

SERIAL TO Ethernet CONVERTER

WPC-832-2-E User Manual



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Introduction

WPC-832-2-E Serial to Ethernet Interface Converter providing the ways of connecting serial devices to both Ethernet. It is designed to operate serial ports through Ethernet (10/100Mbps) over TCP/IP network. As the data is transmitted via TCP/IP protocol, therefore data acquisition and controlling are available to go through Intranet and Internet. There are two serial ports as one is a RS-232 and other one is RS-422/485. Configuration is easy to operate via web page setup.

WPC-832-2-E Serial to Ethernet Converter is high performance design composed with carefully selecting qualified components from reliable and certified sources. This operation manual will guide you to configure functions step by step.

The following topics are covered in this manual:

- Overview**
- Package Checklist**
- Product Specifications**
- Product Views**
- Configuration**

Overview

WPC-832-2-E (hereunder called “This Device”) Serial to Ethernet Converter provides a perfect solution to make your industrial Serial devices connect to Internet instantly via Ethernet LAN.

This device embedded with MT7688AN MIPS chipset makes it become the ideal device for transmitting the data from your RS-232 or RS-422/485 Serial interface devices, such as PLCs, Meters or Sensors to an IP-based Ethernet host, and making it possible for your software to access Serial interface devices anywhere and anytime.

WPC-832-2-E providing TCP Server Mode, TCP Client Mode, and UDP Mode for selection. It also supports manual configuration via web browser and support various protocols including HTTP, DHCP, ICMP, and ARP. These are the best solution to coordinate your Serial interface devices.

Package Check List

WPC-832-2-E Serial to Ethernet Converter product attached with the following items:

- 1 unit of WPC-832-2-E Converter
- 1 unit of Power Adaptor (12V DC, 1A) is an option
- Documentation & Utility CD

NOTE: Inform your sales representative if any of the above items missing or damaged.

Product Specifications

WPC-832-2-E

2 Ports Serial to Ethernet Converter



Features

- As a Server support 4 TCP Clients connection simultaneously.
- As a Client support connecting with 4 TCP Servers.
- Web Browser configuration
- Easy installation Windows utility
- On line F/W upgrade

System

- CPU : MT7688AN MIPS CPU, 580 MHz
- RAM : 128M Bytes DDR2 RAM
- ROM : 32M Bytes Flash ROM
- OS : OpenWrt Linux OS

Other Features

- Led Lamp : SYS, WiFi, RX, TX, LAN
- Watch Dog Function

Ethernet

- Port Type : RJ-45 Connector
- Speed : 10 /100 M bps (Auto Detecting)
- Protocol: ARP, IP, ICMP, UDP, TCP, HTTP, DHCP
- Protocol: NTP, DNS
- Mode : TCP Server / TCP Client / UDP
- Setup : HTTP Browser Setup (IE, Chrome, Firefox)
- Security : Setup Password
- Protection : Built-in 1.5KV Magnetic Isolation

Mechanical and Environment

- Operating Temperature : -20°C ~ 70°C
- Storage Temperature: -25°C ~ 80°C
- Dimensions : 110 * 90 * 26 mm (W * D * H)
- Weight : 110 ± 5gm
- Housing: plastic.

Serial Ports *2

- Port : RS-232 *1 (RS-232 with RX/TX/GND only)
- Port : RS - 422 / 485 (Surge Protect) *1
- Speed: 300 bps ~ 921.6 K bps
- Parity: None , Odd , Even , Mark , Space
- Data Bit: 5 , 6 , 7 , 8
- Stop Bit : 1 , 2
- RS-232 Pins : Rx , Tx , GND
- RS-422 : Rx+ , Rx- , Tx+ , Tx- (Surge Protect)
- RS-485 : Data+ , Data- (Surge Protect)
- 15KV ESD for all signals

Power

- DC 9~32V, 1000mA@12V
- support DC Jack & Terminal Block Input

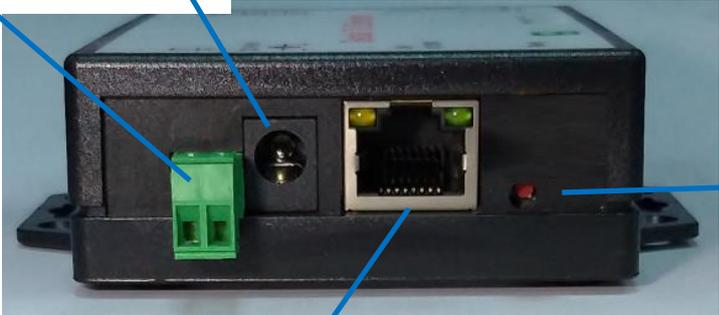
Warranty

- Warranty period : 1 year.

