

### ET-2254/ET-2254P Quick Start

v1.2, May. 2018

### What's in the box?



### **Related Information**

• ET-2200 Series Product Page: <u>http://www.icpdas.com/root/product/solutions/remote\_io/ethernet\_io/petl-7000\_tpet\_tet</u> <u>/petl\_series\_main\_page.html</u>

• Documentation & Firmware:

http://ftp.icpdas.com.tw/pub/cd/6000cd/napdos/et2200/

• NS-205/MDR-20-24 Product Page (optional):

http://www.icpdas.com/root/product/solutions/industrial\_ethernet\_switch/ns-205.html http://www.icpdas.com/root/product/solutions/accessories/power\_supply/mdr-20-24.html

## Connecting the Power and Host PC

1) Make sure your PC has workable network settings.

Disable or well configure your Windows firewall and Anti-Virus firewall first, else the "**Search Servers**" on **Chapter 5** may not work. (Please contact with your system Administrator)

- 2) Connect both the ET-2254(P) and your PC to the same sub network or the same Ethernet switch.
  - <complex-block>
- 3) Supply power (+10~+30 VDC) to the ET-2254(P).

4) Verify that the "PWR" LED indicator on the ET-2254(P) is flashing.



# **2** Pin Assignments & Wiring Note

> Pin Assignments:





Terminal No.	Pin Assignment	Pin Assignment	Terminal No.
01	DIO0	DIO8	02
03	DIO1	DIO9	04
05	DIO2	DIO10	06
07	DIO3	DIO11	08
09	DIO4	DIO12	10
11	DIO5	DIO13	12
13	DIO6	DIO14	14
15	DIO7	DIO15	16
17	EXT.PWR	E.PWR	18
19	EXT.GND	E.GND	20

#### Wire Connections:

Input Type	Readback as 1	Output Type	Readback as 1 ON State	Readback as 0 OFF State
	Close to GND	Drive Relay	→ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	→ ↓ + + + + - - - - - - - - - - - - -
Dry Contact	Readback as 0    Open	Resistance Load	- + + + → - + - + - - - - - - - - - - - - -	- ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓



#### A tip for connecting the wire to the connector



A tip for removing the wire from the connector



- 1) Connect the DIO0 pin (Pin01) to the DIO1 pin (Pin03).
- 2) Connect the External Power +24V to the EXT.PWR pin (Pin17).
- 3) Connect the External Power GND to the EXT.GND (Pin19).





The nDO parameters in the following Modbus Address Tables are as follows:

Mode	Universal	Number of DO channels	Number of DI channels
Name	DIO	(nDO)	(nDI)
ET-2254(P)	16	Depend on your configuration	Depend on your configuration

#### > (0xxxx) DO address:

Begin address	Points	Description	Bits Per Point	Range	Access Type
0 (0x0)	1~nDO	Digital Output Channels	1	0: OFF, 1: ON	R/W
			•		•
		•			
299 (0x12B)	1	<ul> <li>Force the DI/DO Mode.</li> <li>0 = Dynamic I/O type based on DO requests.</li> <li>1 = Static I/O type by configuration (web or Modbus).</li> </ul>	1	0 = Dynamic 1= Static	R/W
300 ~315 (0x12C~0x13B)	1 ~ UDIO	Sets the Universal DIO channels to DI or DO Port	1	0 = DO, 1= DI	R/W

"R": Read; "W": Write; "F": Settings are recorded in flash memory by default

#### > (1xxxx) DI address:

Begin address	Points	Description	Bits Per Point	Range	Access Type
0 (0x0)	1~nDI	Digital Input	1	0: OFF, 1: ON	R
32 (0x20)	1~nDI	Digital latched status(high)	1	0:no, 1:latched	R
64 (0x40)	1~nDI	Digital latched status(low)	1	0:no, 1:latched	R

"R": Read

### A Note

For detail "DI/DO Modbus Address" information, refer to Section 6.3 Modbus Register Table of user's manual (<u>http://ftp.icpdas.com/pub/cd/6000cd/napdos/et2200/document/</u>).

# **5** Configuring Network Settings

1) Run the eSearch Utility.

The eSearch Utility is located at:

http://ftp.icpdas.com/pub/cd/6000cd/napdos/software/esearch/

2) Click the "Search Servers" to search your ET-2254(P).

3)	Double-click y	our ET-2254(P	) to configure	the settings
-,			,	

🥩 eSearch Utility [ v1.1	1.14, Jul.10, 20	17]		-	- 🗆	×
File Server Tools		3				
Name ET-2254(P)	Alias Etherl0	IP Address 192.168.255.1	Sub-net Mask 255.255.0.0	Gateway 192.168.0.1	MAC Add 00:0d:e0:	ress ff:15
ET-7255/PET-7255 ET-7044/PET-7044	N/A N/A	10.0.8.237 10.0.8.50	255.255.255.0 255.255.255.0	10.0.8.254 10.0.8.254	00:0d:e0: 00:0d:e0:	65:3 65:3
< C						>
Search Serve	Configu	uration (UDP)	Web	Exit		

#### Factory Default Settings of ET-2254(P):

IP Address	192.168.255.1
Subnet Mask	255.255.0.0
Gateway	192.168.0.1

4) Contact your Network Administrator to obtain a correct network configuration (such as IP/Mask/Gateway). Enter the network settings and click "OK". A Note: The ET-2254(P) will use the new settings 2 seconds later.

