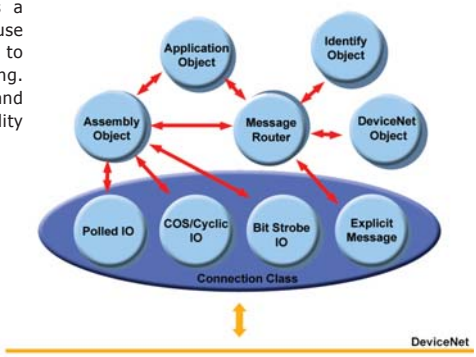
6.4. DeviceNet Introduction & Products

The DeviceNet network based on CAN bus is a flexible open and low-cost option which you can use to connect industrial devices to a network and to eliminate costly and time-consuming hardwiring. Direct connectivity improves communication and provides device-level diagnosis or easy accessibility through hardwired I/O interfaces.



DeviceNet Features

- Trunk line, drop line configuration
- Node removal without breaking trunk line
- Up to 64 addressable nodes
- Signal and 24Vdc power in the same cable
- Selectable data rates (125 k, 250 k, 500 kbps)
- 120 Ω terminal at each trunk line end

Selection Guide

Model Name	Description	Page
DeviceNet Converter and Gateways		
I-7565-DNM	USB to 1-port DeviceNet Master Converter	6-4-2
I-7241D	DeviceNet Slave/DCON Master Gateway	
I-7242D	DeviceNet Slave/Modbus RTU Master Gateway	
I-7243D	DeviceNet Master/Modbus TCP Server Gateway	
Intelligent DeviceNet Modules (For iP-8000, WP-8000, LP-8000...)		
I-87124	Intelligent 1-port DeviceNet Master Communication Module with Serial bus	6-4-2
Intelligent DeviceNet Communication Boards		
PISO-DNM100U-D	Intelligent 1-port DeviceNet Master Universal PCI interface Board	6-4-3
PISO-DNM100U-T		
PISO-DNS100U-D	Intelligent 1-port DeviceNet Slave Universal PCI interface Board	
PISO-DNS100U-T		
PISO-CAN200U-D	2-port CAN bus Universal PCI Interface Card with DeviceNet Master Library	
PISO-CAN200U-T		
PISO-CAN400U-D	4-port CAN bus Universal PCI Interface Card with DeviceNet Master Library	
PISO-CAN400U-T		

DeviceNet Converter and Gateways

USB / DeviceNet Master Converter

NEW
I-7565-DNM CR

I-7565-DNM is a DeviceNet master solution for USB interface built-in 80186, 80 MHz CPU. It can easily control/configure DeviceNet slave nodes via PC.

- Comply with DeviceNet specification volume I, release 2.0 & volume II, release 2.0
- Support Predefined Master/Slave Connection Set (Group2 Only Server)
- I/O Operating Modes: Polling, Bit-Strobe, Change of State/Cyclic
- 2500 V_{rms} photo-couple isolation on the CAN side
- Built-in jumper for 120 Ω terminator resistor of CAN bus
- Built-in watchdog
- Support UCMM function
- Provide on-line adding device into and removing device from network
- Support auto-scan slave device function
- Auto-reconnect when the connection is broken
- Provide C/C++ function libraries and demos
- 3 kV galvanic isolation

DeviceNet Slave / DCON Master Gateway

I-7241D CR

I-7241D is one of CAN bus products in ICP DAS. The device offers the communication gateway between DeviceNet and DCON protocol.

- Comply with DeviceNet specification volume I, release 2.0 & volume II, release 2.0
- Support Predefined Master/Slave Connection Set (Group2 Only Server)
- I/O operating modes: Polling, Bit-Strobe, Change of State/Cyclic
- 2500 V_{rms} photo couple isolation on the CAN side
- Jumper for 120 Ω terminator resistor of CAN bus
- Watchdog inside
- Provide dynamic Assembly Objects mapping
- Support Offline Connection Set, Device Heartbeat message and Device Shutdown message
- Product EDS file dynamically by utility
- Support max. 15 I-7000/I-87K I/O series modules
- MAC ID & Baud: Configuration by utility or DeviceNet messages
- 1 kV galvanic isolation

DeviceNet Slave / Modbus RTU Master Gateway

I-7242D CR

I-7242D allows a master located on a DeviceNet network to enter into a dialogue with the slaves on a Modbus RTU network In DeviceNet network. It's a Group 2 Only Slave device, and supports "Predefined Master/Slave Connection Set".

- Comply with DeviceNet specification volume I, release 2.0 & volume II, release 2.0
- Support Predefined Master/Slave Connection Set (Group2 Only Server)
- I/O operating modes: Polling, Bit-Strobe, Change of State/Cyclic
- 2500 V_{rms} photo couple isolation on the CAN side
- Jumper for 120 Ω terminator resistor of CAN bus
- Watchdog insideProvide dynamic Assembly Objects mapping
- Support Offline Connection Set, Device Heartbeat message and Device Shutdown message
- Allow to configure Explicit Message by using Modbus RTU protocol
- Product EDS file dynamically by utility
- Support max 10 Modbus RTU series modules
- 1 kV galvanic isolation

DeviceNet Master / Modbus TCP Server Gateway

I-7243D CR

I-7243D from ICP DAS is a solution that provides a communication protocol transfer the DeviceNet and Modbus/TCP protocol, and solves a mission-critical problem: connecting an existing DeviceNet network to Ethernet-base PLCs.

