Installation and Configuration Quick Guide

SDS200

Serial Device Server

(1 Eth + 2 RS232 + 1 RS485)

Package Contents

Before installing your SDS200 Serial Server, please verify the kit contents as following.

1 x SDS200 Serial Device Server(3 terminal)
1 x power adapter(12V DC/1A)
1 x Quick Start Guide
1 x Ethernet Cable

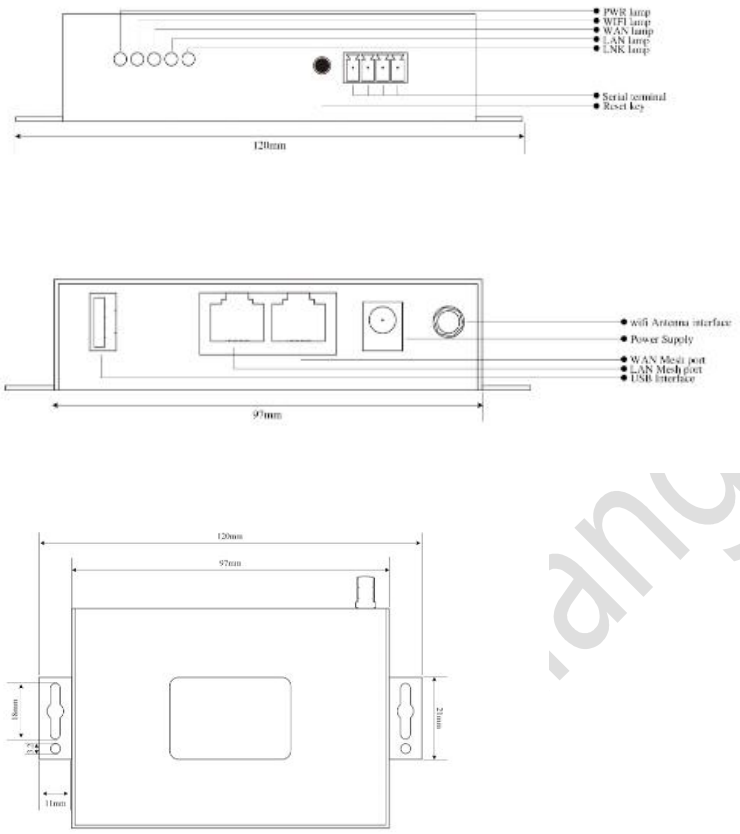
***If any of the above items is missing or damaged, please contact your sales representative.**

Environmental Requirements

Input voltage: 7.5V-32V(standard DC12V/1A)
Operating temperature: -30 to +70 °C
Storage temperature: -40 to 85°C
Relative humidity: < 95% (no condensation)

Hardware Introduction

1. Overview



2. LED Indicators

Name	Color	Status	Description
PWR	Green	On	Server is powered on
		Off	Server is powered off
Ethernet	Green	On, blinking	Link connection is working
		Off	Link connection is not working
WiFi	Green	On	Link connection is working
		Off	Link connection is not working
Com1	Green	On, blinking	Connect with data communication
		Off	Disconnect or fail to connect
Com2	Green	On, blinking	Connect with data communication
		Off	Disconnect or fail to connect

3. Reset Button

After powered up the server, press and hold the RST button for 10 seconds, and release the button to return the server to factory defaults.

Hardware Installation

1. Connect the Server to a Computer for configuration

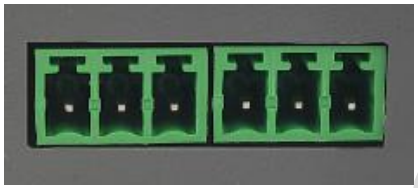
Connect an Ethernet cable to the Ethernet port of the Serial Server, and connect the other end of the cable to your computer.

2. Connect the Server to Serial Device/Terminal

This server provide 3 serial ports for connection:

COM1: One RS485 + One RS232 terminal block interface, when you use com1 connection, terminal block RS485 and RS232 couldn't use simultaneously, only one of them can be selected.

RS485			RS232		
G	B	A	GND	RXD	TXD
GND	Data Output	Data Input	GND	Data Input	Data Output



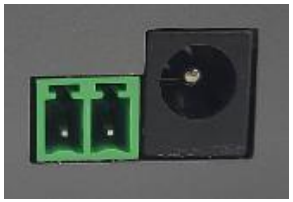
COM2: One RS232 DB9 interface

3. Mount the Server

The server can be placed on a desktop or mounted to a wall.
Use 2 pieces of drywall screws to mount the server with the wall mounting kit on the wall.

