CAN-8124/CAN-8224/CAN-8424

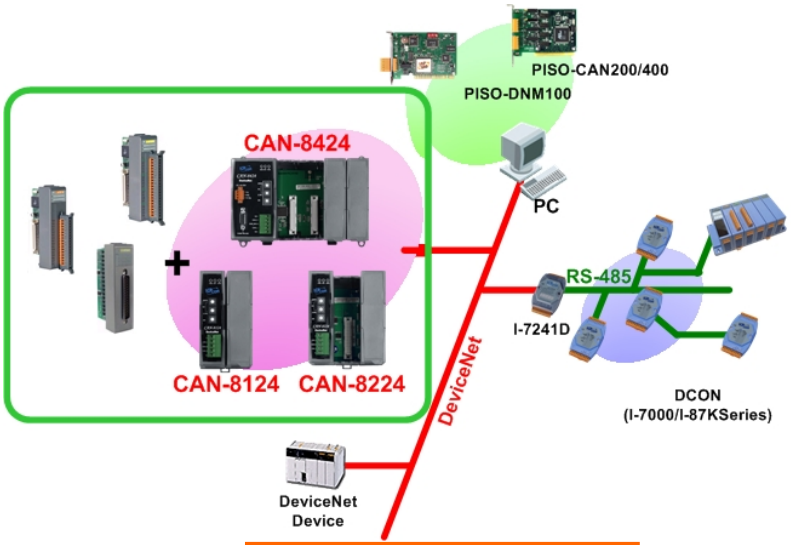
Quick Start User Guide

1. Introduction

This manual introduces the user to the methods used to implement the CAN-8x24 devices into their applications in a quick and easy way. This will provide users with only basic instructions. For more detailed information, please refer to the user manual located on the ICPDAS CD-ROM or download it from the ICPDAS web site:

http://www.icpdas.com/download/can/Remote_IO.htm

The goal for this manual is focused on helping users to quickly familiarize themselves with the CAN-8x24 devices. Users can apply the CAN-8x24 devices as follows.