- Comply with DeviceNet specification volume I, release 2.0 & volume II, release 2.0
- Support Predefined Master/Slave Connection Set (Group2 Only Server)
- I/O operating modes: Polling, Bit-Strobe, Change of State/Cyclic
- 2500 V_{rms} photo couple isolation on the CAN side
- Jumper for 120 Ω terminator resistor of CAN bus
- Watchdog inside
- The max. input/output fragment number is up to 64
- Support on-line adding device into and removing device from network
- Support single Modbus TCP to multi Modbus RTU function
- Support VxComm technique for every COM ports of controllers
- Allow multi-client (or master) access simultaneously
- 1 kV galvanic isolation

Intelligent DeviceNet Communication Modules

Standalone DeviceNet Master Expansion Module

I-87124 CR

I-87124 can represent an economic solution of DeviceNet application and a DeviceNet master device on the DeviceNet network. I-87124 supports Group 2 and UCMM functions to communication with slave devices. It supports WinPAC-8000, LinPAC-8000, XPAC-8000 and iPAC-8000 series.

- DeviceNet Version: Volume I & II, Release 2.0
- Programmable Master MAC ID and Baud Rate
- Baud Rate: 125 K, 250 K, 500 K
- Support Group 2 and UCMM connection
- I/O Operating Modes: Poll, Bit-Strobe, Change of State/Cyclic
- I/O Length: 512 bytes max. (Input/Output) per slave
- Slave Node: 63 nodes max.
- Support Auto-Search slave device function
- Support on-line adding and removing devices
- Support Auto-detect Group 2 and UCMM device
- Auto-Reconnect when the connection is broken
- Status LED: RUN, MS, NS

Intelligent DeviceNet Communication Boards

Intelligent 1-port DeviceNet Master Board

PISO-DNS100U has completed DeviceNet master function according to DeviceNet Group 2 only server. With the built-in 80186, 80 MHz CPU, this card can be applied in high transmission DeviceNet applications.
OS Support: Windwos 2K/XP/Vista

NEW
PISO-DNM100U-D CR
PISO-DNM100U-T CR

- Universal PCI card, supports both 5 V and 3.3 V PCI bus
- Comply with DeviceNet specification volume I, release 2.0 &
- volume II, release 2.0
- Support Predefined Master/Slave Connection Set (Group 2 only server)
- I/O Operating Modes: Polling, Bit-Strobe, Change of State/Cyclic
- 2500 V_{rms} photo-couple isolation on the CAN side
- Built-in jumper for 120 Ω terminator resistor of CAN bus
- Built-in watchdog
- Support UCMM function
- Provide on-line adding device into and removing device from network
- Support auto-scan slave device function
- Auto-reconnect when the connection is broken
- 3 kV galvanic isolation 80186, 80 MHz CPU inside

Intelligent 1-port DeviceNet Slave Board

PISO-DNS100U has completed DeviceNet slave function according to DeviceNet Group 2 only server. With the built-in 80186, 80 MHz CPU, this card can be applied in high transmission applications. The amazing function is that 10 slave nodes are implemented inside the PISO-DNS100U.
OS Support: Windwos 2K/XP/Vista

NEW
PISO-DNS100U-D CR
PISO-DNS100U-T CR

- Universal PCI card, supports both 5 V and 3.3 V PCI bus
- DeviceNet Version: Volume I & II, Release 2.0
- Programmable Slave MAC ID and baud rate
- Baud Rate: 125 k, 250 k, 500 kbps
- Support Group 2 only Server
- I/O Modes: Poll, Bit-Strobe, Change of State/Cyclic
- I/O Length: 512 bytes max. (Input/Output) per slave
- Slave Node: Max. 10 nodes inside the board
- Not Support UCMM
- LED: Status, ERR

Universal PCI CAN Communication Board

PISO-CAN200U with universal PCI interface has two independent CAN bus communication ports with 5-Pin screw terminal connector or 9-Pin D-Sub connector.
OS Support: Windows 2K/XP/Vista

PISO-CAN200U-D CR
PISO-CAN200U-T CR

- Universal PCI card, supports both 5 V and 3.3 V PCI bus.
- Compatible with CAN specification 2.0 parts A and B
- Fully compatible with the ISO 11898-2 standard
- Support several kinds of baud rate from 10 kbps to 1 Mbps
- 2500 V_{rms} photo-couple isolation on the CAN side
- Built-in jumper for 120 Ω terminator resistor of CAN bus
- Comply with 33 MHz 32-bit 5 V universal PCI bus
- 3 kV galvanic isolation
- 2 independent CAN channels
- Direct memory mapping to the CAN controller
- Provide VB, VC++, Delphi, Borland C++ builder demos
- Support LabVIEW and DASYLab driver

Universal PCI CAN Communication Board

PISO-CAN400U with universal PCI interface has four independent CAN bus communication ports with 5-Pin screw terminal connector or 9-Pin D-Sub connector.
OS Support: Windows 2K/XP/Vista

PISO-CAN400U-D CR
PISO-CAN400U-T CR

- Universal PCI card, supports both 5 V and 3.3 V PCI bus.
- Compatible with CAN specification 2.0 parts A and B
- Fully compatible with the ISO 11898-2 standard
- Support several kinds of baud rate from 10 kbps to 1 Mbps
- 2500 V_{rms} photo-couple isolation on the CAN side
- Built-in jumper for 120 Ω terminator resistor of CAN bus
- Comply with 33 MHz 32-bit 5 V universal PCI bus
- 3 kV galvanic isolation
- 4 independent CAN channels
- Direct memory mapping to the CAN controller
- Provide VB, VC++, Delphi, Borland C++ builder demos
- Support LabVIEW and DASYLab driver