

User Manual for 4 Ports Serial to Ethernet Converter, Model Number SC10E4IK

Introduction



SC10E4IK 4-Ports Serial to Ethernet Converter providing new ways of connecting serial devices to a Wireless LAN (Wi-Fi 802.11 b/g/n). This converter is designed to operate 4 serial ports through wireless (Wi-Fi 802.11 b/g/n) over 10/100Mbps Ethernet network.. 4 Serial ports operate in common RS-232, RS-422 and RS-485 auto selection modes configuration.

SC10E4IM K provides TCP Server Mode, TCP Client Mode, and UDP Mode for selection. It supports manual configuration via web browser and support various protocols including TCP, IP, UDP, HTTP, DHCP, ICMP, and ARP. These are the best solution to coordinate your Serial interface devices.

Product Specifications

- System
 - ◊ CPU : MT7688AN MIPS CPU, 580 MHz
 - ◊ RAM : 128M Bytes DDR2 RAM
 - ◊ ROM : 32M Bytes Flash ROM
 - ◊ OS : Open Wrt Linux OS
- Ethernet
 - ◊ Port Type : RJ-45 Connector
 - ◊ Speed : 10 /100 M bps (Auto Detecting)
 - ◊ Protocol : ARP, IP, ICMP, TCP, HTTP, DHCP, DNS, NTP
 - ◊ Mode : TCP Server / TCP Client / UDP
 - ◊ Setup : HTTP Browser Setup (IE & Netscape), Console
 - ◊ Security : Setup Password
 - ◊ Protection : Built-in 1.5KV Magnetic Isolation
- WiFi port
 - ◊ Standard : 2.4G IEEE 802.11b/g/n
 - ◊ Data Rate : 11/54/72.2 Mbps @ 20Mhz Band Width
 - ◊ Modulation : DSSS; OFDM
 - ◊ Frequency : 2.4GHz
 - ◊ Tx Power 11b : Max. 22dBm
 - ◊ Tx Power 11g/n : Max. 19dBm
 - ◊ Rx Sensitivity : -76dBm @ 54Mbps, -89.5dBm @ 11Mbps
 - ◊ Tx Rate : Max. 54Mbps with auto fallback
 - ◊ Tx Distance : Up to 100m
 - ◊ Security : WEP 64-bit / 128-bit data encryption, WPA / WPA2 personal
 - ◊ Antenna : 2 dBi, RP-SMA connector
 - ◊ Network Mode : Infrastructure; Soft AP (for Setup)
 - ◊ Setup : HTTP Browser Setup (IE, Chrome, Firefox)
 - ◊ Security : Login Password
- Serial Ports * 4
 - ◊ Port : RS232/422/485 * 4 Port (RS-232 - RX/TX only)
 - ◊ Port : RS422 / 485 (Surge Protect)
 - ◊ Speed : 300 bps ~ 230.4Kbps
 - ◊ 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
- ❖ 3000V DC Isolation (option)

- Utility : Built-in Web server Setup, Easy Operation
- Watch Dog Function
- Power : DC 9~24V, 200mA@12V, support DC Jack & Terminal Input
- Led Lamp : SYS (PWR), Wi-Fi, RX, TX, LAN
- Environment : Operating Temperature: -20⁰C to 70⁰C
Storage Temperature: -25⁰C to 80⁰C
- Dimensions : 195 * 120 * 35 mm (W * D * H), W+16mm x2 for din rail extension.
- Weight : 660 gm
- WARRANTY : 1 year

Product Panel Views



Antenna Connector

The connector for antenna is a standard reverse SMA jack. Simply connect it to a 2.0dBi dipole antenna (Standard Rubber Duck) and it is 50 Ohms impedance and can support 2.4GHz frequency.

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 light on. When data traffic (Rx/Tx) occurs on the network, yellow color LED will blink during data transferring.

