Port
3	DEV_PortNotExist_Err	The Port doesn't Exist
4	DEV_PortInUse_Err	The Port is in Used
5	DEV_PortNotOpen_Err	The Port doesn't Open
6	CAN_ConfigFail_Err	CAN Config Command Fail
7	CAN_HARDWARE_Err	CAN Hardware Init Fail
8	CAN_PortNo_Err	The Device doesn't support this CAN Port
9	CAN_FIDLength_Err	The CAN Filter-ID Number exceed Max Number
10	CAN_DevDisconnect_Err	The Connection of device is broken
11	CAN_TimeOut_Err	The Config Command Timeout
12	CAN_ConfigCmd_Err	The Config Command doesn't support
13	CAN_ConfigBusy_Err	The Config Command is busy
14	CAN_RxBufEmpty	The CAN Receive Buffer is empty
15	CAN_TxBufFull	The CAN Send Buffer is full
16	CAN_UserDefISRNo_Err	The User Defined ISR No Error (0~7)
-1	VCI_CAN_DLL_NotFound	VCI_CAN.dll is not exist
-2	VCI_CAN_DLL_LoadFail	VCI_CAN.dll load fail

[PISO-CAN200/400]

ErrCode	Description	Possible causes & solutions
1	CAN_DriverError	
2	CAN_ActiveBoardError	
3	CAN_BoardNumberError	
4	CAN_PortNumberError	
5	CAN_ResetError	
6	CAN_SoftResetError	
7	CAN_InitError	
8	CAN_ConfigError	
9	CAN_SetACRError	
10	CAN_SetAMRError	
11	CAN_SetBaudRateError	
12	CAN_EnableRxIrqFailure	
13	CAN_DisableRxIrqFailure	
14	CAN_InstallIrqFailure	
15	CAN_RemoveIrqFailure	
16	CAN_TransmitBufferLocked	
17	CAN_TransmitIncomplete	
18	CAN_ReceiveBufferEmpty	
19	CAN_DataOverrun	
20	CAN_ReceiveError	
21	CAN_SoftBufferIsEmpty	
22	CAN_SoftBufferIsFull	
23	CAN_TimeOut	
24	CAN_InstallIsrError	

[PISO-CM100]

ErrCode	Description	Possible causes & solutions
1	CM100_DriverError	
2	CM100_ActiveBoardError	
3	CM100_BoardNumberError	
4	CM100_PortNumberError	
7	CM100_InitError	

21	CM100_SoftBufferIsEmpty	
22	CM100_SoftBufferIsFull	
23	CM100_TimeOut	
24	CM100_SetCyclicMsgFailure	
25	CM100_DpramOverRange	
26	CM100_NoDpramCmd	
27	CM100_ModeError	
30	CM100_NoFileInside	
31	CM100_DownloadFailure	
32	CM100_EEPROMDamage	
33	CM100_NotEnoughSpace	
34	CM100_StillDownloading	
35	CM100_BoardModeError	
36	CM100_SetDateTimeFailure	

[I-8120W]

ErrCode	Description	Possible causes & solutions
3	I8120_SlotNumberError	
7	I8120_InitError	
21	I8120_SoftBufferIsEmpty	
22	I8120_SoftBufferIsFull	
23	I8120_TimeOut	
24	I8120_SetCyclicMsgFailure	
25	I8120_DpramOverRange	
26	I8120_NoDpramCmd	
27	I8120_ModeError	
30	I8120_NoFileInside	
31	I8120_DownloadFailure	
32	I8120_EEPROMDamage	
33	I8120_NotEnoughSpace	
34	I8120_StillDownloading	
35	I8120_BoardModeError	
36	I8120_SetDateTimeFailure	
40	I8120_SlotNotConfig	
41	I8120_SlotNotInit	

42	I8120_ReplyError	
43	I8120_WaitForReply	
44	I8120_HasBeenActivated	

4.3 DeviceNet Module ErrorCode

[I-7565-DNM]