Product Views

Antenna Side

DC-IN Power Outlet
1) DC Jack
2) Terminal Block



Reset Button

Ethernet LAN port

Serial Interface Side



RS-422/485

RS-232

Outlined Components

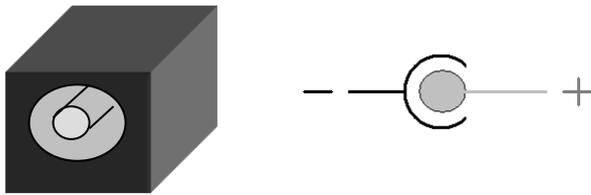
Ethernet Port

The connector for network is the usual RJ45. Simply connect it to your network switch or Hub. When the connection is made, the green color LED of Ethernet port will blink. When data traffic (Rx/Tx) occurs on the network, yellow color LED will blink during data transferring.

DC-IN Power Outlet

The Device is powered by a 12V DC (Inner positive, outer negative) , 1.0A power supply. Plugging the power adaptor to the AC power socket and put the DC Jack plug into the outlet of the Device. The "SYS" green color LED will be ON when power is properly supplied. Terminal Block 2 wires power supply is an option.

DC Power outlet



Reset Button

- 1) Press reset key after 5 seconds until SYS LED flash then release the key will reset network default IP and gateway IP back to default. The other parameters keep same as last confirmation.
- 2) Press reset key after 5 seconds until both SYS LED and WiFi LED flash then release the key will make all parameters back to factory default.
- 3) Press reset key within 5 seconds without LED flash will reboot the equipment. Last configuration no change.

Serial Port of RS-232, RS-422/RS-485

Connect the Serial data cable between the device and the Serial interface device. Follow the procedure of web page configuration to set up parameters.

LED Indicators



SYS (Green):

Power indicator. When the power is on, the LED will be on and blink per second.

WiFi (Red): (WiFi is only for reference in model of Ethernet only)

WiFi indicator. When the WiFi is working, this LED will be blinking.

Tx (Green):

Data sending indicator. When data sending to the device from LAN or WiFi, this LED will blink.

Rx (Red):

Data received indicator. When data sending to the device from Serial ports, this LED will blink.

Wiring Architecture

1. RS-232

RS-232 Wiring

Serial Device

DB 9 ————— DB 9



LAN



2. RS-422/RS-485

RS-422 Wiring

Serial Device

T- ————— R-

T+ ————— R+

R- ————— T-

R+ ————— T+



LAN



RS-485 Wiring

Serial Device

D+ ————— D+

D- ————— D-



LAN



When you finish the steps mentioned above and the LED indicators are as shown, the converter is installed correctly. You can check the Software Setup CD to find IP Search Utility. To proceed with the parameters setup, please use a web browser (IE or Chrome) to continue the detailed settings.

Configuration

When setting up your converter for the first time, the first thing you should do is to configure the IP address.

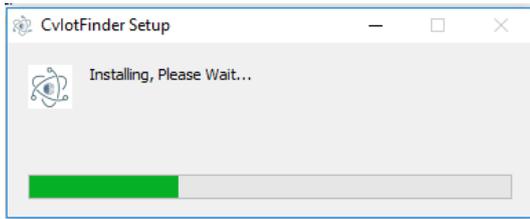
The following topics are covered in this chapter:

- IP Search Utility Setup**
- Configuration through Web**

IP Search Utility Setup



1. Copy “CvlotFinder Setup.exe” from CD ROM to your host computer.
2. “CvlotFinder” is a self-extract-install program. Double click it to install this Wi-Fi IP Searching tool into host computer.



3. Upon running IP search tool CvlotFinder (CvlotFinder), if a firewall warning pop up, please click to accept the program pass through firewall.

Customize settings for each type of network

You can modify the firewall settings for each type of network that you use.

Private network settings

- Turn on Windows Defender Firewall
 - Block all incoming connections, including those in the list of allowed apps
 - Notify me when Windows Defender Firewall blocks a new app

Turn off Windows Defender Firewall (not recommended)

Public network settings

- Turn on Windows Defender Firewall
 - Block all incoming connections, including those in the list of allowed apps
 - Notify me when Windows Defender Firewall blocks a new app

Turn off Windows Defender Firewall (not recommended)

4. CvlotFinder will pop up on the screen after installation or you may double click the icon on desk top of host computer to open this tool.