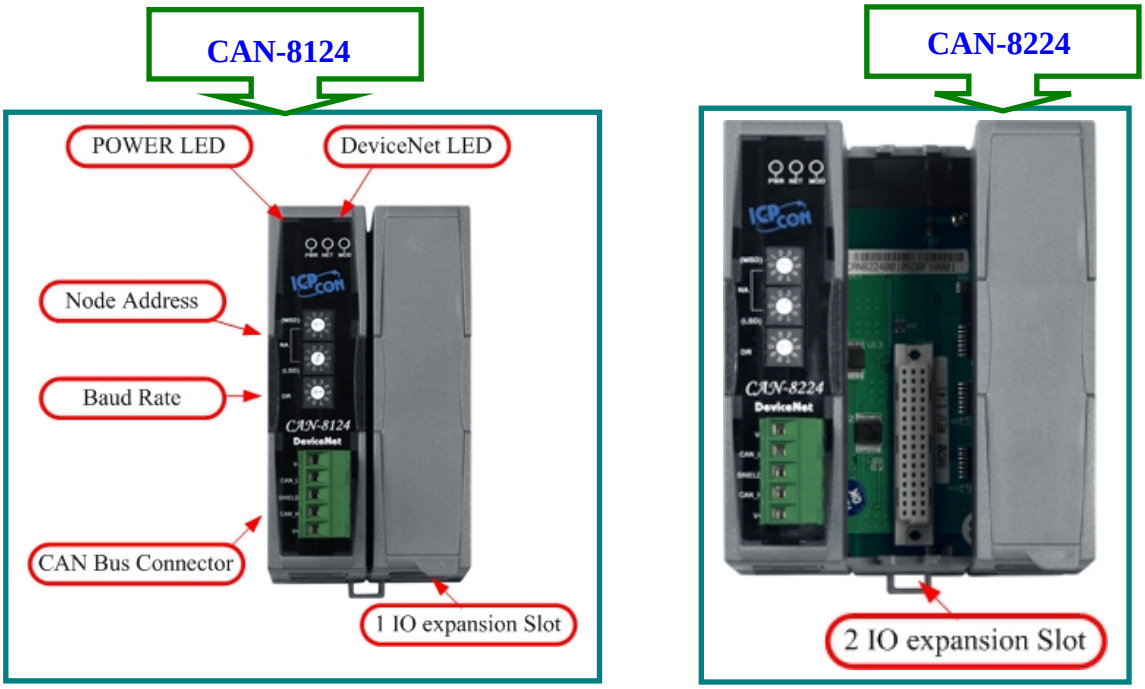
Features

- Complies with DeviceNet specification Volume I, Release 2.0& Volume II, Release 2.0
- Group 2 Only Slave; (non UCMM-capable)
- Supports Predefined Master/slave Connection Set
- Supports Fragmented Explicit Message
- Dynamic Assembly Objects Mapping
- I/O operating modes: Polling, Bit-Strobe, Change of State/Cyclic
- Supports Device Heartbeat message
- Supports Device Shutdown message
- EDS file dynamically
- Data rate and Node Address (MAC ID) configured via rotary switch

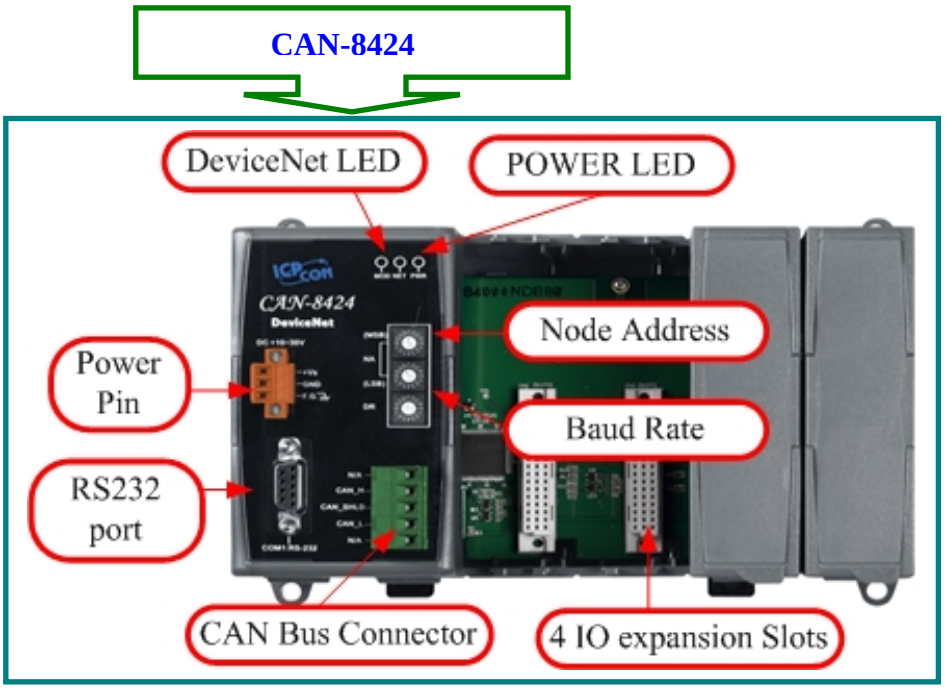
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2.Hardware structure