ErrCode	Description	Possible causes & solutions
10008	I7565DNM_PortNotActive	DLL Error Code
10015	I7565DNM_PortNoResp	DLL Error Code
10025	I7565DNM_PortInUse	DLL Error Code
10027	I7565DNM_ReStartPort	DLL Error Code
5000	DNMXS_UnKnowError	Firmware Error Code
1000	DNMXS_BoardNotActive	Master Status Error Code
1001	DNMXS_OnlineError	Master Status Error Code
1002	DNMXS_CANBusError	Master Status Error Code
1003	DNMXS_Booting	Master Status Error Code
1004	DNMXS_ModuleNotFound	Master Status Error Code
1050	DNMXS_MACIDError	General Error Code
1051	DNMXS_BaudRateError	General Error Code
1052	DNMXS_ConnectionTypeError	General Error Code
1053	DNMXS_DuplicMasterMACID	General Error Code
1054	DNMXS_EEPROMError	General Error Code
1055	DNMXS_NowScanning	General Error Code
1056	DNMXS_ScanListError	General Error Code
1057	DNMXS_DeviceExist	General Error Code
1058	DNMXS_DeviceNotExist	General Error Code
1059	DNMXS_MapTableError	General Error Code
1100	DNMXS_ExplicitNotAllocate	IOConnection Error
1101	DNMXS_PollNotAllocate	IOConnection Error
1102	DNMXS_BitStrobeNotAllocate	IOConnection Error
1103	DNMXS_COSNotAllocate	IOConnection Error
1104	DNMXS_CyclicNotAllocate	IOConnection Error
1105	DNMXS_PollAlreadyExist	IOConnection Error
1106	DNMXS_BitStrobeAlreadyExist	IOConnection Error

1107	DNMXS_COSAlreadyExist	IOConnection Error
1108	DNMXS_CyclicAlreadyExist	IOConnection Error
1109	DNMXS_CommunicationPause	IOConnection Error
1150	DNMXS_SlaveNoResp	Slave Error Code
1151	DNMXS_WaitForSlaveResp	Slave Error Code
1152	DNMXS_SlaveRespError	Slave Error Code
1153	DNMXS_OutputDataLenError	Slave Error Code
1154	DNMXS_InputDataLenError	Slave Error Code

[PISO-DNM100]

ErrCode	Description	Possible causes & solutions
10001	DNM100_DriverError	Board Error Code
10002	DNM100_ActiveBoardError	Board Error Code
10003	DNM100_BoardNumberError	Board Error Code
10004	DNM100_PortNumberError	Board Error Code
10007	DNM100_InitError	Board Error Code
10021	DNM100_SoftBufferIsEmpty	Board Error Code
10022	DNM100_SoftBufferIsFull	Board Error Code
10023	DNM100_TimeOut	Board Error Code
10024	DNM100_SetCyclicMsgFailure	Board Error Code
10025	DNM100_DpramOverRange	Board Error Code
10026	DNM100_NoDpramCmd	Board Error Code
10027	DNM100_ModeError	Board Error Code
10030	DNM100_NoFileInside	Board Error Code
10031	DNM100_DownloadFailure	Board Error Code
10032	DNM100_EEPROMDamage	Board Error Code
10033	DNM100_NotEnoughSpace	Board Error Code
10034	DNM100_StillDownloading	Board Error Code
10035	DNM100_BoardModeError	Board Error Code
10036	DNM100_CardTypeError	Board Error Code
5000	DNMXS_UnKnowError	Firmware Error Code
1000	DNMXS_BoardNotActive	Master Status Error Code
1001	DNMXS_OnlineError	Master Status Error Code
1002	DNMXS_CANBusError	Master Status Error Code
1003	DNMXS_Booting	Master Status Error Code