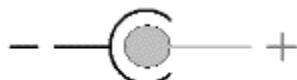
Serial Port of RS232/RS422/RS485

Connect the serial data cable between the SC10E4IK Converter and the Serial interface device. Follow the web page parameter setup procedures to configure the Converter.

DC-IN Power Outlet

The Serial to Ethernet +Wi-Fi Converter is powered by a single 12V DC (Inner positive, outer negative) power supply and 1.0mA of current. Connect the power adaptor to the AC power socket and put the DC Jack plug into the outlet of 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(Wi-Fi)

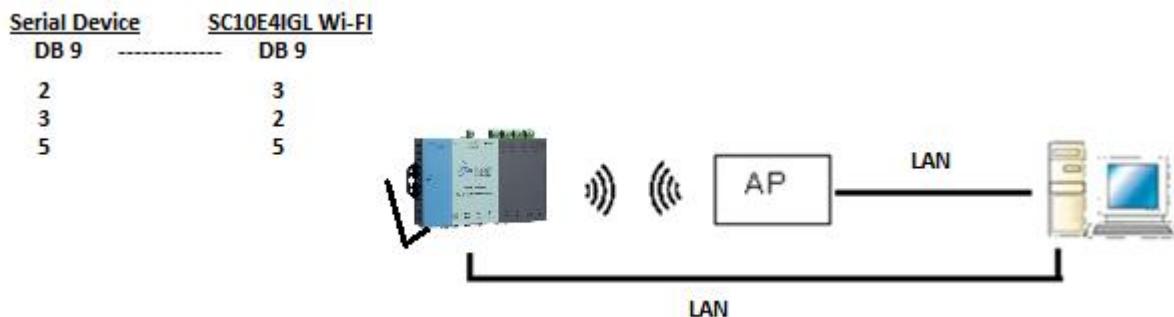
If any chance you forgot the login password, or have incorrect settings making Converter inoperable. When the power is on and the "SYS" LED light on, use a point tip to press this button and hold it and wait for more than 25 seconds. All the parameters will be reset to the factory default.

LED Indicators

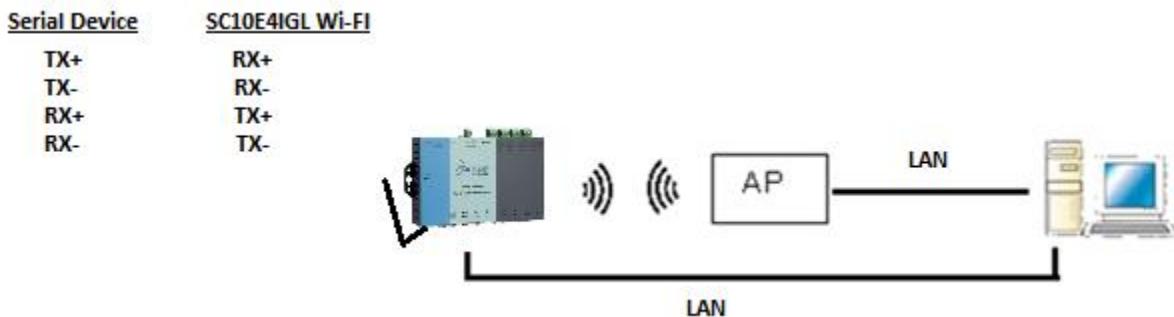
PWR (Red) : After power on, this LED is always On.
SYS (Green) : After power on and system working, this LED start blinking
Wi-Fi (Red) : LED is ON after power on, then off a while. It starts blinking after Wi-Fi module is ON
TX / RX (Green/Green): Upon data sending or receiving indicator, the LED will blink.

