



DeviceNet Series Products

1 Port Intelligent DeviceNet Master Board



PISO-DNM100U-D



PISO-DNM100U-T

DeviceNet is a simple low cost open industrial networking system. It provides the communication service needed by various types of applications such as sensor, switches, bar-code scanner, AC/DC drives etc. DeviceNet supports the Master/Slave connection model. The PISO-DNM100U module acts the DeviceNet master device and communicates with the remote slave devices. There is a complete DeviceNet protocol firmware in the PISO-DNM100U. The users can easily access the slave device via PISO-DNM100U by using DLL library functions and need not to deal with the complex DeviceNet protocol. The users can use as easy as “Read/Write” functions to access slave I/O data.

Features

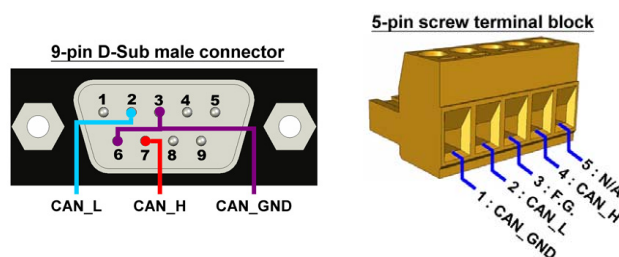
- DeviceNet Version: Volume I & II, Release 2.0
- Programmable master MAC ID and baud rate
- Baud Rate: 125 kbps, 250 kbps, 500 kbps
- Support Group 2 and UCMM connection
- I/O Operating Modes: Poll, Bit-Strobe, Change of State / Cyclic
- I/O Length: max 512 input bytes and 512 output bytes pre slave
- 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
- LED: Status , ERR

Utility Features

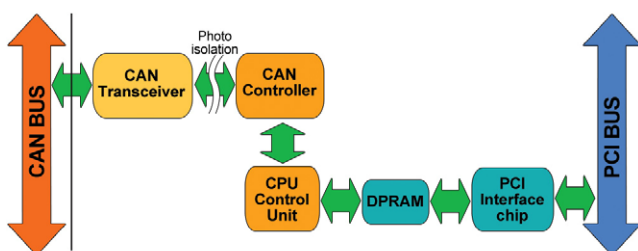


This utility supports to search all devices and specific devices in the network and can configure the I/O connection of the devices by searching devices or manual setting. It can easily to access the I/O data of all the slave devices.

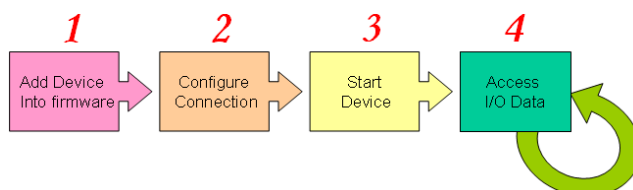
Pin Assignments



Block Diagram



Establish Connection Flowchart



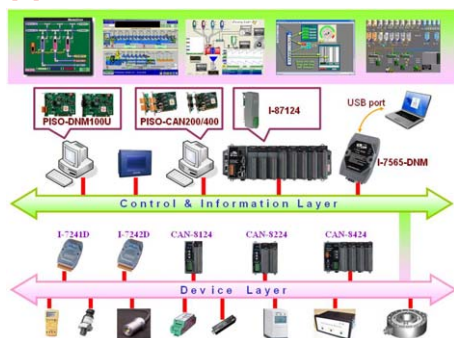
Hardware Specifications

| Model Name | PISO-DNM100U-D | PISO-DNM100U-T |
|---------------------------|---|---|
| Bus Interface | | |
| Type | Universal PCI supports both 5 V and 3.3 V PCI bus | |
| Board No. | By DIP switch | |
| CAN Interface | | |
| Controller | NXP SJA1000T with 16 MHz clock Microprocessor inside with 80186 80MHz | |
| Transceiver | NXP 82C250 | |
| Channel number | 1 | |
| Connector | 9-pin male D-Sub (CAN_GND, CAN_L, CAN_SHLD, CAN_H, N/A for others) | 5-pin screwed terminal block (CAN_L, CAN_SHLD, CAN_H, N/A for others) |
| Baud Rate (bps) | 125 k, 250 k, 500 k | |
| Transmission Distance (m) | Depend on baud rate (for example, max. 1000 m at 50 kbps) | |
| Isolation | 3000 V _{DC} for DC-to-DC, 2500 V _{rms} for photo-couple | |
| Terminal Resistor | Jumper for 120 Ω terminal resistor | |
| Specification | ISO-11898-2, CAN 2.0A and CAN 2.0B | |
| Protocol | DeviceNet Volumn I ver2.0, Volumn II ver2.0 | |
| LED | | |
| Round LED | Green LED, Red LED | |
| Software | | |
| Driver | Windows 2K/XP/7/8 (32-bit/64-bit OS) | |
| Library | VB 6.0, VC++ 6.0, BCB 6.0, Visual Studio .NET | |
| Power | | |
| Power Consumption | 300 mA @ 5 V | |
| Mechanism | | |
| Dimensions | 138mm x 22mm x 105mm (W x L x H) | |
| Environment | | |
| Operating Temp. | 0 ~ 60 °C | |
| Storage Temp. | -20 ~ 70 °C | |
| Humidity | 5 ~ 85% RH, non-condensing | |

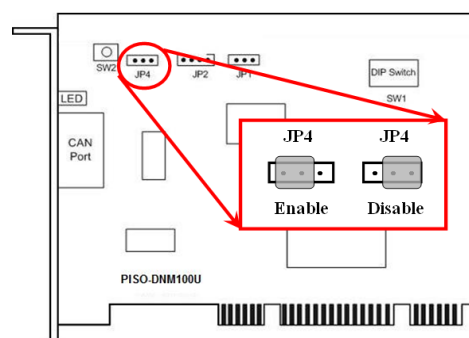
LED indicators

| LED | Status | Description |
|-----------|---------|---|
| Green LED | Off | The firmware is not running |
| | Twinkle | The DeviceNet firmware is waiting for configuration. |
| | On | This indicates that the DeviceNet firmware is running. The PISO-DNM100U is communicating with the slave devices. |
| Red LED | Off | there is no error on the bus and about the MAC ID |
| | twinkle | This indicates that there are errors on the bus which maybe the situations as shown bellow: (a) The CAN connector doesn't connect to the slave devices. (b) The power of the slave devices is off. (c) The MAC ID collision between master and slave devices is occurring. |

Application



Terminal Resistor



Ordering Information

| | |
|-----------------------|---|
| PISO-DNM100U-D | 1 Port Intelligent DeviceNet Master Board for 9-pin male D-Sub connector. |
| PISO-DNM100U-T | 1 Port Intelligent DeviceNet Master Board for 5-pin screwed terminal connector. |