PISO-CPM100

Quick Start User Guide

Introduction 1.

This user guide introduces how to apply the PISO-CPM100 into your applications quickly and easily. Therefore, it only provides the basic instructions. For more details about the driver, please refer to the PISO-CPM100 user manual in the product CD:

fieldbus_cd://canopen/master/piso-cpm100/

Or download it from the following website:

http://www.icpdas.com/products/Remote IO/can bus/piso-cpm100.htm

2. Hardware Configuration

Terminal Resister and Board number Setting 2.1



PISO-CPM100

2.2 Pin Assignment

• <u>5-pin screw terminal connector</u>

1	2	3	4		5
O,	P	P	2		
CAN	N_L		CA	N.	н
C	AN	I_s	HL	D	

Pin No.	Signal	Description
1	N/A	No use
2	CAN_L	CAN bus Low line
3	CAN_SHLD	Optional CAN shield
4	CAN_H	CAN bus High line
5	N/A	No use

• <u>9-pin D-sub male connector</u>



Pin No.	Signal	Description
1	N/A	No use
2	CAN_L	CAN bus Low line
3	N/A	No use
4	N/A	No use
5	CAN_SHLD	Optional CAN Shield
6	N/A	No use
7	CAN_H	CAN bus High line
8	N/A	No use
9	N/A	No use

2.3 Indicator LED

LED	Status	Description
Groop	Off	No data
Green	Flash	Some data is transmitted or received
	Off	No error
Red	On	Some error has occurred. Use the CPM100_GetCANStatus function to get the error status

3. Software Installation

The driver of PISO-CPM100 can be used in 2K/XP Windows environments. Users can find the driver in the path of /canopen/master/piso-cpm100/ in the Fieldbus_CD. Execute the PISO-CPM100.exe file to start the installation of the driver.



4. Getting Start

The section will teach you how to control the I/O of CANopen slave with CPMUtility step by step. But before following the steps below, you need to prepare some hardware including a PISO-CPM100, and a CANopen slave device.

Step 1: Plug the PISO-CPM100 in the PCI slot of your PC and connect the CAN port of the PISO-CPM100 with the CAN port of the CANopen slave device. The board ID of the PISO-CPM100 is set to 1. The node ID of the slave device is set to 1, and the baud rate is set to 1000 kbps. About the setting method of the node ID and the baud rate of the CANopen slave, please refer to the slave's user_manual.



Step 2: After installing the PISO-CPM100 driver, the folder of the PISO-CPM100 will be installed as below. Please execute the CPMUtility.exe on your PC under the path of "start manual→all programs→ICPDAS→PISO-CPM100" to run the quick start demo.

	Microsoft Visual Studio 6.0	•			
6	ICPDAS	• 🖸	PISO-CAN	•	
	PLX SDK v5.10 Lite	•	PISO-CM100	•	
	Borland C++Builder 6	•	PISO-CPM100	1) Demo
	×	0	PISO-DNM100	• 0	Driver
		_	×	C) Manual
				1] ReadMe
				6	👌 Test Program
				2	Uninstall
				E	WhatNew
				20	CPM_Utility

Step 3: Click the "Module" button to select the "Board 1:CPM100" and the baud "1000 kbps". And then click the ">" button to initialize the PISO-CPM100 with the specific baud.



Step 4: After the board is activated successfully, the string "Board 1:CPM100:1000 kbps" will be shown on the left-hand-side of the tree view.

🖼 CANopen Master Utility		
Module AddNode Load EDS A	bout	
Board 1 · CPM100U · 1000 k bps	NMT SYNC EMCY SDO RxPDO TxPDO PI O-CPM100(U) Firmware	
	201 PISO-CPM100(U) DII Version: 201 PISO-CM100(U) DII Version: 514	

Step 5: Click the "AddNode" button and select the "Node:001" (because the node ID of the CANopen slave is set to 1). Then click the ">" button to add the CANopen slave device into the node list. If there are other slaves on the CANopen network, you can also add them into the node list.



Step 6: After the specific slave nodes is added successfully. The control list of the CANopen slave device will be shown on the left-hand-side tree view.