Wiring Architecture

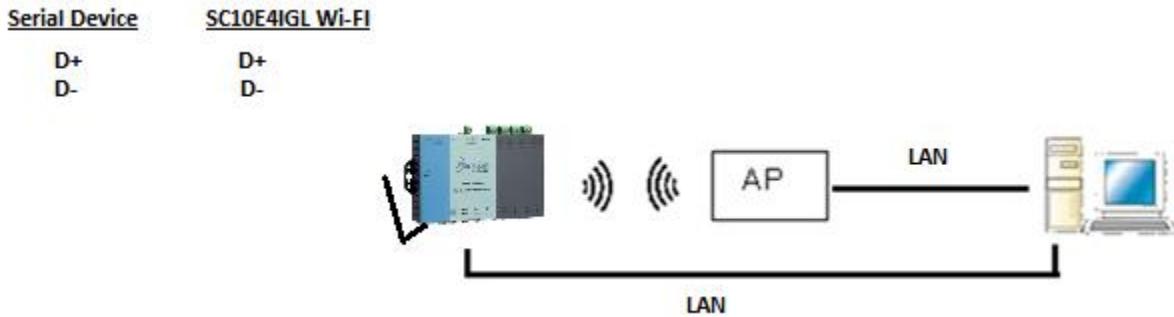
RS232 Wiring



RS-422 Wiring



RS485 Wiring



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 in CD or Our Web site www.santequip.com/download to find Utility to setup the IP Address.

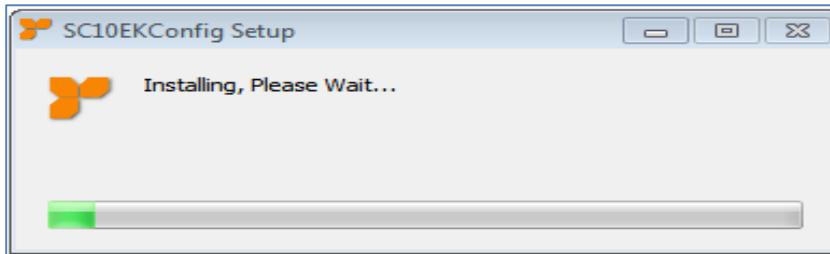
To proceed with the parameters setup, please use a web browser (IE or Chrome) to continue

Configuration

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

IP Search Utility Setup

1. Copy "SC10E4IK Utility" from CD ROM or our Web site to your host computer.
2. "SC10E4IK" is a self-extract-install program. Double click it to install this Wi-Fi IP Searching tool into host computer.



SC10E4IK Finder 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.



Click on "**Find**" button. It will scan the network and show up the IP of Converter.
Ethernet IP Address :192.168.1.100

Wi-Fi IP Address :10.0.0.1

SC10EKConfig 1.0.9

Find Clear

Devices

Product	Version	Name	Description	IP & MAC	Go To
Serial to Ethernet Converter	1.2.2a	SC10EK4I	4 Port Serial to Ethernet Converter	192.168.106.215 9c:65:f9:21:0f:bf	Go To Setup

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 enable to use web browser open configuration page.

Setup

MAC	Name & Description	IP & Netmask
9c:65:f9:29:a9:fd	SC10E4IK 4 Port Serial to Ethernet Converter	192.168.106.215 255.255.255.0