Configure Server (U	IDP)					Х
Server Name :	ET-2254(P)	4				
DHCP:	0: OFF	▼ Sub-net Mask :	255.255.255.0	Alias:	EtherIO	
IP Address :	10.0.8.100	Gateway :	10.0.8.254	MAC:	00:0d:e0:ff:15	5:06
yyarning:: Contact your Ne	etwork Administra	ator to get correct configura	ation before any changing	•	ОК	Cancel

# 6 Testing your Ethernet I/O Module

- Wait 2 seconds and click "Search Servers" button again to ensure the ET-2254(P) is working well with new configuration.
- 2) Click the name of ET-2254(P) to select it.
- 3) Click the "Web" button to log in to the web configuration pages.

(Or enter the URL address of the ET-2254(P) in the address bar of the browser.)

🥩 eSearch Utility [ v1.	1.14, Jul.10, 20	17]		-	- 0	×
File Server Tools		2				
Name	Alias	IP Address	Sub-net Mask	Gateway	MAC Ad	dress
ET-2254(P)	EtherIO	10.0.8.100	255.255.255.0	10.0.8.254	00:0d:e	0:ff:1
ET-7044/PET-7044 ET-7255/PET-7255	N/A N/A	10.0.8.50 10.0.8.237	255.255.255.0 255.255.255.0	10.0.8.254 10.0.8.254	00:0d:e	0:65:3
< 1			3			>
Search Serve	r Config	uration (UDP)	Web F	Exit		
Status			M			

4) Enter the password (default: Admin)in the "login password" field and click "Submit".

Et	hernet I/O Modu	le
CDA3 Ho	me   Network   I/O Setting	gs   Sync   PWM   Pair   Filter   🌆
The system is logged of To enter the web configu	Use the default password: Admin	the following field.
Login password:	4	Submit
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	

- 5) Click the "I/O Settings" tab to set the Universal DIO.
- 6) In the "Force DI/DO Mode" section, select the "Static" from the drop down options and check the checkbox for "Ch0" to set Ch0 is DI Port then click the "Update Settings" button to save the revised settings to the ET-2254(P) module.

Ethor	net I/O Modu	
CV Ethen	G	
Home   N	letwork I/O Setting	gs Sync   PWM   Pair   Filter   Monitor   Change Password   Logout
requency measuremen (DI	) Address	Setting
Enable Frequency Measuremen	( 00205 - 00190	0x0 Ch 15~12( Ch 11~8( Ch 11~8( Ch 11~8( Ch 11~8( Ch 11~4( Ch 11~4( Ch 11~4( Ch 11~4( Ch 11~4)))))))))))))))))))))))))))))))))))
Scan Mode	40150	Single pulse ▼ 1000 ms: 1 Hz ~ 3 kHz (+/- 1 Hz error). 100 ms: 100 Hz to 3 kHz (+/- 10 Hz error). Single-pulse: 0.01 Hz ~ 1 Hz (+/- 0.01 Hz error), for stable signal only. Note: ET-2254P supports counter/frequency up-to 2.5 kHz.
Moving Average	40200	
Universal DIC	) Modbus Address	Setting
Force DI/DO Mode	00299 00315 - 00300	Static         Static: By web configuration. Dynamic: Depends on DO requests.           0x1         Ch 15~12(         □         ) Ch 11~8(         □         ) Ch 7~4(         □         ) Ch 3~0(         □         ✓)           (0=DO, 1=DI; for ET-2254(P) Only)         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □         □
		6 Update Settings
		W.

- 7) Click the "Home" tag to allow a simple test to be performed to verify the Digital Input and Output functionality.
- 8) In the "Digital I/O" section, click the "DO1" button to "ON" (Red) and verify that the "DI0" LED status for "high (green)".

Ethernet I/O Module	
Home Network   I/O Settings   Sync   PWM   Pair   Filter   Monitor   Change Password   Logout	
Model Name: ET-2254(P)	Alias Name: EtherIO
Firmware Version: v1.4.7 [Nov.20 2017]	MAC Address: 00-0d-e0-ff-15-06
IP Address: 10.0.8.100	Initial Switch: OFF
TCP Port Timeout: (Socket Watchdog, Seconds): 180	System Timeout: 0 (Network Watchdog, Seconds)
Digital I/O (Modbus Address: DO=00000 to 00015, DI=10000 to 10015)	
D015 ( D014 ( D013 ( D012 (	D011 ( D010 ( D09 ( D08 ( )
D07 (b) D06 (c) D05 (b) D04 (c)	003 🕐 DO2 🕐 DO1 🕐 DO0
DL Channel Value (10000) Corror (30016) / Fi	requency (30064) High Latched (10032) Low Lad (10064)
D10: 🔞 🔵 🦛 -	
DI2:	A formant and a