- **CAN-8124/CAN-8224 Hardware Structure**

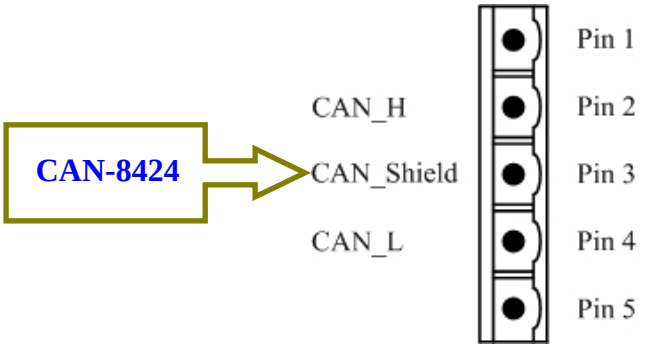


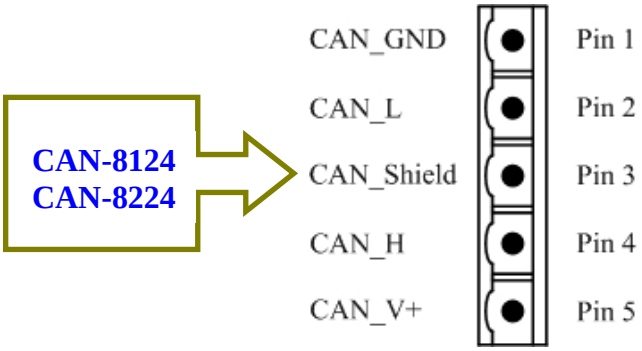
- **CAN-8424 Hardware Structure**



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- **Pin assignment**





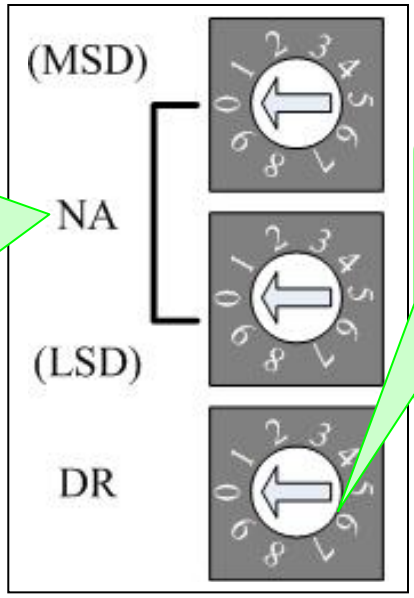
Pin.	Signal	Description
2	CAN_H	CAN_H bus line (dominant high)
3	SHIELD	Optional CAN Shield
4	CAN_L	CAN_L bus line (dominant low)

Pin	Signal	Description
1	CAN_GND	Ground (0V)
2	CAN_L	CAN_L bus line (dominant low)
3	SHIELD	Optional CAN Shield
4	CAN_H	CAN_H bus line (dominant high)
5	CAN_V+	CAN external positive supply (CAN-8124/CAN-8224 power)

- **Rotary Switch**

MSD: the most significant digit of the node address.