USERNAME: admin
PASSWORD: admin

Setup Close

SC10EKConfig

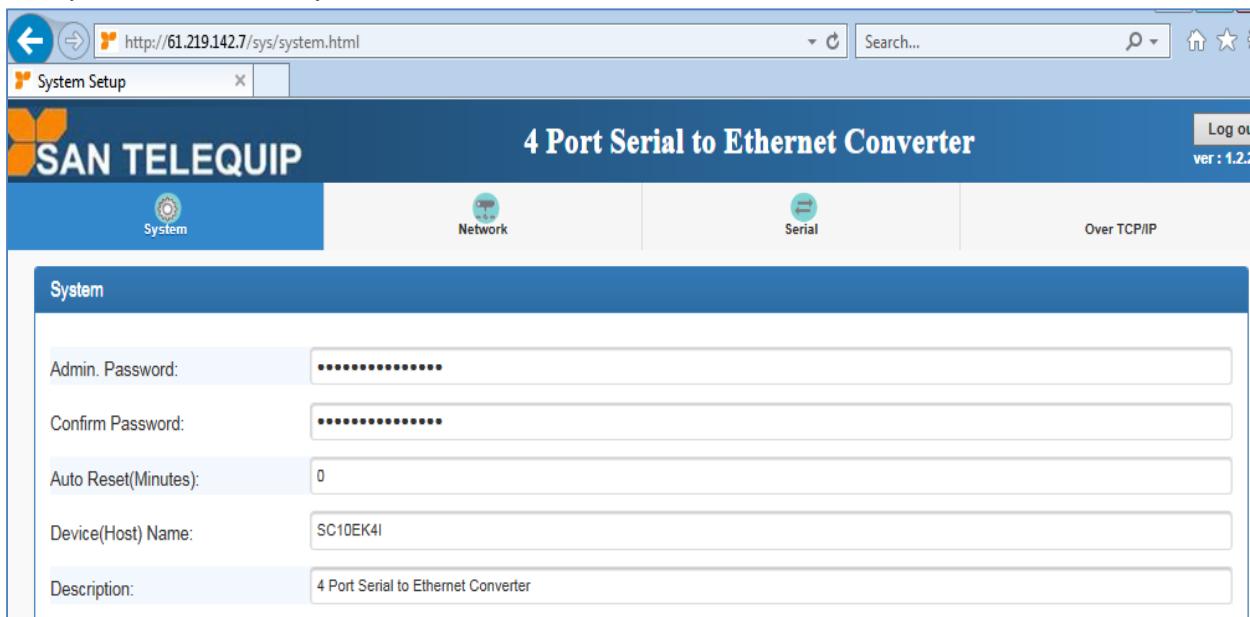
changed.

OK

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



Now you have successfully connected to the Converter.



Configuration

There are 4 setup pages as "System", "Network", "Serial" and "Converter".



System Setup

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

System

Admin. Password:	*****
Confirm Password:	*****
Auto Reset(Minutes):	0
Device(Host) Name:	SC10EK4I
Description:	4 Port Serial to Ethernet Converter
System Up Time:	4:29
Firmware Release:	2019/11/11 17:05

Appearance of Wireless & Ethernet setup.

Wireless

Disabled	
----------	--

Ethernet

IP Address:	192.168.106.215
Subnet Mask:	255.255.255.0
Gateway:	
MAC Address:	9c:65:19:21:0f:bf

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

Services

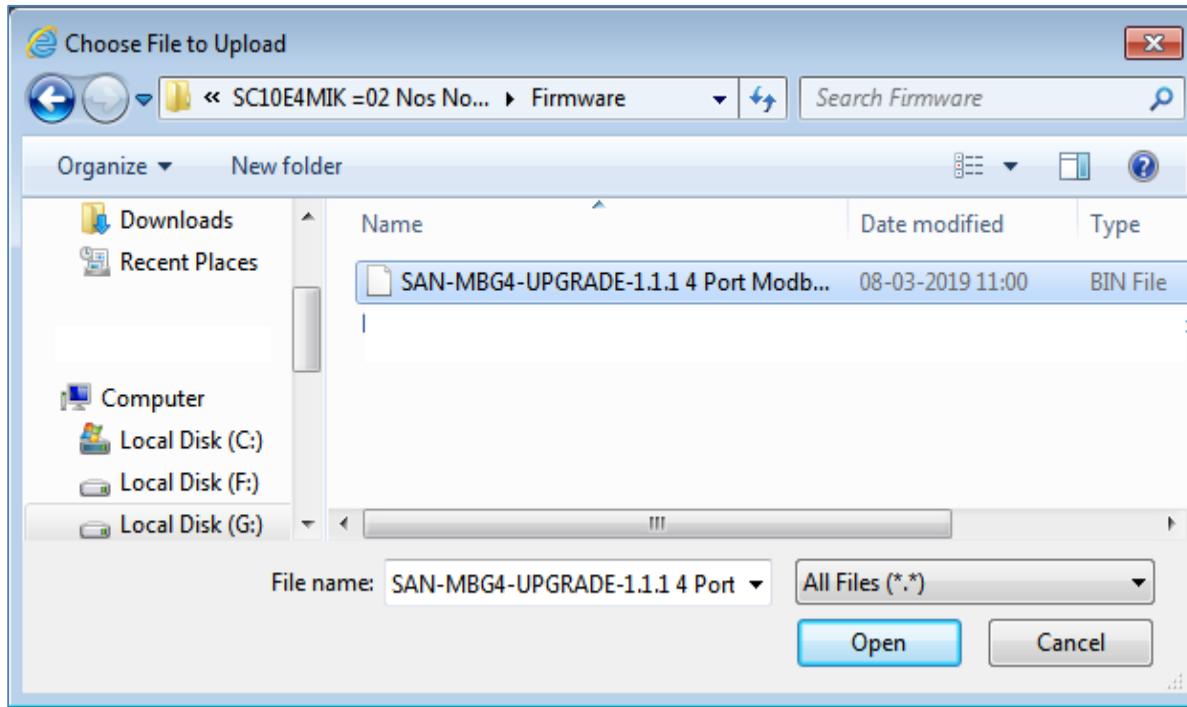
HTTP Port	80
NTP Enabled:	Enabled
NTP Server :	openwrt.pool.ntp.org
NTP Offset :	UTC