5. Click on “Find” button. It will scan the network and show up the IP of Converter.



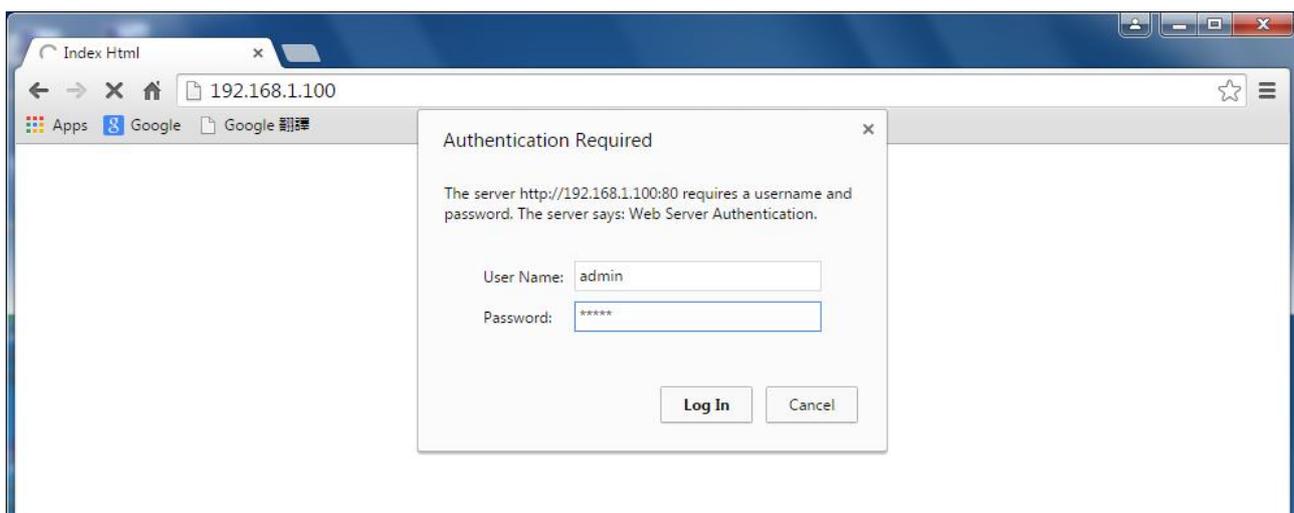
6. Click "Setup" button will pop up a window. You may change Name, Description, IP, Netmask of device. Click "Setup" to save setup. **The device's IP must be same subnet with host PC/NB able to use web browser open configuration page.**

Setup ✕

MAC	Name & Description	IP & Netmask
9c:65:f9:21:0f:cd	<input type="text" value="Device Name"/> <input type="text" value="Device Description"/>	<input type="text" value="192.168.1.199"/> <input type="text" value="255.255.255.0"/>

USERNAME:
PASSWORD:

7. Click "Goto" button will open a web page of configuration.
(default ID: admin; password: admin).



Login:
User: "admin"
Password: (none or "admin")

8. Follow #5 step, now you have successfully connected to the Converter.

Serial Over TCP/IP Log out
ver: 1.0.21

System Network Serial Over TCP/IP

System

Admin. Password:

Confirm Password:

Auto Reset(Minutes):

Device Name:

Description:

System Up Time:

Firmware Release:

Configuration sections

There are 4 pages as per “System”, “Network”, “Serial” and “Over TCP/IP”.



1. System Setup

1.1 System: where you can change Password, set up Auto Reset time and modify Device Name, Description of device.

Admin. Password:
Confirm Password:
Auto Reset(Minutes):	0
Device Name:	Device Name
Description:	Device Description
System Up Time:	23 min
Firmware Release:	2017/11/10 10:02

1.2 Appearance of Wireless ad Ethernet setup.

Wireless	
IP Address:	10.0.0.1
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.1
MAC Address:	9c:65:f9:24:55:56
Ethernet	
IP Address:	192.168.1.199
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.1
MAC Address:	9c:65:f9:24:2a:36

1.3 NTP: Enable / Disable NTP function; Set up NTP server and Time Zone.

The screenshot shows the 'SERVICES' configuration page. It includes the following fields and controls:

- HTTP Port: 80
- NTP Enabled: A dropdown menu set to 'Enabled'.
- NTP Server: openwrt.pool.ntp.org
- NTP Offset: A dropdown menu set to 'UTC'.