LSD: the low significant digit of the node address

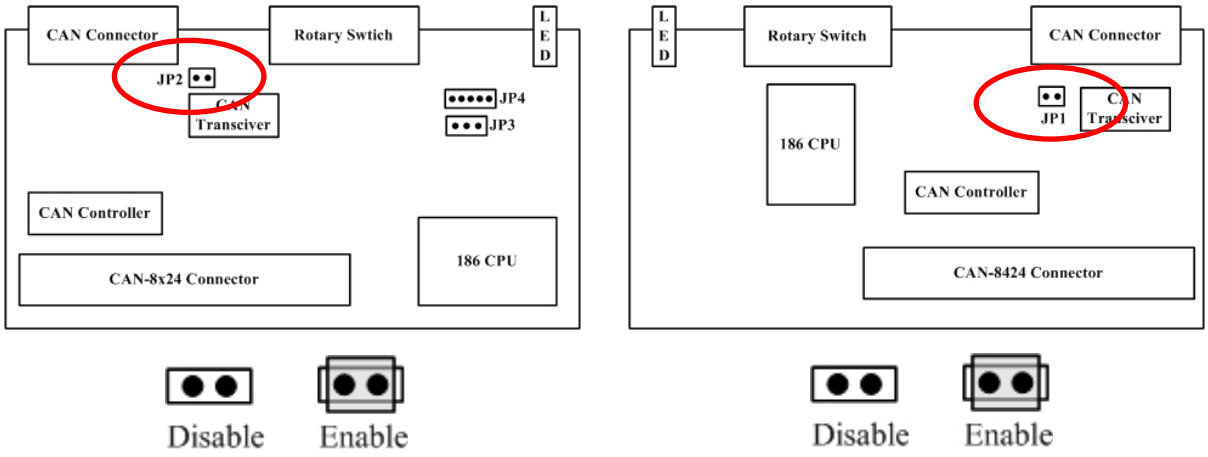


Rotary Switch Value	Baud rate (K BPS)
0	125
1	250
2	500

Note: If users set the illegal values of the rotary switch, the MOD led will flash when the system is powered up. If this condition occurs, users must configure the legal values of the switches and reset the device, and then the device should work normally.

