

### ET-8KP4-MTCP/ET-8KP8-MTCP Quick Start

Dec. 2016, Version 1.0

### **Congratulations!**

Congratulations on purchasing ET-8KPn-MTCP - a Modbus TCP I/O expansion unit to expand I-87K series I/O modules and the most popular automation solution for remote monitoring and control application. This Quick Start Guide will provide information needed to get started. Please also consult the User Manual for detailed information on the setup and use of ET-8KPn-MTCP.

#### What's In the Box?

In addition to this guide, the package includes the following items:



ET-8KPn-MTCP (ET-8KP4-MTCP/ET-8KP8-MTCP)



Software Utility CD



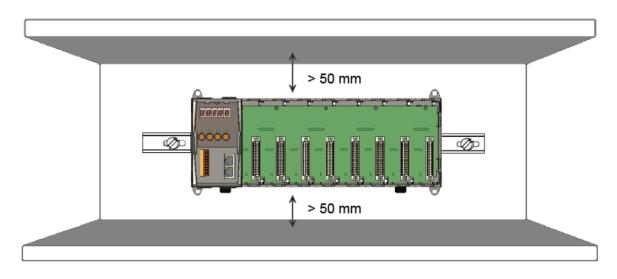
Screw Driver (1C016)

#### **Technical Support**

- ET-8KPn-MTCP Reference Document CD:\Napdos\Modbus\ET87Pn\Document\ http://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/et87pn/document/
- ET-8KPn-MTCP Website <u>http://www.icpdas.com/root/product/solutions/pac/ipac/et-87pn-mtcp.html</u>
- ICP DAS Website http://www.icpdas.com/

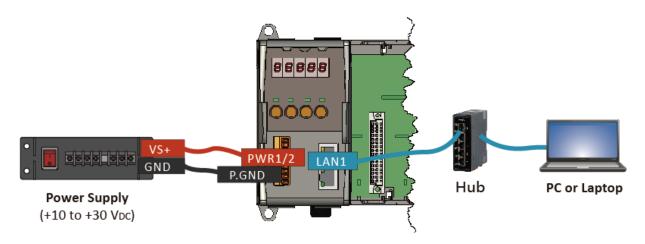
# Mounting the Hardware

The ET-8KPn-MTCP installation must provide proper ventilation, spacing, and grounding to ensure the equipment will operate as specified. A minimum clearance of 50mm between the ET-8KPn-MTCP and the top and bottom side of the enclosure panels must be provided.



# **2** Connecting to PC, Network and Setting up the Power

- i. Connect **PC** to **LAN1** port through a **hub**. The ET-8KPn-MTCP is equipped with RJ-45 Ethernet ports for connection to an Ethernet hub/switch and PC. You can also link directly the ET-8KPn to PC with an Ethernet cable
- ii. Connect the +24 V<sub>DC</sub> power supply to PWR1/PWR2 and GND terminals







The Modbus Utility can be obtained from companion CD or ICP DAS FTP site: CD:\Napdos\Modbus\Modbus\_Utility\ ftp://ftp.icpdas.com/pub/cd/8000cd/napdos/modbus/modbus\_utility/

# 4 Using the Modbus Utility to Assign a New IP Address

**UDP Search of the Modbus Utility** can be used to configure the IP address. Before starting the configuration process, ensure that the **LAN1** are used to connect to network and make the controller under **the running firmware mode**. The default IP addresses are as follows:

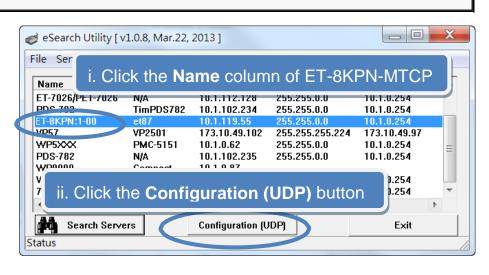
Item	LAN1 (default)
IP Address	192.168.255.1
Subnet Mask	255.255.0.0
Gateway	192.168.0.1

#### Step 1: Run the Modbus Utility, and then search the ET-8KPn-MTCP i. Double-click the Modbus Utility shortcut on the desktop MBus ii. Select UDP Search from the Client Tools menu 7 Modbus iii. Click the Search Servers button of the eSearch Utility dialog, waiting for Utility the search to be done File Window Client Tools Settings Help Modbus/TCP Client ii. Select UDP Search Modbus/RTU Client Load scale UDP Search Controlle Update Firmware eSearch Utility [ v1.0.8, Mar.22, 2013 ] File Server Tools Name Alias IP Address Sub-net ... Gateway MAC Address DHCP iii. Click the Search Servers button, waiting for the search to be done Search Servers Configuration (UDP) Exit

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#### Step 2: Configure IP Address

- i. Select the "Name" field from the default IP address row of ET-8KPn-MTCP
- ii. Click the
   Configuration
   (UDP) button to
   open the setting
   dialog
- iii.Configure the IP settings
- iv.Click the **OK** button to save the configuration