4. Power Supply

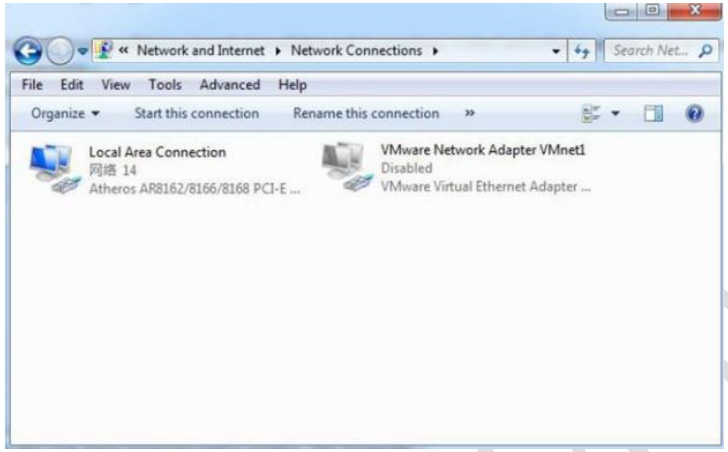
Connect the power adapter to the power input interface of the server. It provide two power supply interfaces and wide voltage input during 7.5V-32V DC.
Round hole jack interface and Terminal block interface:



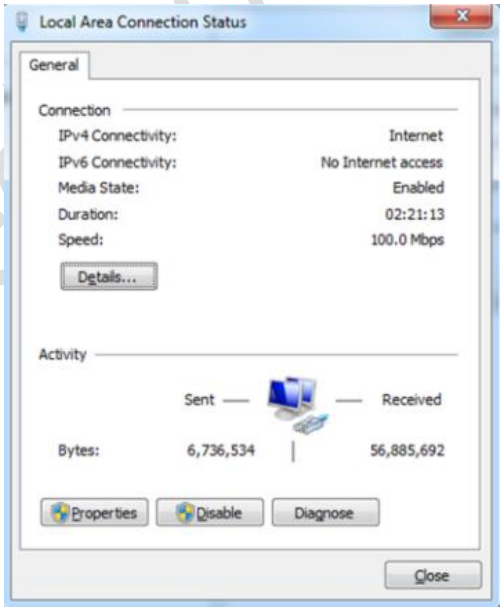
PC Configuration

Serial device server provide web browser access for parameter overview and configuration. Connect the Server Ethernet port to computer with a Ethernet cable, then configure PC static IP address manually within the same subnet of the server. Please refer to the steps below.
Here take **Windows 10** as example, and the configuration for windows system is similar.

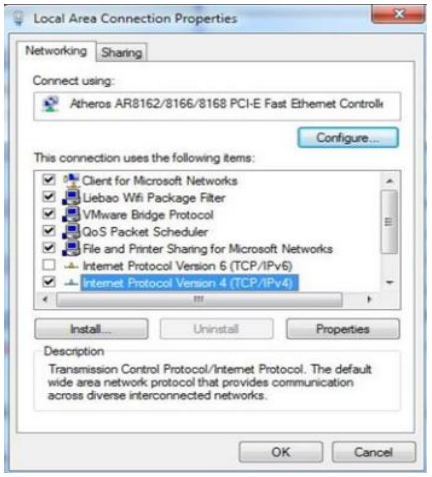
1. Click **Start** > **Control panel**, click **Network and Internet**, click **Network and Sharing Center**, click **Change Adapter Settings**, and then double-click **Local Area Connection (Ethernet)**.



2. Click **Properties** in the window of **Local Area Connection (Ethernet)** Status.

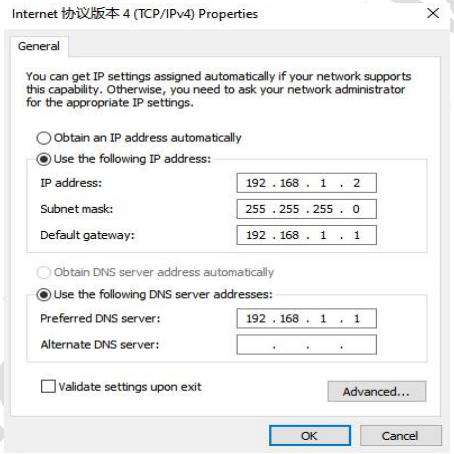


3. Choose **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



4. Configuring the IP address of PC.

Configured a static IP address manually within the same subnet of the server, serial server default IP address is 192.168.1.1, subnet mask is 255.255.255.0, so PC static IP address set as 192.168.1.xxx (XXX can be any number between 2～254).



5. Click **OK** to finish the configuration.

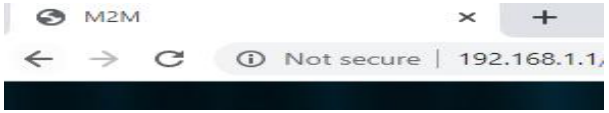
Serial Server Configuration

1. Log in the Server

To log in to the management page and view the configuration status of your server, please follow the steps below.

1) On your PC, open a web browser such as Internet Explorer, Google or Firefox etc.