Firmware

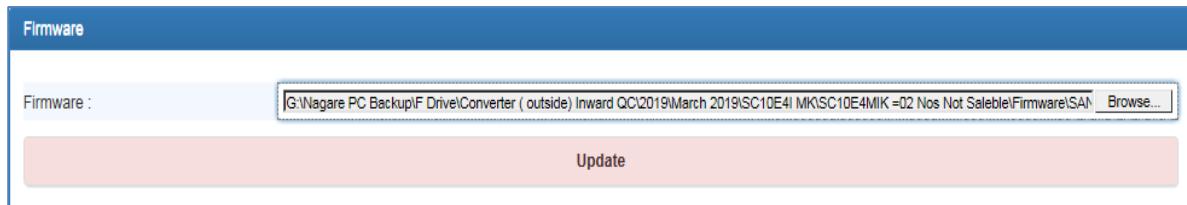
Firmware :	<input type="button" value="Browse..."/>
Update	

Firmware update: Click "Browse" to open file manager

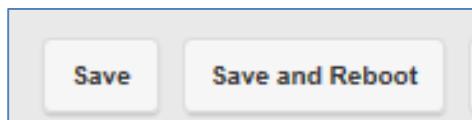
Click to select the file with specified version and click “Confirm” button.



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



Setup is successfully configured. Please click “Save” and go to other pages for configuration or click “Save and Restart” to run new configuration.



Network setup

4 Port Serial to Ethernet Converter

Log out
ver : 1.2.2a

System Network Serial Over TCP/IP

Wireless

Type : DISABLED

Ethernet

Mode : STATIC

IP Address : 192.168.106.215

Mask : 255.255.255.0

Gateway

Gateway : 61.219.142.1

DNS

DNS : 168.95.1.1

Buttons

Save Save and Reboot

Wireless section

Type: to select “INFRASTRUCTURE” or “ACCESS POINT”