Configure Serve	r (UDP)			22
Server Name :	ET-8KPN:1-00			
DHCP:	0: OFF -	· Alias:	et8kpn	(7 Chars)
IP Address :	10.1.119.55	MAC:	00:0d:e0:e0:	:f7:15
Sub-net Mask :	255.255.0.0	Warning!		dministrator to get
Gateway :	10.1.0.254			efore any changing!
ii. Cl	lick the <b>OK</b> bu	utton	ОК	Cancel



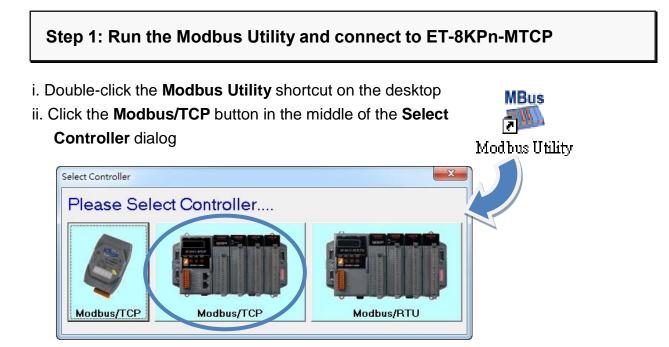
There are various types of I/O expansion modules for interfacing many different field devices to the ET-8KPn-MTCP.

For more information about I/O expansion module, please refer to:

http://www.icpdas.com/products/PAC/xpac/remote\_io\_support\_list.htm

# **6** Using the Modbus Utility to Configure the Module

The Modbus Utility can be used to make the communication between the ET-8KPn-MTCP and PC/Laptop via the Modbus/TCP protocol.



iii. Enter the IP address, and then click the Connect button

Modbus Utility Ver 1.8.1 2014/04/17 File Window Client Tools Settings Help			
	▼ Gale Trend Help	▼ Status Firmware:	
Controller			
192.168.2.197 Connect			
Communication Mode Disconnect			
	Enter the IP	address, and	l then
	click the <b>Co</b>	nnect button	
DI Mapping DO Mapp	ping Al Mapping	AO Mapping	Summary
Digital Input (1xxxx)           Address         Module	Slot Channel Value	e Comment	
	111		

## Step 2: Match the I/O module and then get the I/O configuration information

i. Click the Refresh button to match the I/O modules to configuration of the controller

100 100 0 107		DIO Settings			1			
192.168.2.197	Connect		Modbus Utility Ver 1.8					acted in the
On-line Mode (E	thornot	Ch0 Ch	File Window Client Tool	Is Settings Help		1		
Confi de	pesn't match Refresh	□ □ □ □ □ Ch □ □ Ch2 □ □ Ch □	Load - Save N	Monitor Log	Scale Trend Help	Status Firmware v1.72(J)	vi 08 20123	
found 1/0 1-87	Module !!! More info	T Chr T Ch	ET-8KPN NetID	=1	Range Code			Set A
		r Ch4 ⊑ Ch	192.168.2.197	Occurat	Ch0"Ch7			
2 iss		Ch5 Ch	On-line Mode (Ether	THE REPORT OF	Input/Output Range	Other (Dec) P	ower-on (Velue)	Sale (Value
MK 10			Certine Mode (Certen	net) Disconnect	Ch0 -00 To -20.0 mA	• 0 ÷	0.000	8.000
		The second second			Cht =00 To +20.0 mA	• • •	0.000	0.000
					Ch2 +08 To +20.0 mA	· 0 ÷	0.000	8.000
DI Mappin	g DO Mapping	Мар	1-870280		Ch3 +88 To +20.0 mA	¥ 0 ÷	0.000	0.000
Digital Input (1x)	-		AND I DESCRIPTION OF		Ch4 -05 To -20.0 mA	•         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •           •         •         •         •         •	0.000	8.000
Address		lot Channel	2 200		Ch5 =0.8 To +20.0 mA	• 0 ÷	0.000	8.000
00 [00]		3 0	14		Ch6 -0.0 To +20.0 mA	• 0 -	0.000	8.000
01 [01] 02 [02] 03 [03]		3 1 3 2 3 3	<b>5 •••</b>		Ch7 -00 To -20.0 mA	• • ÷	0.000	0.000
04 [04] 05 [05] 06 [06]	I-87046 I-87046 I-87046	3 4 3 5 3 6	DI Mapping Digital Input (1xxxx)	DO Mapping	Al Mapping	AO Mapping	T s	mmary
07 [07] 08 [08]	I-87046 I-87046	3 7 3 8	Address	Module Sic	ot Channel Velue	Comment		
4			00 (90)	147046 3 147046 3	1990 (1990 - 1990) 1990 (1990 - 1990)	(40)Digital Module (40)Digital Module		
			02 (02)	507046 3	2	(40)Digital Module		
			03 (03)	147046 3 347046 3	1	(40)Digital Module (40)Digital Module		
			04 (04) 05 (05)	187046 3	ŝ	(40)Digital Module		
			06 (96) 07 (07)	107046 3 167046 3	57	(40)Digital Module (40)Digital Module		

