StarTech RS232 Serial Over IP Device Server User Manual

Contents

RS232 Serial Over IP Device Server

I23-SERIAL-ETHERNET shown
Actual product may vary from photos

User Manual

SKU#: I23-SERIAL-ETHERNET / I43-SERIAL-ETHERNET

For the latest information and specifications visit
www.StarTech.com/I23-SERIAL-ETHERNET / www.StarTech.com/I43-SERIAL-ETHERNET

Manual Revision: 06/21/2024

StarTech.com
Hard-to-find made easy®

Compliance Statements

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.
CAN ICES-3 (B)/NMB-3(B)

Use of Trademarks, Registered Trademarks, and other Protected Names and Symbols

This manual may make reference to trademarks, registered trademarks, and other protected names and/or symbols of third-party companies not related in any way to **StarTech.com**. Where they occur these references are for illustrative purposes only and do not represent an endorsement of a product or service by **StarTech.com**, or an endorsement of the product(s) to which this manual applies by the third-party company in question. Regardless of any direct acknowledgement elsewhere in the body of this document, **StarTech.com** hereby acknowledges that all trademarks, registered trademarks, service marks, and other protected names and/or symbols contained in this manual and related documents are the property of their respective holders.
PHILLIPS® is a registered trademark of Phillips Screw Company in the United States or other countries.

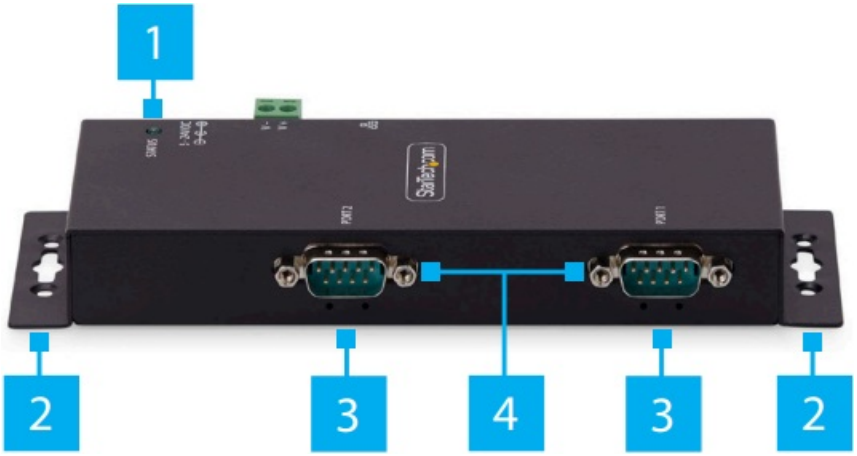
Safety Statements

Safety Measures

- Wiring terminations should not be made with the product and/or electric lines under power.
- Cables (including power and charging cables) should be placed and routed to avoid creating electric, tripping or safety hazards.

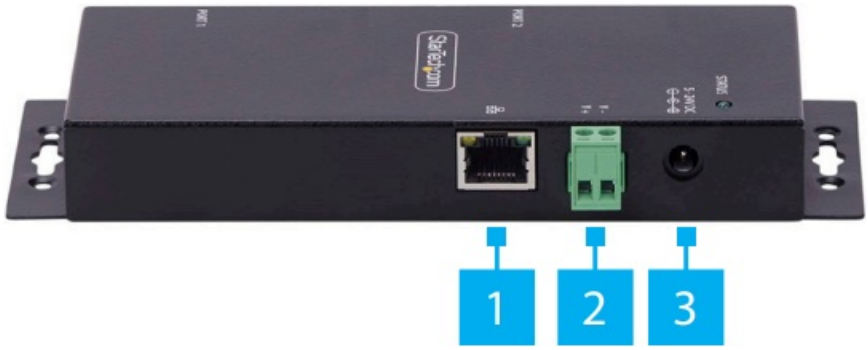
Product Diagram (I23-SERIAL-ETHERNET)

Front View



Component		Function
1	Status LED	• Refer to **LED Chart**
2	Wall Mounting Bracket Holes	• Used to secure the **Serial Device Server** to a **Wall** or **Other Surface** using appropriate **Mounting Hardware**
3	Serial Communication LED Indicators	• Refer to **LED Chart**
4	DB-9 Serial Ports	• Connect an **RS-232 Serial Device**
5	DIN Rail Mounting Holes (Not Shown)	• Four **Holes** on the bottom of the **Serial Device Server** • Used to secure the included **DIN Rail Mounting Kit** to the **Serial Device Server**