2) From your web browser, type the IP address of the server into the address bar and press enter. The default IP address of the server is **192.168.1.1**, though the actual address may vary.



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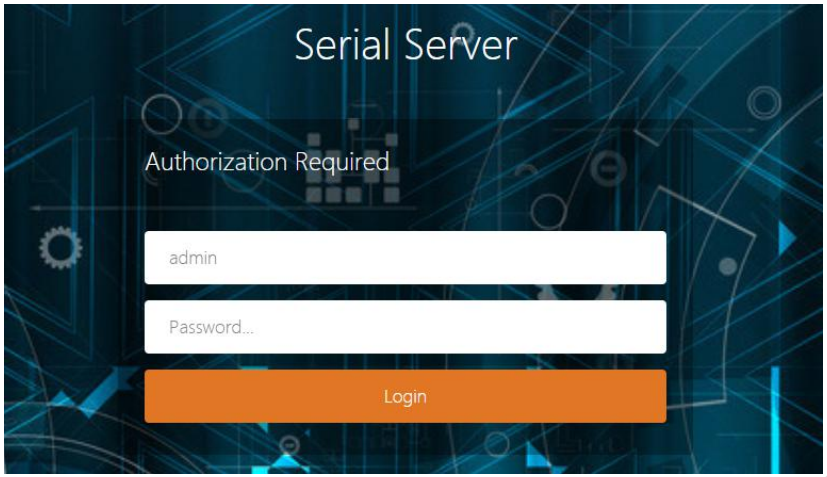
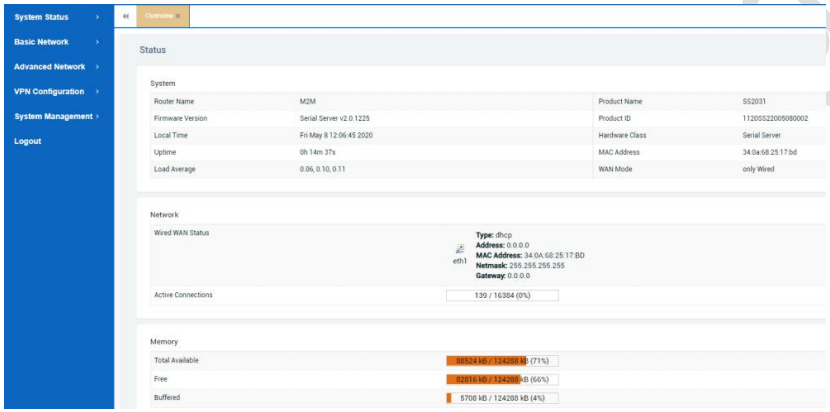
3) In the login page, enter the username and password, then click **Login**. The default username and password are "**admin**".



4) After logging in, the home page of the SDS200 Serial Server's web interface is displayed, for example.



2. Configure Wired Network Connection

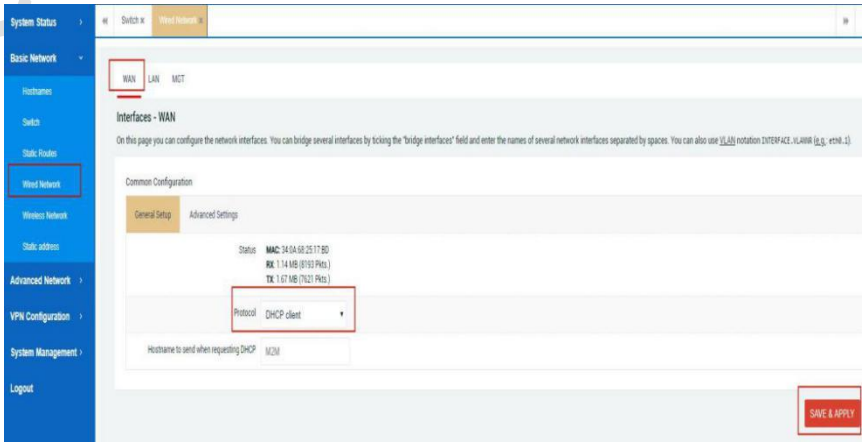
There are three methods to configure Wired Network connection of this server.

1) DHCP (Default)

DHCP is system default setting, serial server offer wired bridge connection to upper level serial server/router, so as to access internet network.

(**Note:** Serial server IP address must be different with upper level router/server gateway IP, otherwise it will cause network conflict)

Click **Basic Network > Wired Network > WAN,** choose "**DHCP client**" as the Protocol, don't change other default settings, click **SAVE & APPLY** button.