1050	DNMXS_MACIDError	General Error Code
1051	DNMXS_BaudRateError	General Error Code
1052	DNMXS_ConnectionTypeError	General Error Code
1053	DNMXS_DuplicMasterMACID	General Error Code
1054	DNMXS_EEPROMError	General Error Code
1055	DNMXS_NowScanning	General Error Code
1056	DNMXS_ScanListError	General Error Code
1057	DNMXS_DeviceExist	General Error Code
1058	DNMXS_DeviceNotExist	General Error Code
1059	DNMXS_MapTableError	General Error Code
1100	DNMXS_ExplicitNotAllocate	IOConnection Error
1101	DNMXS_PollNotAllocate	IOConnection Error
1102	DNMXS_BitStrobeNotAllocate	IOConnection Error
1103	DNMXS_COSNotAllocate	IOConnection Error
1104	DNMXS_CyclicNotAllocate	IOConnection Error
1105	DNMXS_PollAlreadyExist	IOConnection Error
1106	DNMXS_BitStrobeAlreadyExist	IOConnection Error
1107	DNMXS_COSAlreadyExist	IOConnection Error
1108	DNMXS_CyclicAlreadyExist	IOConnection Error
1109	DNMXS_CommunicationPause	IOConnection Error
1150	DNMXS_SlaveNoResp	Slave Error Code
1151	DNMXS_WaitForSlaveResp	Slave Error Code
1152	DNMXS_SlaveRespError	Slave Error Code
1153	DNMXS_OutputDataLenError	Slave Error Code
1154	DNMXS_InputDataLenError	Slave Error Code
1200	DNMXS_OutofRange	Input / Output Area

[I-8124W]

ErrCode	Description	Possible causes & solutions
10003	I8124_SlotNumberError	Board Error Code
10007	I8124_InitError	Board Error Code
10021	I8124_SoftBufferIsEmpty	Board Error Code
10022	I8124_SoftBufferIsFull	Board Error Code
10023	I8124_TimeOut	Board Error Code
10024	I8124_SetCyclicMsgFailure	Board Error Code

10025	I8124_DpramOverRange	Board Error Code
10026	I8124_NoDpramCmd	Board Error Code
10027	I8124_ModeError	Board Error Code
10030	I8124_NoFileInside	Board Error Code
10031	I8124_DownloadFailure	Board Error Code
10032	I8124_EEPROMDamage	Board Error Code
10033	I8124_NotEnoughSpace	Board Error Code
10034	I8124_StillDownloading	Board Error Code
10035	I8124_BoardModeError	Board Error Code
10036	I8124_SetDateTimeFailure	Board Error Code
10040	I8124_SlotNotConfig	Board Error Code
10041	I8124_SlotNotInit	Board Error Code
10042	I8124_ReplyError	Board Error Code
5000	DNMXS_UnKnowError	Firmware Error Code
1000	DNMXS_BoardNotActive	Master Status Error Code
1001	DNMXS_OnlineError	Master Status Error Code
1002	DNMXS_CANBusError	Master Status Error Code
1003	DNMXS_Booting	Master Status Error Code
1050	DNMXS_MACIDError	General Error Code
1051	DNMXS_BaudRateError	General Error Code
1052	DNMXS_ConnectionTypeError	General Error Code
1053	DNMXS_DuplicMasterMACID	General Error Code
1054	DNMXS_EEPROMError	General Error Code
1055	DNMXS_NowScanning	General Error Code
1056	DNMXS_ScanListError	General Error Code
1057	DNMXS_DeviceExist	General Error Code
1058	DNMXS_DeviceNotExist	General Error Code
1059	DNMXS_MapTableError	General Error Code
1100	DNMXS_ExplicitNotAllocate	IOConnection Error
1101	DNMXS_PollNotAllocate	IOConnection Error
1102	DNMXS_BitStrobeNotAllocate	IOConnection Error
1103	DNMXS_COSNotAllocate	IOConnection Error
1104	DNMXS_CyclicNotAllocate	IOConnection Error
1105	DNMXS_PollAlreadyExist	IOConnection Error
1106	DNMXS_BitStrobeAlreadyExist	IOConnection Error
1107	DNMXS_COSAlreadyExist	IOConnection Error

1108	DNMXS_CyclicAlreadyExist	IOConnection Error
1109	DNMXS_CommunicationPause	IOConnection Error
1150	DNMXS_SlaveNoResp	Slave Error Code
1151	DNMXS_WaitForSlaveResp	Slave Error Code
1152	DNMXS_SlaveRespError	Slave Error Code
1153	DNMXS_OutputDataLenError	Slave Error Code
1154	DNMXS_InputDataLenError	Slave Error Code
1200	DNMXS_OutofRange	Input / Output Area

4.4 CANopen Module ErrorCode

[I-7565-CPM]