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- **Terminal Resistance`**



- **LED Description**

PWR LED

condition	status	indicates
Off	No power	No power supply
Solid red	Normal	Device is working

MOD LED

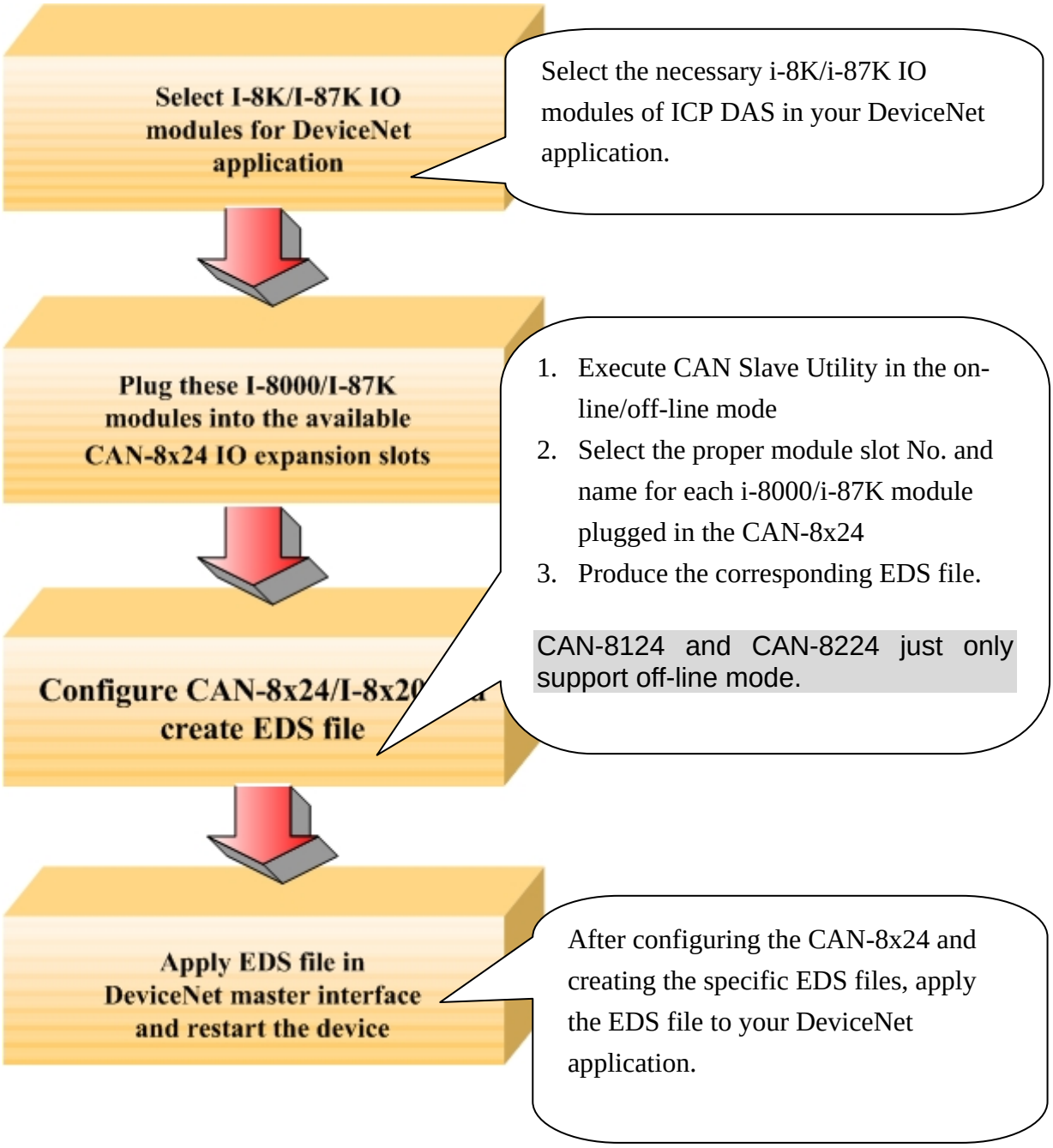
condition	status	indicates
Off	Normal	Normal
Solid	Critical fault	Device has unrecoverable fault;
Flashing	Non_critical fault	Device has recoverable fault; to recover: Reconfigure device Reset device Perform error recovery