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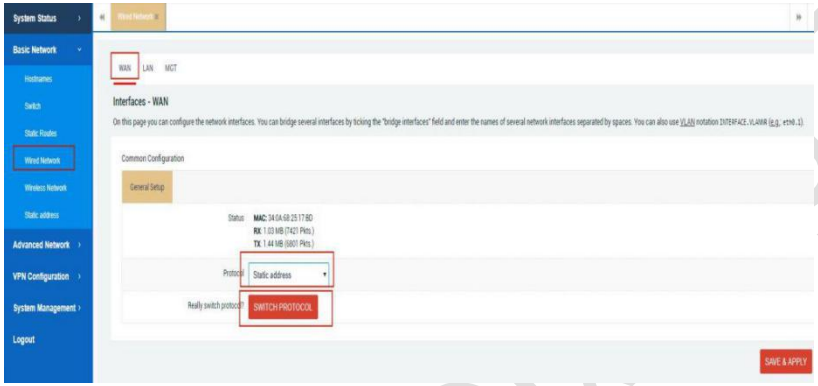
2) Static Address

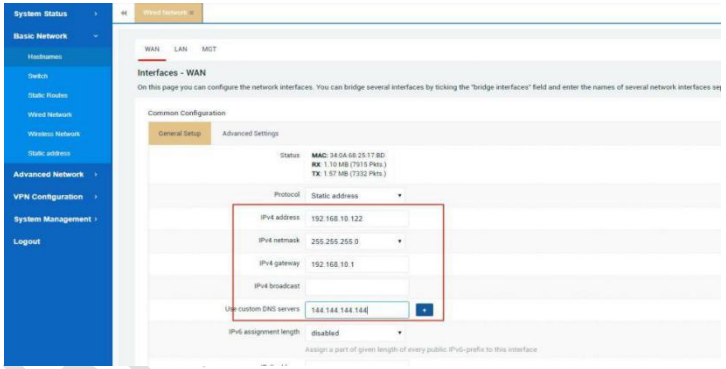
Serial server WAN port can manually set IP address to bridge connection to upper level serial server/router .

(**Note:** Serial server IP address must be different with upper level router/server gateway IP, otherwise it will cause network conflict)

Click **Basic Network > Wired Network > WAN**, choose "**Static address**" as the Protocol, click **SWITCH PROTOCOL** button



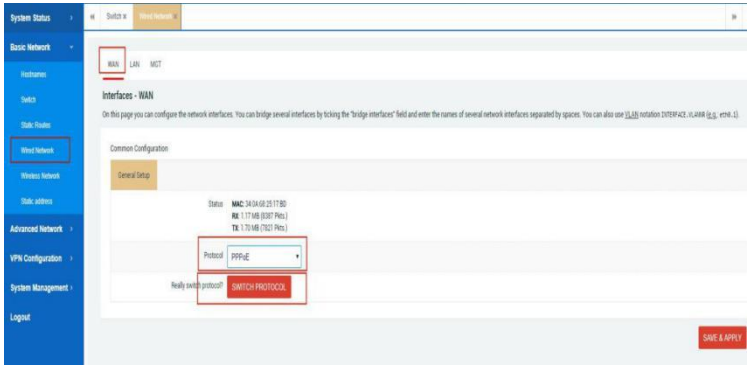
Fill in **IPv4 address**, **IPv4 netmask**, **IPv4 gateway**, **Use custom DNS servers** as below(Upper level gateway example at 192.168.10.1, actual setting refer to your upper level gateway IP), then click **SAVE & APPLY** button.



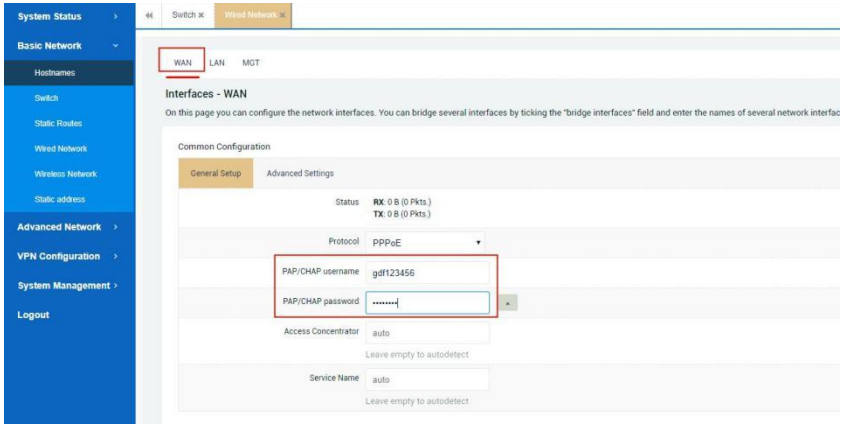
3) PPPoE dial up

This way is for the internet access that uses Internet Service Provider(ISP) account and password to dial up.

Click **Basic Network > Wired Network > WAN**, choose "**PPPoE**" as the Protocol, click **SWITCH PROTOCOL** button.



Fill in **Username** and **Password**, click **SAVE & APPLY** button.



