PL-DNet DI/DO TO ETHERNET CONVERTER

■ DESCRIPTION

Low Cost Solution

PL-DNet uses 8051's family microprocessor for implementing Ethernet functions. It uses the state machine to handle TCP/IP stack with most but limited functions because of the limited resources.
It supports ARP, ICMP, TCP, UDP, IP, DHCP-Client and even HTTP protocols. You can use any browsers to set the parameters, or just use the commands in console mode.

■ FEATURE

- **Supports ARP, ICMP, TCP, UDP, IP, DHCP, HTTP, Modbus/TCP, and 10Base-T Ethernet standard**
- **Supports Web Based interface for fast configuration without special software, also command mode for parameters setting by application software.**
- **Supports Modbus/TCP for easy integration with HMI/SCADA or OPC server**
- **Supports Winsock networking and optional "Virtual serial ports" driver for windows application program**

■ APPLICATIONS

It is easy to convert DI status and DO control to Ethernet in IA, Factory Automation, Security or any other low data rate data transmission by using it as the intermediate converter.

- **Security devices**
- **Warehouse terminals**
- **Access control terminals**
- **Time recorders**
- **Shop floor automation terminals**

■ ORDERING INFORMATION

PL-DNet- [I/O type & numbers] – [Aux. Powered]

CODE	DIGITAL IN / OUT
IA/O8	10 points 24V input / 8 Digits output

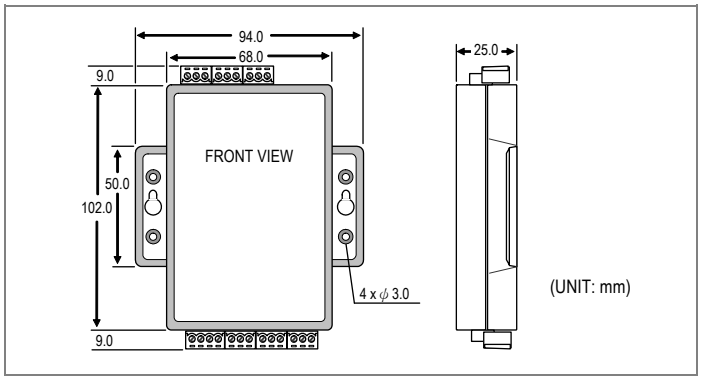
CODE	AUX. POWERED
D24	DC 24V

■ TECHNICAL SPECIFICATION

CPU:	8051
Network interface:	10 BASE-T, RJ-45 connector
Protocol:	ARP, ICMP, TCP, UDP, IP, DHCP Client, HTTP, Modbus/TCP Slave,
Reset:	Built-in reset key to restore the defaults
Watch dog timer:	Built-in hardware auto reset function
DI & DO	*10 DI & 8 DO available*
Digital input:	photo-couple, 24V±10%, 7mA ON status:12V/2.0mA or higher OFF status: 4V/1.0mA or lower Response: 8 msec or less
Digital output:	*Open collect, 24V±10%, 0.5A* Type: NPN/Sink ON status:15V or less voltage drop OFF status: 0.1mA or l less voltage drop Response: 8 msec or less External supply: 24V +/- 10%, 100mA
LED indication:	SYS: Red high bright round LED Link: Green high bright round LED
Configuration:	*Web Browser, Windows utility via Ethernet* Set up password & Access password settable
Power	
Power Supply:	DC 24V
Power consumption:	≤ 1W
Electrical	
Isolation:	Isolated between DI, DO and Ethernet (RJ45)
Dielectric Strength:	3 KV, 1 minute; between Serial ports / RJ45 / Power
Insulation resistance:	≥100MΩ at 500Vdc, Between Serial ports / RJ45 / Power

Environmental	
Operating temp.:	0~60 ˚C
Operating humidity:	20~95 %RH, non-condensing
Storage temperature:	-10~70 ˚C
Mechanical	
Case Materiel:	ABS fire-protection (UL 94V-0)
Mounting:	Surface mounting
Terminal block:	Plastic NYLON 66 (UL 94V-0)
Weight:	150g