NET LED

condition	status	indicates
Off	Off line	DeviceNet is not online
Flashing	On line	DeviceNet is on line, but not communicating
Init solid	Link failed	(Critical) Device has detected an error that has rendered it incapable of communicating on the link; for example, detected a duplicate node address or network configuration error
Solid	On line, communicating	DeviceNet is on communication

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3. How to Start

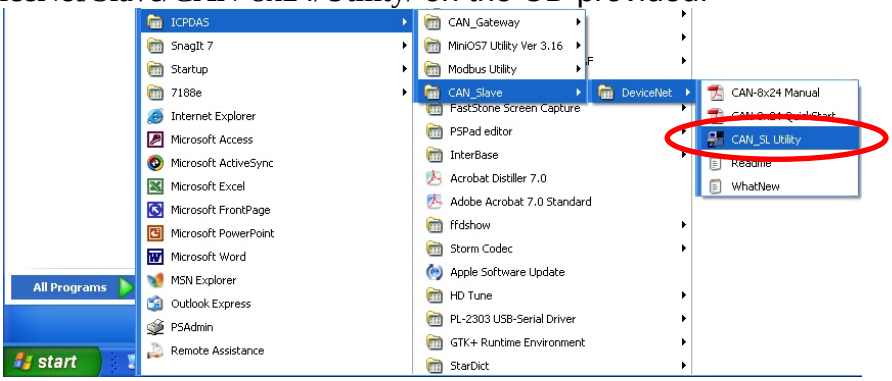


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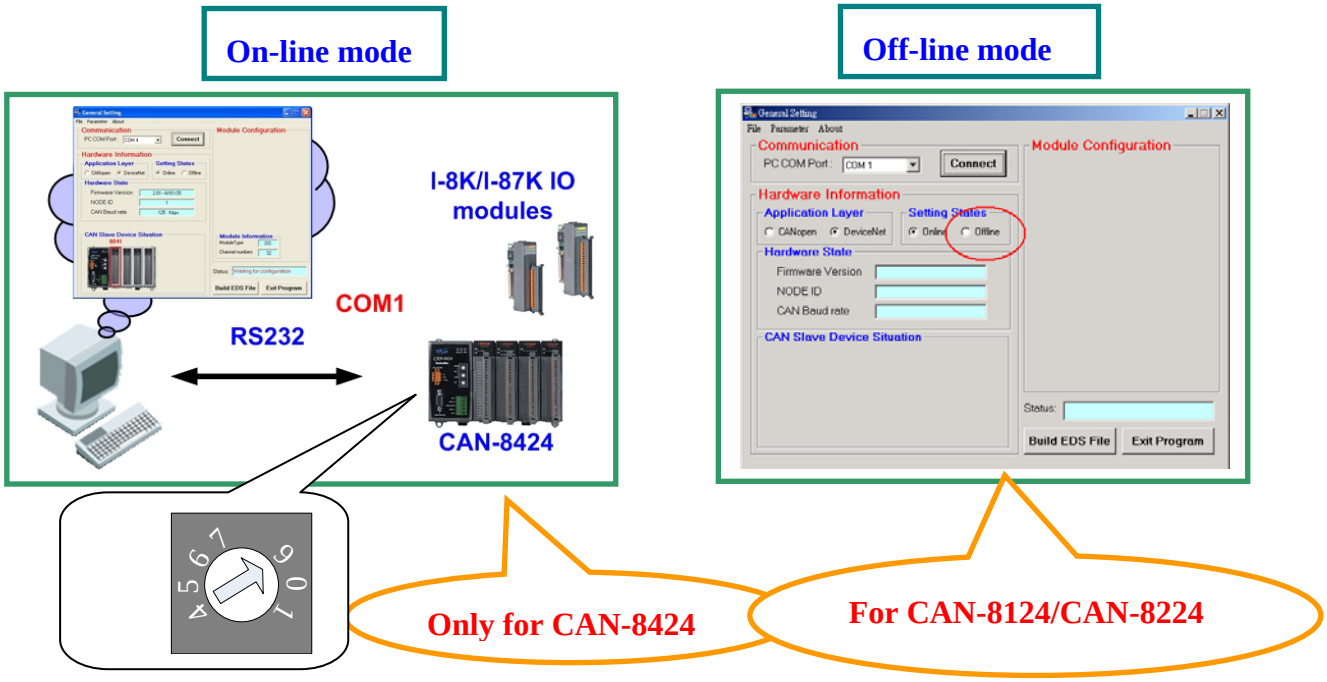
4. Installation & Configuration

Before users first use the CAN-8x24, the CAN Gateway Utility can help to configure and create EDS files.

Step 1: Please install the CAN Slave Utility. You can find the software from our web site: **http://www.icpdas.com/download/can/Remote_IO.htm** or the follow path of "/CAN-CD/DeviceNet/Slave/CAN-8x24/Utility/ on the CD provided.



Step 2: There are 2 modes in the CAN Slave Utility. One mode is off-line and it allows users to create EDS files off-line for the CAN-8x24. Another mode is on-line mode. Before using the CAN Slave utility in the On-line mode with the CAN-8424, please make sure that you have connected the COM1 port to the CAN-8424 with the available COM port on your PC.