ErrCode	Description	Possible causes & solutions
2	CPM_OpenComErr	
3	CPM_ComPortErr	
4	CPM_MasterFull	
5	CPM_ConfigErr	
6	CPM_MasterInitErr	
7	CPM_MasterNotInit	
8	CPM_ListenMode	
9	CPM_NodeErr	
10	CPM_NodeExist	
12	CPM_TxBusy	
13	CPM_UnknowCmd	
14	CPM_CmdReceErr	
15	CPM_DataEmpty	
16	CPM_MemAllocErr	
17	CPM_SendCycMsgErr	
18	CPM_StatusErr	
20	CPM_SetGuardErr	
21	CPM_SetHbeatErr	
22	CPM_SegLenErr	
23	CPM_SegToggleErr	
24	CPM_SegWriteErr	
25	CPM_Abort	

26	CPM_PDOLenErr	
27	CPM_COBIDErr	
28	CPM_PDOInstErr	
29	CPM_PDODynaErr	
30	CPM_PDONumErr	
31	CPM_PDOSetErr	
32	CPM_PDOEntryErr	
33	CPM_SetCobIdErr	
34	CPM_CycFullErr	
35	CPM_Timeout	
36	CPM_DataLenErr	
38	CPM_SendLose	
39	CPM_SendCmdErr	
40	CPM_Wait	
41	CPM_Processing	
50	CPM_LoadEDSErr	
51	CPM_EDSFormatErr	

[PISO-CPM100]

ErrCode	Description	Possible causes & solutions
1	CPM_DriverError	
3	CPM_BoardNumberErr	
5	CPM_ConfigErr	
6	CPM_MasterInitErr	
7	CPM_MasterNotInit	
8	CPM_ListenMode	
9	CPM_NodeErr	
10	CPM_NodeExist	
12	CPM_TxBusy	
13	CPM_UnknowCmd	
14	CPM_CmdReceErr	
15	CPM_DataEmpty	
16	CPM_MemAllocErr	
17	CPM_SendCycMsgErr	
18	CPM_StatusErr	

20	CPM_SetGuardErr	
21	CPM_SetHbeatErr	
22	CPM_SegLenErr	
23	CPM_SegToggleErr	
24	CPM_SegWriteErr	
25	CPM_Abort	
26	CPM_PDOLenErr	
27	CPM_COBIDErr	
28	CPM_PDOInstErr	
29	CPM_PDODynaErr	
30	CPM_PDONumErr	
31	CPM_PDOSetErr	
32	CPM_PDOEntryErr	
33	CPM_SetCobIdErr	
34	CPM_CycFullErr	
35	CPM_Timeout	
36	CPM_DataLenErr	
40	CPM_Wait	
41	CPM_Processing	
50	CPM_LoadEDSErr	
51	CPM_EDSFormatErr	

[I-8123W]

ErrCode	Description	Possible causes & solutions
1	CPM_DriverError	
3	CPM_BoardNumberErr	
5	CPM_ConfigErr	
6	CPM_MasterInitErr	
7	CPM_MasterNotInit	
8	CPM_ListenMode	
9	CPM_NodeErr	
10	CPM_NodeExist	
12	CPM_TxBusy	
13	CPM_UnknowCmd	
14	CPM_CmdReceErr	

15	CPM_DataEmpty	
16	CPM_MemAllocErr	
17	CPM_SendCycMsgErr	
18	CPM_StatusErr	
20	CPM_SetGuardErr	
21	CPM_SetHbeatErr	
22	CPM_SegLenErr	
23	CPM_SegToggleErr	
24	CPM_SegWriteErr	
25	CPM_Abort	
26	CPM_PDOLenErr	
27	CPM_COBIDErr	
28	CPM_PDOInstErr	
29	CPM_PDODynaErr	
30	CPM_PDONumErr	
31	CPM_PDOSetErr	
32	CPM_PDOEntryErr	
33	CPM_SetCobIdErr	
34	CPM_CycFullErr	
35	CPM_Timeout	
36	CPM_DataLenErr	
40	CPM_Wait	
41	CPM_Processing	
50	CPM_LoadEDSErr	
51	CPM_EDSFormatErr	

4.5 PowerMeter Module ErrorCode

[PISO-CM100-PM]