- ii. Select the **About** option from the **Help** menu to get the I/O configuration and firmware information
- iii. Check the module status diagram, ensuring for the I/O modules to be matched

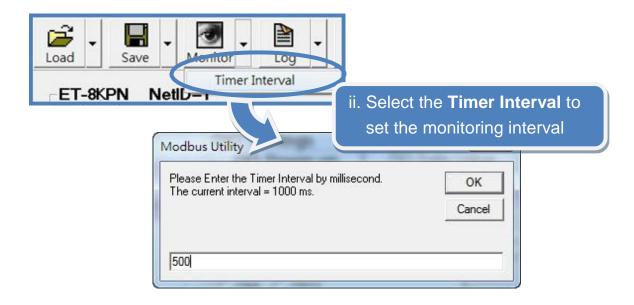
Modbus Utility Ver 18.1 2014/04/17 File Window Client Tools Retings Help Cod Save Monitor Log Scale Trend Help	Select the <b>About</b> op from the <b>Help</b> menu	tion
ET-8KPN NetD=1 192.168.2.197 On-line Mode (Ethernet) Disconnect 1-87028U 1-87028U 1-87028U 1-87028U 1-87028U 1-87028U 1-870280 mA Chi do To -200 mA Chi do	Version: 1.8.1	Itility           2014/04/17           (for 7188/8000)           v1.7.2 [Jan 03 2012]           v1.6.5 [Mar 04 2014]
DI Mapping 1 DO Mapping 1 Al Mapping 1 iii. See the module status diago ensuring for the I/O module be matched		V2.4.14[Nov 08 2011] V3.2.32[Nov 02 2011] V1.1.10 [Oct 21 2011] 2-2006, ICP DAS CO., LTD

## Step 3: Set I/O configuration, get the I/O values and then save the I/O configuration

i. Configure the I/O settings, such as Range Code, Power-on and Safe values

	Ch0 <sup>~</sup> Ch7				
	Input/Output Range		Offset (Dec)	Power-on (Value)	Safe (Value)
Ch0	+0.0 To +20.0 mA	•	0	0.000	0.000
Ch1	+0.0 To +20.0 mA	•	0	0.000	0.000
Ch2	+0.0 To +20.0 mA	•	0 ÷	0.000	0.000
Ch3	+0.0 To +20.0 mA	<b>•</b>	0	0.000	0.000
Ch4	+0.0 To +20.0 mA	•	0	0.000	0.000
Ch5	+0.0 To +20.0 mA	•	0 ÷	0.000	0.000
Ch6	+0.0 To +20.0 mA	•	0		0.000
Ch7	+0.0 To +20.0 mA	-	0	0.000	0.000

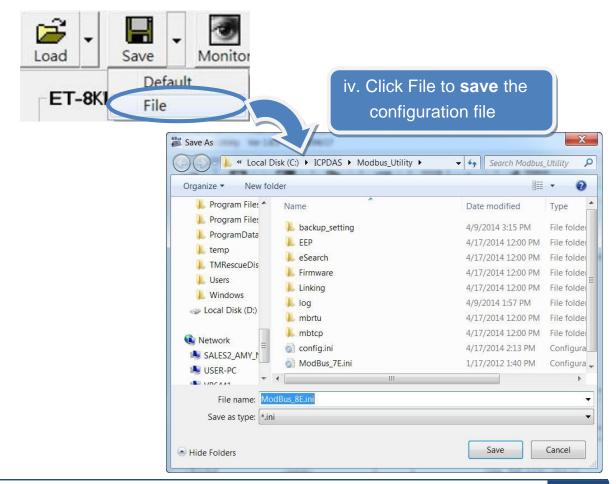
ii. Select the Timer Interval from the Monitor menu to set the monitoring interval



iii. Click the **Monitor** icon to start retrieving I/O values. The I/O values will be displayed in the Mapping tables

		-			
Save	Monitor				
		1			
DI Map	ping DO	Mapping	Al Ma	apping 🏻 🍸	AO Mappine
Analog Outp	ut (4xxxx)				
Address	Module	Slot	Channel	Value	comment
00 [00]	I-87028U	2	0	10.000	[30] +0.0 To +20.0 mA
01 [01]	I-87028U	2 2 2	1	5.500	[30] +0.0 To +20.0 mA
02 [02]	I-87028U	2	2	0.000	[30] 0.0 To +20.0 mA
03 [03]	I-87028U	2	3	2.500	[30] 0.0 To +20.0 mA
04 [04]	I-87028U			4.000	[30] 0.0 To +20.0 mA
05 [05]	I-87028U	2	5	3.000	[30] 0.0 To +20.0 mA
06 [06]	I-87028U	2 2 2	6 7	0.000	[30] +0.0 To +20.0 mA
07 [07]	I-87028U	2	7	0.000	[3] +0.0 To +20.0 mA
			HI		

iv. Select File option from the Save menu and select a location where the configuration file is about to be saved. This operation can save the controller configuration and I/O settings to an "ini" file, and the file can be loaded by Load function at the next time when using the same controller and I/O modules



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