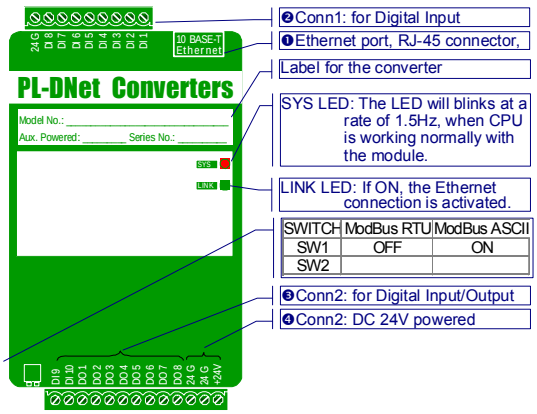
■ DIMENSIONS



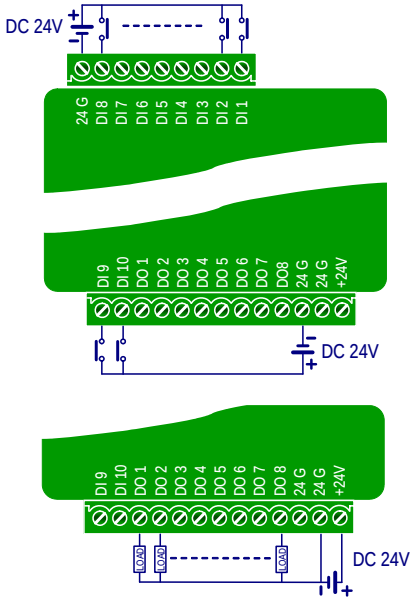
PL-DNet

■ FRONT PANEL & CONNECTION

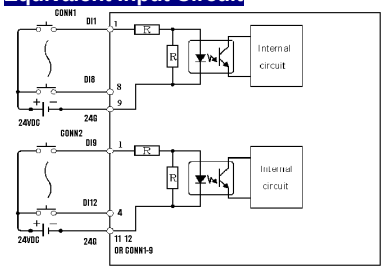
Please check the voltage of power supplied first, and then connect to the specified terminals.



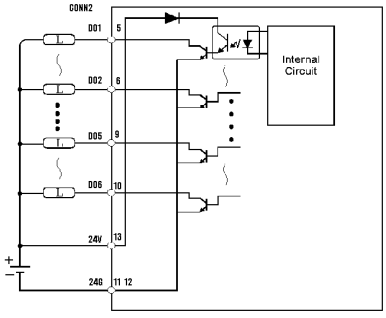
Digital Input / Output



Equivalent Input Circuit



Equivalent Output Circuit

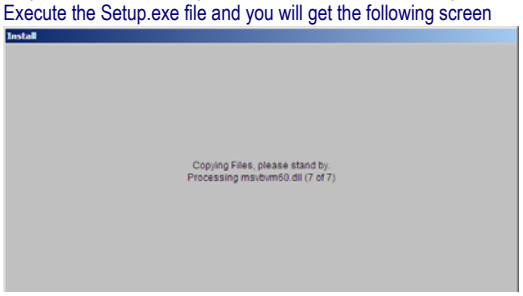


■ SET UP & CONFIGURATION

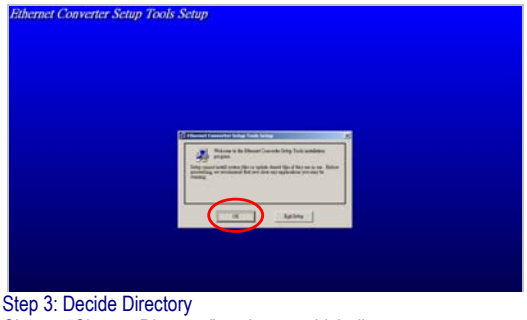
Please refer to the operating manual for detail.

By set up tool

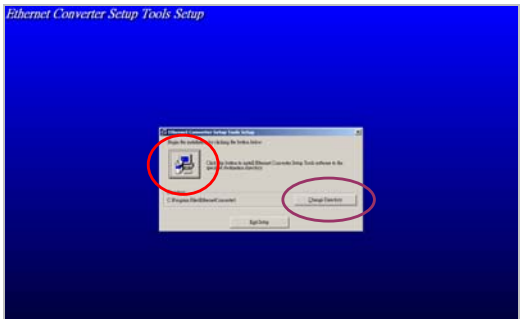
Step 1: Execute the Setup.exe file of CDR enclosure with product.
Execute the Setup.exe file and you will get the following screen



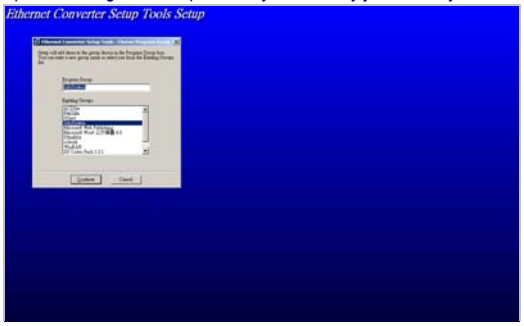
Step 2: Welcome Messages
Wait until the Welcome Message shows. Select OK Button to continue installation.



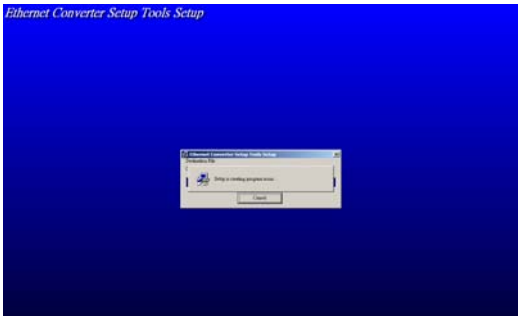
Step 3: Decide Directory
Choose “Change Directory” to change which directory you want to put files in if needed. And press red circle button to start installation.



Step 4: Decide Program Group Name
Input the “Program Group Name” you want, by just left it by default.