4 Port Serial to Ethernet Converter

Log out
ver : 1.2.2a

System Network Serial Over TCP/IP

Wireless

Type : INFRASTRUCTURE
ACCESS POINT
DISABLED

Ethernet

Mode : STATIC

IP Address : 192.168.106.215

Mask : 255.255.255.0

Gateway

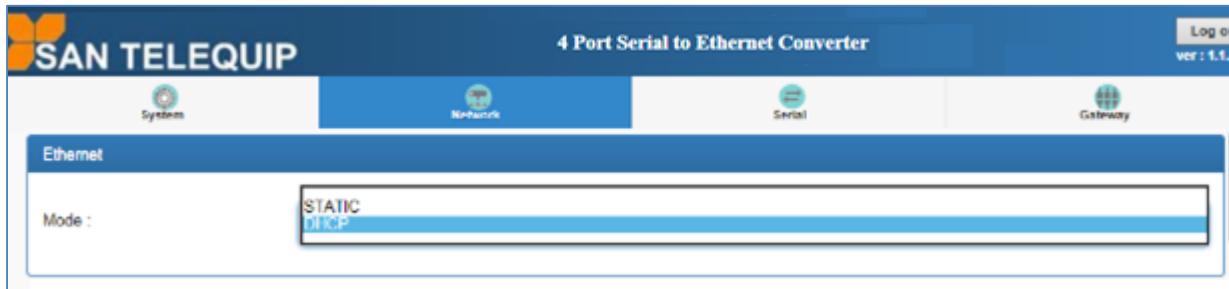
Gateway : 61.219.142.1

DNS

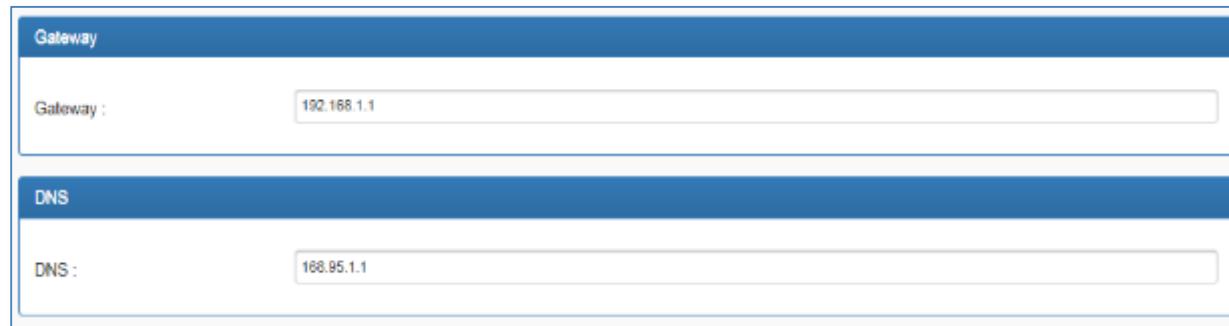
DNS : 168.95.1.1

Mode: “STATIC”: To input assigned IP address, Subnet Mask.

Ethernet: select STATIC or DHCP to assign IP address.



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



Setup is successfully configured. Please click "Save" and go to other pages for configuration or click "Save and Restart" to run new configuration.

[Save](#) [Save and Reboot](#)

Serial Port 1 to 4 Setting

Please clearly set each parameters from Serial 1 to Serial 4.



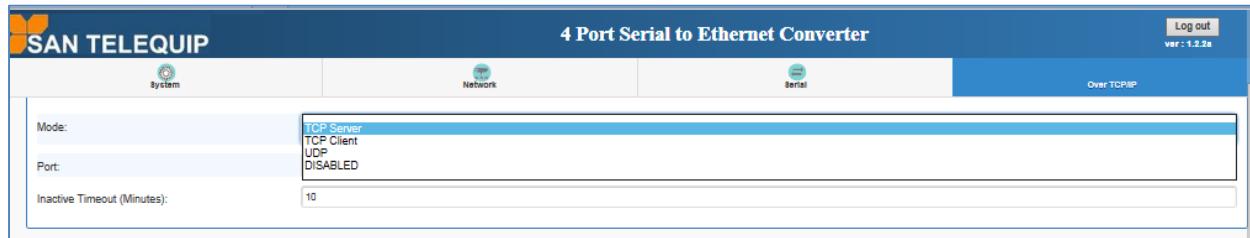
Baud Rate : 300 bps to 921.6K bps
 Parity : None, Even, Odd
 Data Bits : 5, 6, 7, 8
 Stop Bits : 1, 2
 Flow Control : None, XON/XOFF
 RxDelay(ms) : 0
 TxDelay(ms) : 0

Setup is successfully configured. Please click “Save” and go to other pages for configuration or click “Save and Restart” to run new configuration.