ErrCode	Description	Possible causes & solutions
10001	CM100PM_DriverError	Board Error Code
10002	CM100PM_ActiveBoardError	Board Error Code
10003	CM100PM_BoardNumberError	Board Error Code
10004	CM100PM_PortNumberError	Board Error Code
10007	CM100PM_InitError	Board Error Code

10021	CM100PM_SoftBufferIsEmpty	Board Error Code
10022	CM100PM_SoftBufferIsFull	Board Error Code
10023	CM100PM_TimeOut	Board Error Code
10024	CM100PM_SetCyclicMsgFailure	Board Error Code
10025	CM100PM_DpramOverRange	Board Error Code
10026	CM100PM_NoDpramCmd	Board Error Code
10027	CM100PM_ModeError	Board Error Code
10030	CM100PM_NoFileInside	Board Error Code
10031	CM100PM_DownloadFailure	Board Error Code
10032	CM100PM_EEPROMDamage	Board Error Code
10033	CM100PM_NotEnoughSpace	Board Error Code
10034	CM100PM_StillDownloading	Board Error Code
10035	CM100PM_BoardModeError	Board Error Code
10036	CM100PM_CardTypeError	Board Error Code
1000	CM100PM_PMIDNotExist	Power Meter
1	CANSTA_BusOff	GetCANStatus function
2	CANSTA_Error	GetCANStatus function
3	CANSTA_DataOverRun	GetCANStatus function
4	CANSTA_TxIncomplete	GetCANStatus function
5	CANSTA_TxLocket	GetCANStatus function
501	PMSTA_Timeout	GetPowerMeterStatus function (IDCAN_Def)

[I-8120W-PM]

ErrCode	Description	Possible causes & solutions
10003	I8120PM_SlotNumberError	Module Error Code
10007	I8120PM_InitError	Module Error Code
10021	I8120PM_SoftBufferIsEmpty	Module Error Code
10022	I8120PM_SoftBufferIsFull	Module Error Code
10023	I8120PM_TimeOut	Module Error Code
10024	I8120PM_SetCyclicMsgFailure	Module Error Code
10025	I8120PM_DpramOverRange	Module Error Code
10026	I8120PM_NoDpramCmd	Module Error Code
10027	I8120PM_ModeError	Module Error Code
10030	I8120PM_NoFileInside	Module Error Code
10031	I8120PM_DownloadFailure	Module Error Code

10032	I8120PM_EEPROMDamage	Module Error Code
10033	I8120PM_NotEnoughSpace	Module Error Code
10034	I8120PM_StillDownloading	Module Error Code
10035	I8120PM_BoardModeError	Module Error Code
10036	I8120PM_SetDateTimeFailure	Module Error Code
10040	I8120PM_SlotNotConfig	Module Error Code
10041	I8120PM_SlotNotInit	Module Error Code
10042	I8120PM_ReplyError	Module Error Code
10043	I8120PM_WaitForReply	Module Error Code
10044	I8120PM_HasBeenActivated	Module Error Code
1051	PMXS_BaudRateError	I8120PM_SetBaudRate
1000	I8120PM_PMIDNotExist	I8120PM_GetPowerMeterStatus
1001	I8120PM_DataNameError	I8120PM_GetPowerMeterStatus
1	CANSTA_BusOff	GetCANStatus function
2	CANSTA_Error	GetCANStatus function
3	CANSTA_DataOverRun	GetCANStatus function
4	CANSTA_TxIncomplete	GetCANStatus function
5	CANSTA_TxLocked	GetCANStatus function
501	PMSTA_Timeout	GetPowerMeterStatus function (IDCAN_Def)

Note :
(1) The results of the communication may be verified in the **output** Window of the Studio's environment. To set a log of events for **Field Read Commands**, **Field Write Commands** and **Serial Communication** click with the right button of the mouse on the output window and choose the option setting to select these log events.

(2) When testing under a Windows CE target, you can enable the log at the unit (Tools/Logwin) and verify the file celog.txt created at the target unit.

5. History of Versions

Version	Author	Date	Description of changes
1.00	Edward	2012/01/06	First driver version
1.01	Edward	2012/02/14	1.Provide IDCAN driver for the following ICP DAS PACs : (1) XP-8000-CE6 (2) XP-8000 / XP-8000-Atom