3. Configure Smartlink

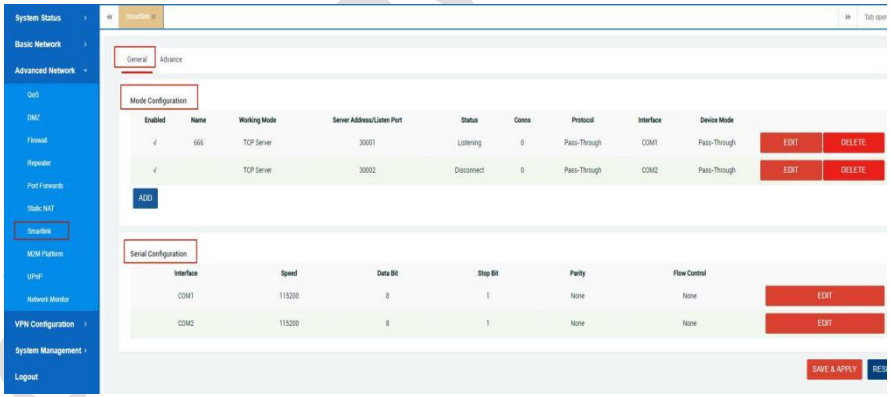
This Serial Device Server provide M2M (Machine to Machine) and IoT (Internet of Thing) connectivity, serial Data Transfer Unit(DTU) and serial to Ethernet function configuration in smartlink.

1) Default configuration of smartlink

Click **Advanced Network > Smartlink** , check the default configuration of smartlink in Serial Device Server as below:

Mode Configuration: Working Mode is TCP Server, Server Address/Listen Port is 30001/30002 (COM1/COM2), Protocol is “Pass-Through”(Transparent Transmission)

Serial Configuration: Speed(Baud rate) 115200, Data Bit 8, Stop Bit 1, Parity None, Flow Control None.

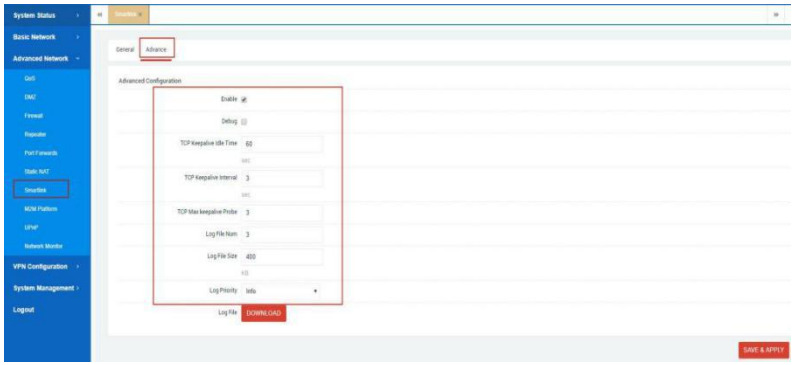


2) Configuration guide

When the the default setting in smartlink couldn’t meet your requirement, please follow below guide to configure smartlink parameter.

A) Advanced Configuration of Smartlink

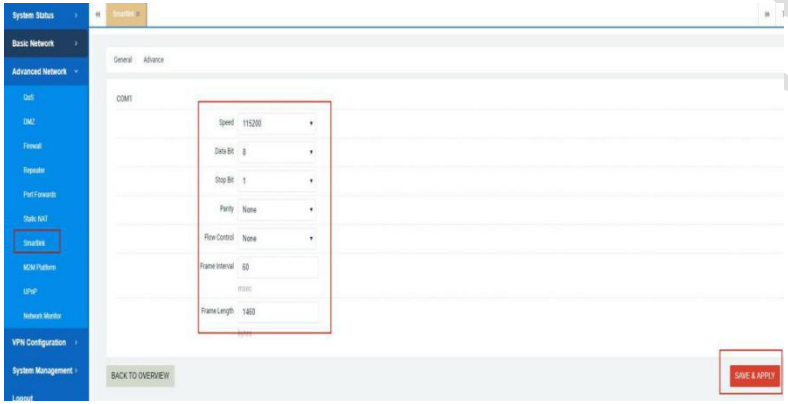
Click **Advanced Network > Smartlink > Advance**, it is the master switch and setting of smartlink, configure the parameter you want and click **SAVE & APPLY** button finally



B) Serial Configuration (COM1/COM2)

Click **Advanced Network > Smartlink > General > Serial Configuration,** click **EDIT** button of COM1/COM2, enter COM/Serial configuration, it can change the parameter of COM1/COM2 such as Speed (Baud rate), Data Bit, Stop Bit, Parity, Flow Control, Frame Interval, Frame Length.