[Save](#) [Save and Reboot](#)

Converter Setup

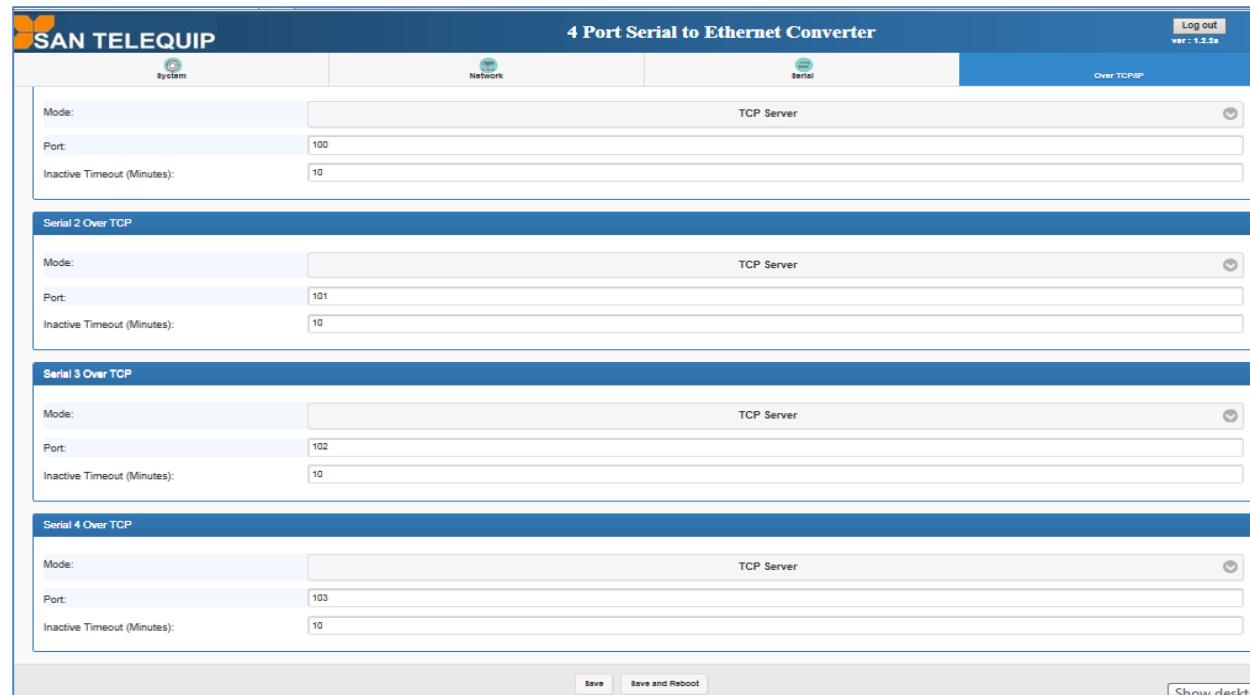
Three Modes are selectable. Please select Converter type as per your setup



There are “Over TCP/IP” 1, 2, 3, 4

TCP Server: In TCP Server Mode, SC10E4IK is configured with a unique Port combination on a TCP/IP network. In this case, SC10E4IK waits passively to be contacted by the device. After a connection is established, it can then proceed with data transmission.