1.4 Firmware update: **If necessary**, click “Browse” to open file manager.

The screenshot shows the 'Firmware' update page. It features a text input field for the firmware file path, a 'Browse...' button (highlighted with a red box), and a large 'Update' button at the bottom.

click to select the file with specified version and click “Confirm” button.

The screenshot shows a Windows File Explorer window with the following path: This PC > Data (D:) > KSH -Customers客戶 > SanTelequip -India U031 > Products測試,文件 > WPC-832-485 > Firmware. The file list is as follows:

<input type="checkbox"/>	Name	Date modified	Type	Size
<input checked="" type="checkbox"/>	SAN-UZE-UPGRADE-'1.0.21'.bin	11/16/2017 11:48	BIN File	861 KB
<input type="checkbox"/>	SAN_UZE-UPGRADE-'1.0.20'.bin	10/16/2017 4:19 PM	BIN File	1,683 KB
<input type="checkbox"/>	SAN_UZE-UPGRADE-'1.0.19'.bin	9/29/2017 3:29 PM	BIN File	834 KB

When the selected file name appears on the input column, click “Update” button.

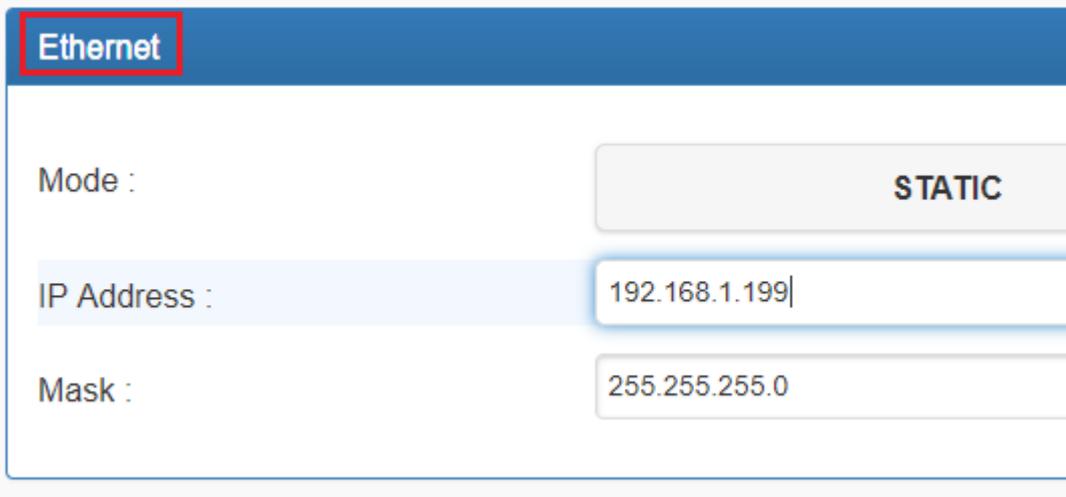
The screenshot shows the 'Firmware' update page. The text input field now contains the file name 'SAN-UZE-UPGRADE-'1.0.21'.bin', and the 'Update' button is visible at the bottom.

1.5 Up to now, Setup is successfully configured. Please click “Save” this page before “Save and Restart” for permanent web pages.

The screenshot shows two buttons: 'Save' and 'Save and Restart'.

2. Network setup

2.1 Ethernet: select STATIC or DHCP to assign IP address.



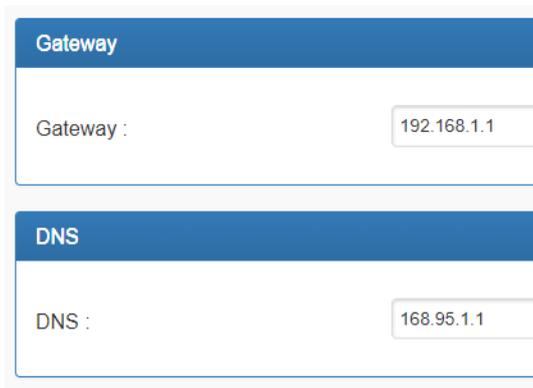
Ethernet

Mode : **STATIC**

IP Address : 192.168.1.199

Mask : 255.255.255.0

2.7 Gateway and DNS: To check with MIS for right IP address.



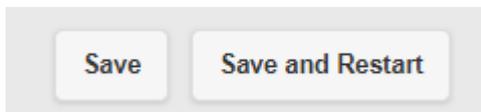
Gateway

Gateway : 192.168.1.1

DNS

DNS : 168.95.1.1

2.8 Up to now, Setup is successfully configured. Please click "Save" this page before permanent change of configuration.



Save **Save and Restart**

3. Serial port settings

Please correctly input each parameters to match with the remote terminal units.