(**Note:** Com1 for terminal block interface RS232/RS485, Com 2 for DB9 interface RS232)

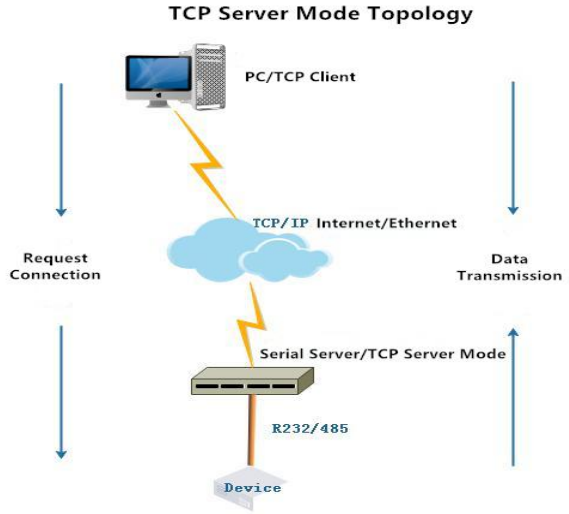


C) Mode Configuration

Serial server offer 9 modes to support customer working scenario, customer can select different working mode according to the actual demand. Following introduce each working mode and configuration:

- ***TCP Server Mode***

The serial server work as a TCP server and configures an IP port number, passively waiting for remote host to connect. When remote host initiates a connection request and establishes connection with the serial server, the remote host can achieve two-way transparent transmission with serial device through the network connection. Remote host can read or send data to a serial device simultaneously.



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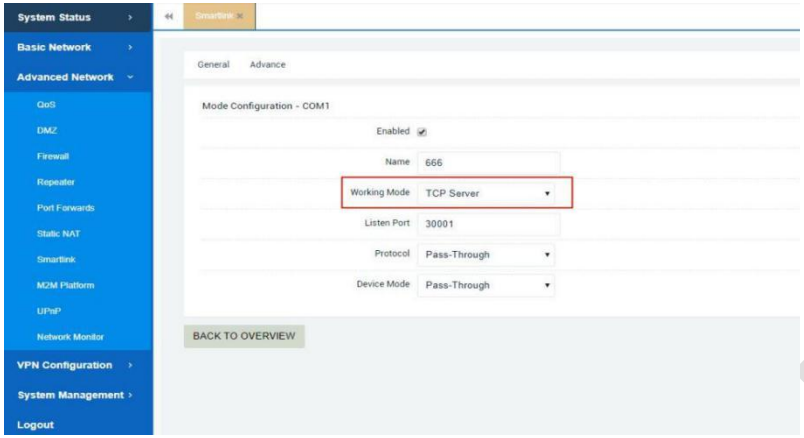
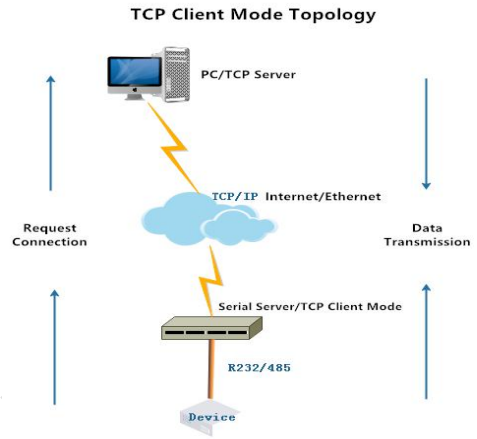
> Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **TCP Server** Working Mode**,** click **SAVE & APPLY** button

Note: COM1 is terminal block interface, COM2 is DB9 form interface

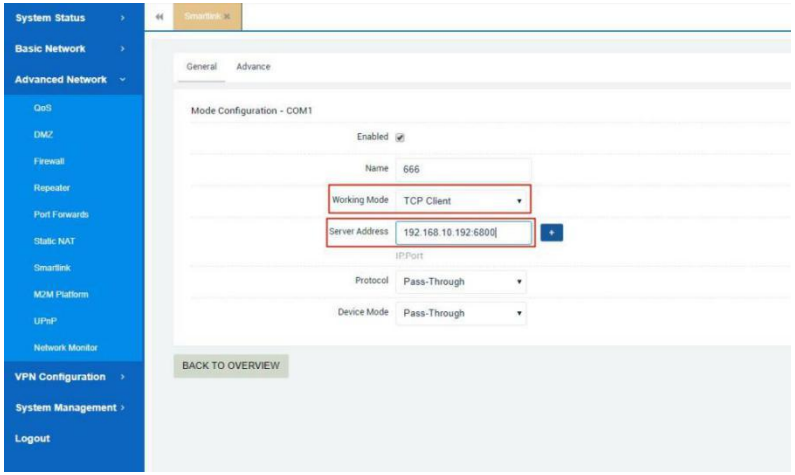


- ***TCP Client Mode***

Serial server host IP and port number actively establish a TCP protocol connection with remote PC, then serial server can achieve two-way transparent transmission with remote PC through the network connection. Remote PC can send and receive data to a serial device simultaneously.



> Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **TCP Client** Working Mode**,** fill in **Server Address (IP:Port),** click **SAVE & APPLY** button



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- ***UPD Server Mode***

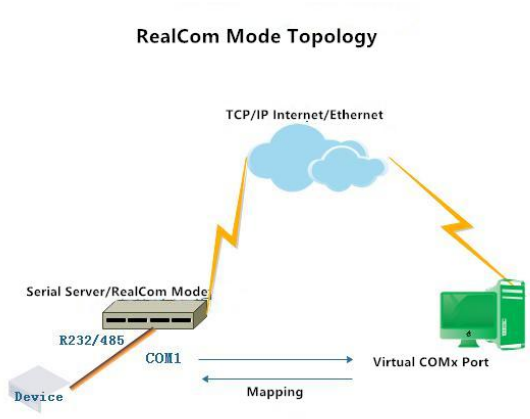
Similar with TCP Server Mode, the different is it use UDP protocol to build network connection

- ***UDP Client Mode***

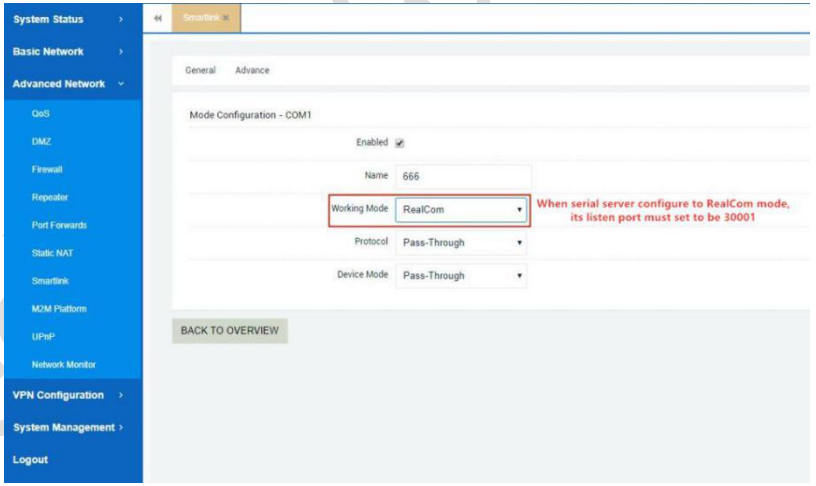
Similar with TCP Client Mode, the different is it use UDP protocol to build network connection

- ***RealCom Mode***

Serial server connect with virtual serial port of remote PC. Virtual serial tool establish transparent transmission between the host and serial device, then mapping server serial port to local virtual serial device, achieve transparent transmission between the real serial port and virtual serial port.

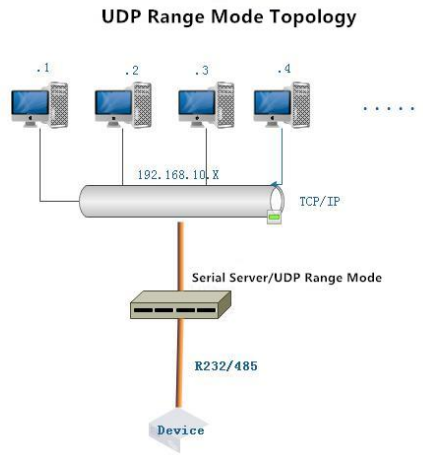


> Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **RealCom** Working Mode, click **SAVE & APPLY** button

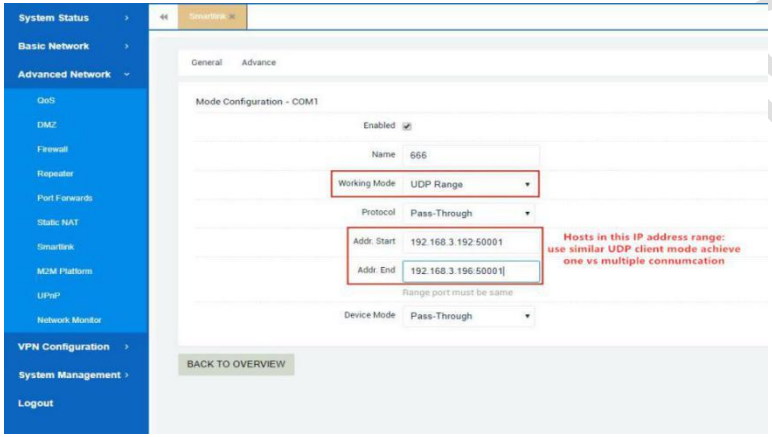


- ***UDP Range Mode***

Serial server establish connection with multiple hosts on the same network segment specified by the user through UDP protocol, it can achieve point-to-multiple data communication. Serial devices in UDP Range Mode can receive data from one or multiple hosts.