CANopen Master Utility Module AddNode Load EDS About						
□ Board 1: CPM100U: 1000 k bps □ Node: 001 - CAN-8223	NMT	SYNC	EMCY	SDO	RxPDO	TxPDO
	PISC)-CPM100)-CPM100	(U) Firmw 201 (U) Dll Ve 201	are rsion:		
0x381 0x481			514			

Step 7: There are many functions listed on the tree view. You can use them according to your demands. For example, if you want to use the SDO protocol of the CANopen communication, select the SDO item and all the functions about the SDO are shown on the right-hand side. You can also select the "RxPDO" item and its sub-item to apply the RxPDO functions.

🍻 CANopen Master Utility		
Module AddNode Load EDS	About	
□ Board 1: CPM100U: 1000 k bps □ Node: 001 - CAN-8223 □ SYNC: 0x80 □ EMCY: 0x81 □ SD0 Object □ 0x201 □ 0x301 □ 0x501 □ 7xPDO Objects: □ 0x281 □ 0x381 □ 0x481	NMT SYNC EMCY SDO RxPDO TxPDO Index (Hex) 1000 RxPDO TxPDO Sub-index (Hex) 00 Read Data Board 1: CPM100U: 1000 k bps NMT SYNC EMCY SDO Node: 001 - CAN-8223 SYNC: 0x80 Cob ID (Hex) SUO Conject: RxPDO No. New PDO 0x301 0x301 RxPDO Message List 0x301 0x381 0x381 0x381 0x381 0x381	Remove PD D

Step 8: Click the "SDO" item, input the index and sub-index of the object of the slave, such as 0x1000 and 0x00. Then click the "Read Data" button to read back the object data.

Module AddNode Load EDS About Board 1: CPM100U: 1000 k bps NMT SYNC EMCY SDO Node: 001 - CAN-8223 SYNC: 0x80 Index (Hex) 1000 EMCY: 0x81 SDO Object: Sub-index (Hex) 00 Read Data	🖻 CANopen Master Utility			
0x201 0x301 Write data (Hex) 00 00 00 00 Write Data 0x401 0x501 Read 1000-00: OK: 91 01 03 00 10:07:26: Write Data 0x181 0x281 0 0 0	CANopen Master Utility Module AddNode Load EDS Board 1: CPM100U: 1000 k bps	About NMT SYNC EMC Index (Hex) Sub-index (Hex) Write data (Hex) Read 1000-00: OK: 91	CY SDO RxPDO TxPDO 1000 00 Read Data 00 00 00 01 03 00	Write Data

Step 9: Click the "RxPDO" sub-item "0x201", and input the data such as "12 AB" in the "Send Data" text box (if the CANopen slave supports the 2-byte 0x201-ID RxPDO), then click "Send Data" button, the sent record will be stored in the list box.

🦻 CANopen Master Utility	
Module AddNode Load EDS A	ibout
 Board 1: CPM100U: 1000 k bps Node: 001 - CAN-8223 SYNC: 0x80 EMCY: 0x81 SDO Object: -0x201 -0x401 -0x401 -0x501 TxPDO Objects: -0x181 -0x281 -0x381 -0x481 	NMT SYNC EMCY SDO RxPDO TxPDO Cob ID (Hex) 201 Change ID PDO Parameter Status Transmission Type Set RxPDO No: 1 Transmission Type Set PDO Mapping Status 6200-01.08 Insert > 6200-01:08 Map Object (Hex) Bit (Hex) Modify > 6200 01 08 Del < Send Data 12 AB Write 201: 12 AB: OK 10:08:21

Step 10: Click the "TxPDO" sub-item "0x181", and click the "Remote Data" button. If the CANopen slave supports the 0x181-ID TxPDO, the object data will be replied and recorded in the data list box.

Board 1: CPM100U: 1000 k bps	NMT SYNC EMCY SDO RxP	2DO TxPDO
SYNC: 0x80	Cob ID (Hex) 181 Chang	ge ID PDO Parameter Status
SDO Object:	Transmission Type	Set TxPDO No: 1 Transmission Type: 255 Event Timer: 0
0x201	Event Timer	Set
	Map Object Select Add	d > 6000-01:08
□ 1xPDO Object	6000-01:08 🔽 Ins	ert > 6000-02:08
0x181 0x291	Map Object (Hex) Bit (Hex) Mod	dify >
0x381 0x481	6000 - 01 08 Dei	1 <
	Remote Data	
	Remote Data	

Note:

This quick start manual only teaches you how to connect with the CANopen slaves and control the I/O easily and quickly. For more details please refer to the PISO-CPM100 user manual and CPM Utility manual.