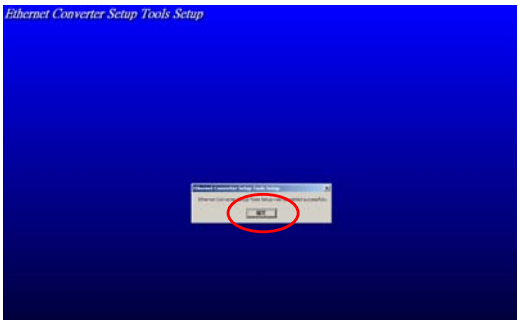


Step 5: Processing
Start installation process.



Step 6: Finished

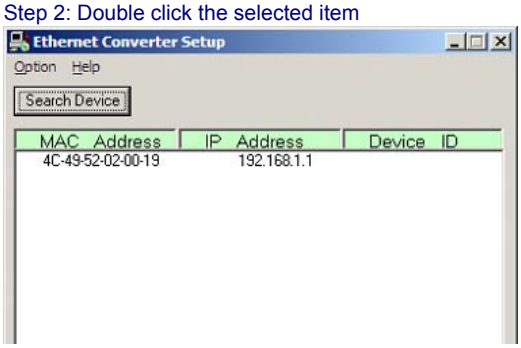
Press Button to finish installation.



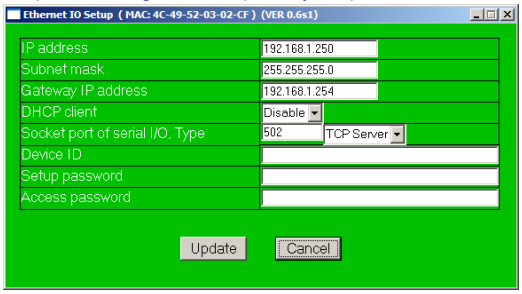
Connect the converter and Ethernet port of PC, then configurate the converter

Step 1: Searching the devices.

Step 2: Double click the selected item

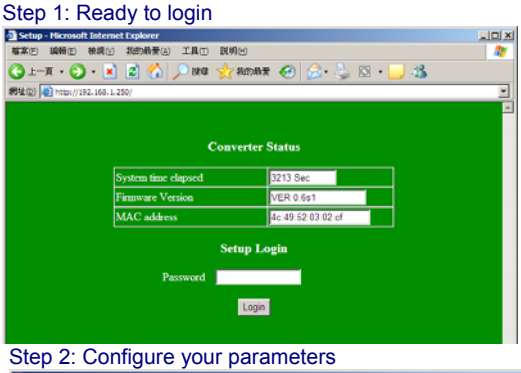


Step 3: Configure and update your parameters

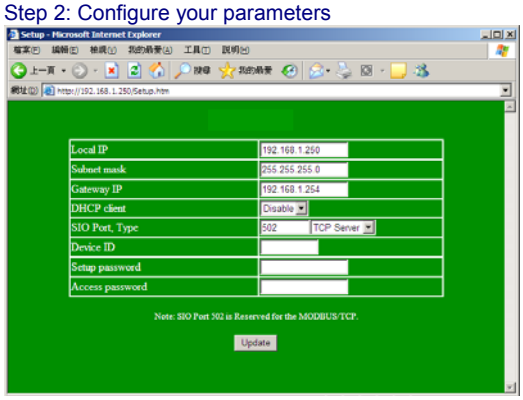


By browser

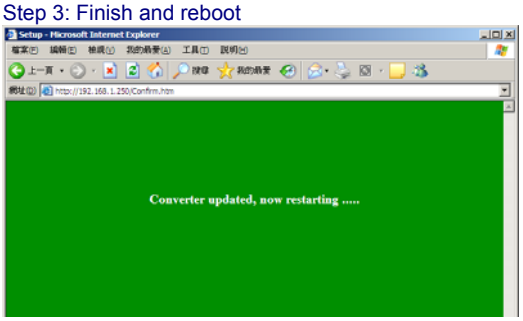
Step 1: Ready to login



Step 2: Configure your parameters



Step 3: Finish and reboot



■ MODBUS ADDRESS FOR DI/DO

The DI/DO points of the PL-DNet can easily be controlled and monitored through Modbus protocol. The Modbus address mapping with discrete I/O is described as the followings.

Digital Output

The 6-points or 8-points digital output of PL-DNet is mapped with the Modbus holding register “40001”. The following table describes the exact bit-mapping for Modbus holding register “40001”.

NAME	ADDRESS	EXPLAN	Write/Read
DO	40001	**DO status** **bit0~bit6(bits8):** DO1~DO6(DO8) **0** = off **1** = on	W/R

Digital Input

The 12-points or 10-points digital input of PL-DNet is mapped with the Modbus holding register “40002”. The following table describes the exact bit-mapping for Modbus holding register “40002”.

NAME	ADDRESS	EXPLAN	Write/Read
DI	40002	**DI status** **bit0~bit11(bits09):** DI1~DI2(DI10) **0** = off **1** = on	W/R