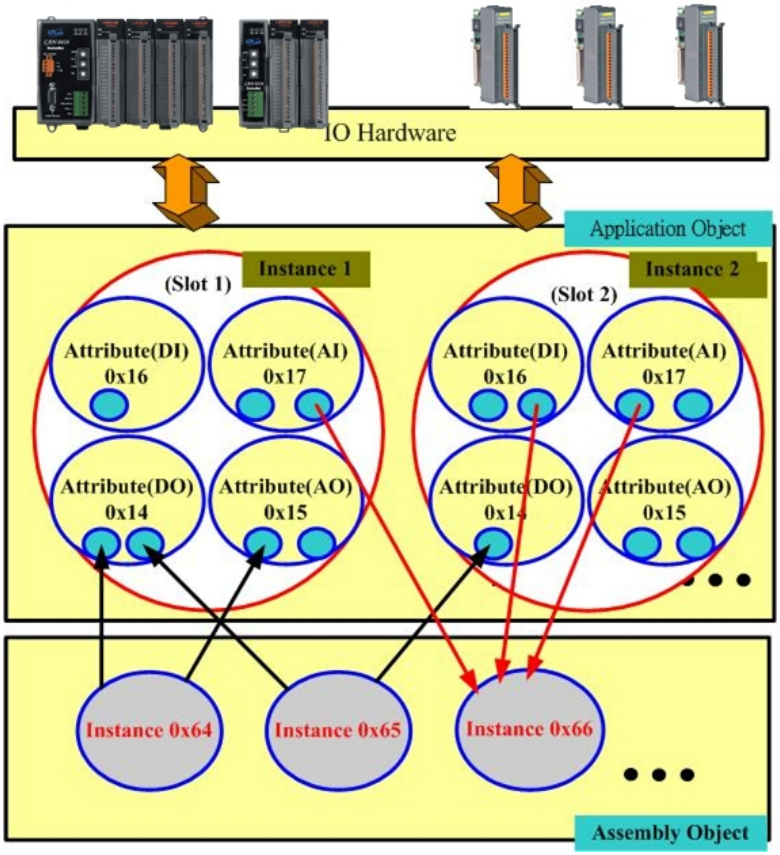


Note: In the on-line mode, users can define the needed assembly instance or default assembly instance, and set the IO connection path. But in off-line mode, we provide the default assembly instance for the CAN-8124/CAN-8224. The IO connection path must be set via an explicit connection.

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5.The relationship between the application and assembly objects

The components of the Assembly Objects



Example: In the demo, apply the i-87017 (slot 0), i-8024 (slot 1), i-8053 (slot 2) and i-8057 (slot 3) into the CAN-8424.

Parts of the attributes in the Application instance

Slot Address	Application Instance ID	Module name	DO Length(Byte)	AO Length(Byte)	DI Length(Byte)	AI Length(Byte)
0	0x01	87017	0	0	0	16
1	0x02	8024	0	8	0	0
2	0x03	8057	2	0	0	0
3	0x04	8053	0	0	2	0

The components of assembly objects

Assembly Object Instance ID(Hex)	Data Length(Byte)	Component modules
0x64	DO: 2	i-8053 (ch0~ch15)
0x65	AO: 8	i-8024 (ch0~ch3)
0x66	DI: 2	i-8057 (ch0~ch15)
0x67	AI: 8	i-87017 (ch0~ch3)
0x68	AI: 8	i-87017 (ch4~ch7)

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Application instance attributes

Attribute ID	Description	Method	Data Type	Default Value
0x01	Module name	Get	WORD	0
0x02	Module Type	Get	CHAR	0
0x03	Configuration	Get	Depend on the number of channels	0
0x04	Total Channels	Get	CHAR	0
0x05	Total Length	Get	CHAR	0
0x06	Reserved	Get	CHAR	0
0x07	DO Length	Get	CHAR	0
0x08	AO Length	Get	CHAR	0
0x09	DI Length	Get	CHAR	0
0x0A	AI Length	Get	CHAR	0
0x0B	DO channel num	Get	CHAR	0
0x0C	AO channel num	Get	CHAR	0
0x0D	DI channel num	Get	CHAR	0
0x0E	AI channel num	Get	CHAR	0
0x14	DO data	Set	Defined by module channel num	0
0x15	AO data	Set	Defined by module channel num	0
0x16	DI data	Get	Defined by module channel num	0
0x17	AI data	Get	Defined by module channel num	0
0x18	Clear Counter module value	Set	CHAR	0
0x19	Counter module's Input Mode	Get/Set	CHAR	0

6.Steps toward implementing DeviceNet applications using the command set:

1. Request the use of the Predefined Master/Slave Connection Set.

2. Set the Master's Explicit Request Messages to set the EPR attribute for the IO connection to establish an I/O Connection Object State.

3. There are two ways to access IO modules. The first method is by way of the IO connection object. The other is by using an explicit message to set/get the IO attribute for the application object.

4. Release the use of the Predefined Master/Slave Connection Set.

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