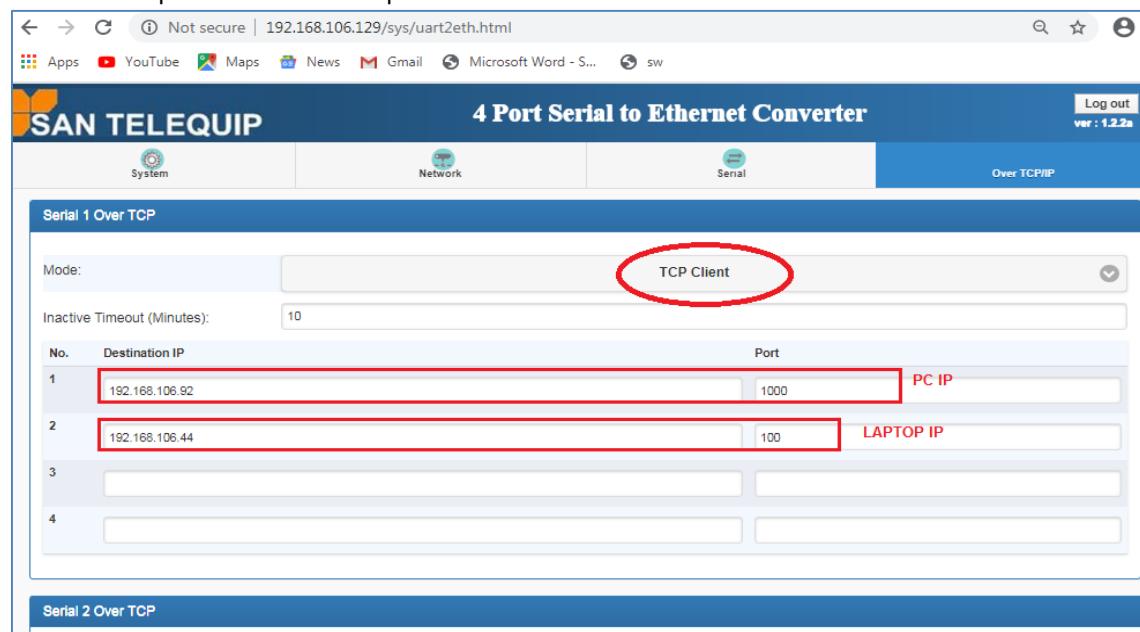
Port: Set the port number for data transmission.



TCP Client: In TCP Client Mode, device can establish a TCP connection with serve.

Destination IP : Set the IP address of host.

Port: Set the port number of data port.



Serial 1 Over TCP

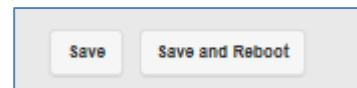
Mode: **TCP Client** (circled in red)

Inactive Timeout (Minutes): 10

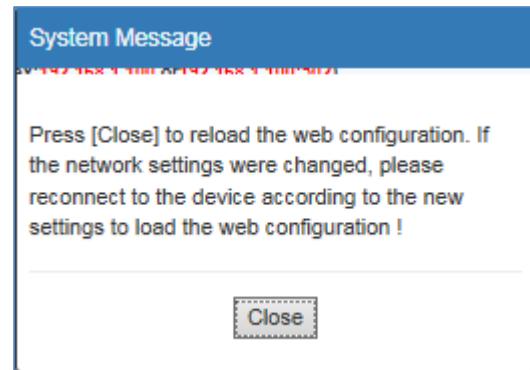
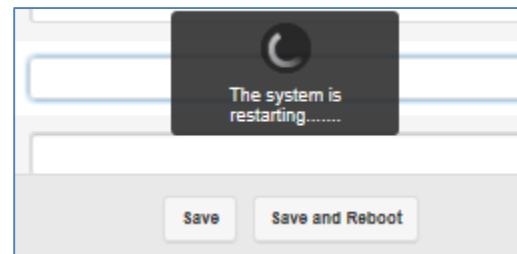
No.	Destination IP	Port	
1	192.168.106.92	1000	PC IP
2	192.168.106.44	100	LAPTOP IP
3			
4			

Serial 2 Over TCP

Now Setup is successfully configured. Please click "Save" and go to other pages for configuration or click "Save and Restart" to run new configuration.



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



Reset button (if needed)

Ensure power is on, press "Reset" button for over 20 seconds then release. SC10E4IM K will set configuration back to default.