Log out
ver : 1.1.0

Serial Over TCP/IP

SystemNetworkSerialOver TCP/IP

Serial 1

Baud Rate:	<input type="text" value="19200"/>	▼
Parity:	<input type="text" value="None"/>	▼
Data Bits:	<input type="text" value="8"/>	▼
Stop Bits:	<input type="text" value="1"/>	▼
Flow Control:	<input type="text" value="None"/>	▼
RxDelay(ms) :	<input type="text" value="0"/>	
TxDelay(ms) :	<input type="text" value="0"/>	

- Baud Rate: 300 bps to 921.6K bps
- Parity: None, Even, Odd
- Data Bits: 5, 6, 7, 8
- Stop Bits: 1, 2
- Flow Control: None, XON/XOFF
- RxDelay(ms)
- TxDelay(ms)

When setup is configured. Please click “Save” this page before permanent pages.

Save

Save and Restart

4. Serial port over TCP/IP

4.1 There are TCP modes for selection: TCP Server / TCP Client / UDP

Serial 1 Over TCP

Mode: TCP Server

Port: 100

Inactive Timeout (Minutes): 10

Serial 1 Over TCP

Mode: TCP Server

Port:

Inactive Timeout (Minutes):

TCP Server

TCP Client

UDP

DISABLED

4.2 TCP Server: Configure TCP server port number and message time out period. At this mode, this device will wait for client connection.

Serial Over Wifi

Log out

ver: 1.0.5

Serial over Wi-Fi

Mode: TCP Server

Port: 100

TCP invalid timeout (Min.s): 10

4.3 TCP Client: Allow to configure 4 remote destination host IP address, port number. At TCP client mode, THIS DEVICE establishes a connection with remote host and sending data to remote host actively.

Serial 1 Over TCP

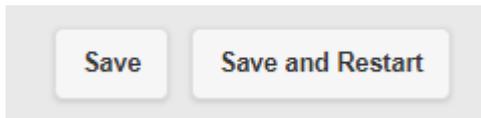
Mode: TCP Client

Inactive Timeout (Minutes): 10

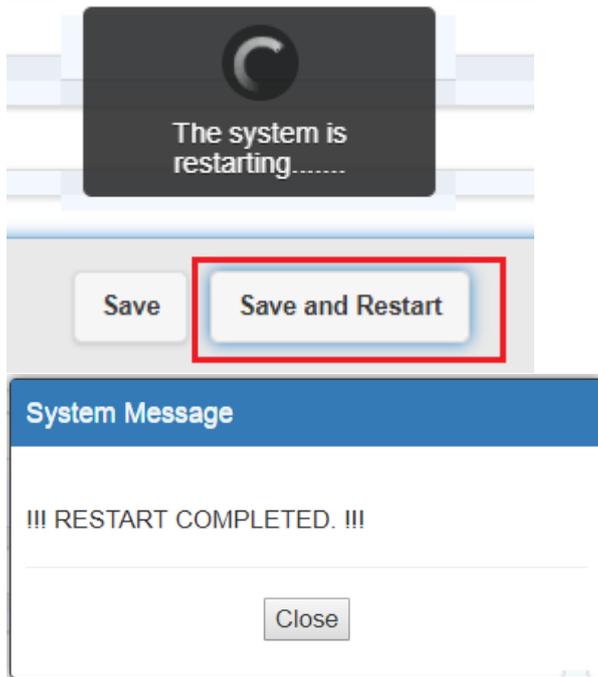
No.	Destination IP	Port
1	192.168.1.10	100
2		
3		
4		

4.4 UDP: Picture as above TCP client mode. Allow to configure 4 remote destination host IP address, port number. At UDP mode, this Device establishes a connection with remote host and sending data to remote host actively.

4.5 When setup is configured. Please click "Save" this page before permanent pages.



4.6 After configured all parameters, click "Save and Restart" to reboot system.



5. Reset Button

- 1) Press reset key after 5 seconds until SYS LED flash then release the key will reset network default IP and gateway IP back to default. The other parameters keep same as last confirmation.
- 2) Press reset key after 5 seconds until both SYS LED and WiFi LED flash then release the key will make all parameters back to factory default.
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