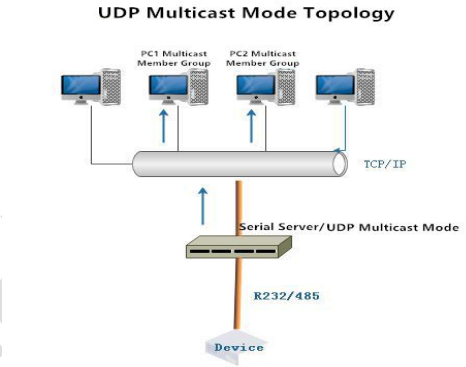


> Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **UDP Range** Working Mode, fill in **Address.Start/End**, click **SAVE & APPLY** button

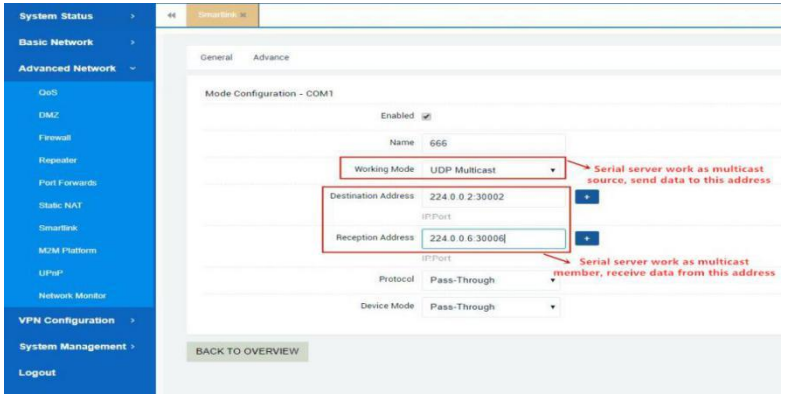


- ***UDP Multicast Mode***

Serial server use UDP protocol to unicast or multicast data to one/multiple hosts assigned by the user, it can receive unicast and multicast data from one/multiple devices.



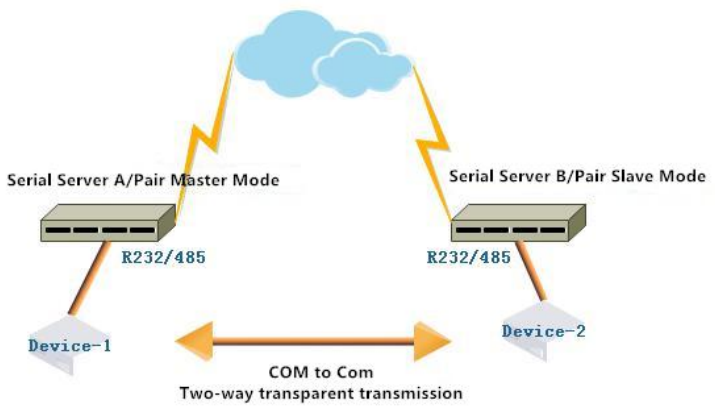
> Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **UDP Multicast** Working Mode, fill in **Destination Address/Reception Address (IP:Port)**, click **SAVE & APPLY** button



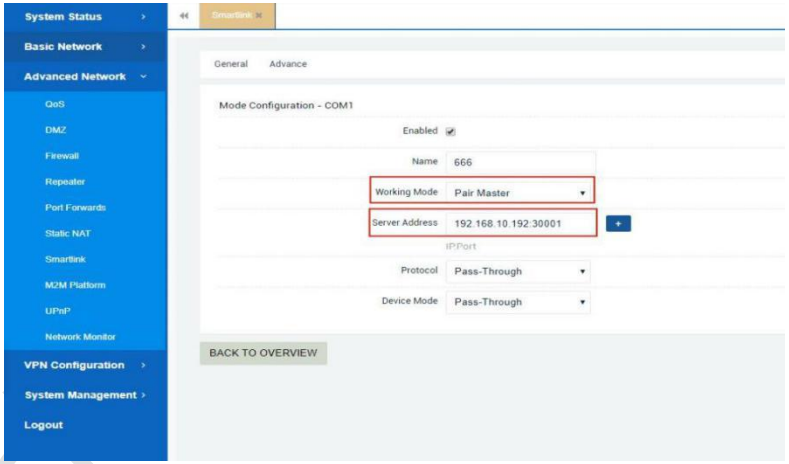
- ***Pair Master/Slave Mode***

This mode require two serial server to work together, one configured as Pair Slave Mode and the other configured as Pair Master Mode, it can break through serial data transmission distance limitation. One serial server work as server, the other work as client.

Pair (Master/Slave) Mode Topology



> Serial Server A: Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **Pair Master** Working Mode, fill in **Server Address(IP:Port)**, click **SAVE & APPLY** button



> Serial Server B: Click **Advanced Network > Smartlink > General > Mode Configuration >** click **EDIT,** Select **Pair Slave** Working Mode, fill in **Listen Port** , click **SAVE & APPLY** button