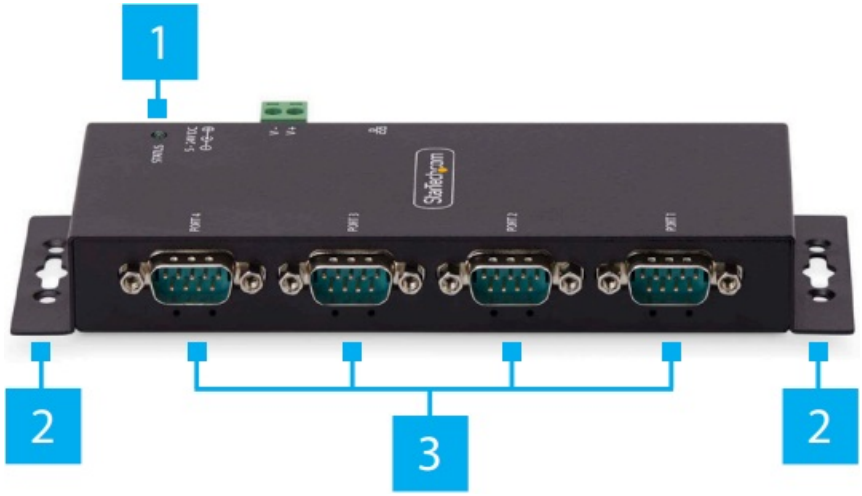
Rear View



Component		Function
1	Ethernet Port	• Connect an **Ethernet Cable** to the **Serial Device Server** • Supports 10/100Mbps • **Link/Activity LEDs:** Refer to **LED Chart**
2	DC 2-Wire Terminal Block Power Input	• Connect a **+5V~24V DC Power Source** • A minimum of **5V 3A (15W)** is required
3	DC Power Input	• Connect the included **Power Adapter**

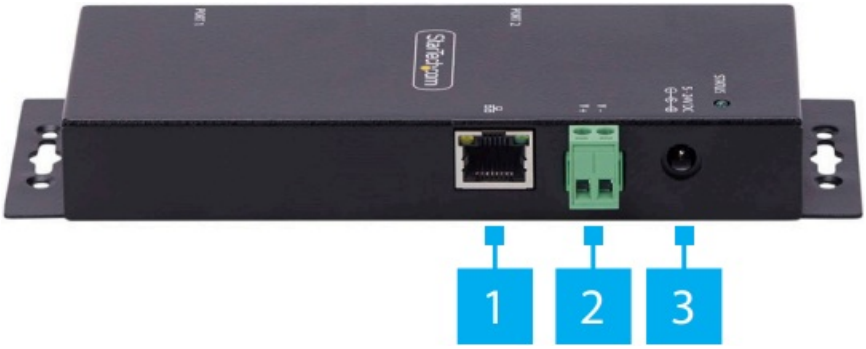
Product Diagram (I43-SERIAL-ETHERNET)

Front View



Component		Function
1	Status LED	• Refer to **LED Chart**
2	Wall Mounting Bracket Ho les	• Used to secure the **Serial Device Server** to a **Wall** or **Other Surface** using appropriate **Mounting Hardware**
3	DB-9 Serial Ports	• Connect an **RS-232 Serial Device**
4	Serial Communication LE D Indicators (Not Labelled)	• Below each **DB-9 Port** • Refer to **LED Chart**
5	DIN Rail Mounting Holes (Not Shown)	• Four **Holes** on the bottom of the **Serial Device Server** • Used to secure the included **DIN Rail Mounting Kit** to the **Serial Device Ser ver**

Rear View



Component		Function
1	Ethernet Port	• Connect an **Ethernet Cable** to the **Serial Device Server** • Supports 10/100Mbps • **Link/Activity LEDs:** Refer to **LED Chart**
2	DC 2-Wire Terminal Block Power Input	• Connect a **+5V~24V DC Power Source** • A minimum of **5V 3A (15W)** is required
3	DC Power Input	• Connect the included **Power Adapter**

Product Information

Package Contents

- Serial Over IP Device Server x 1
- DIN Rail Kit x 1
- Din Rail Screws x 2
- Universal Power Adapter x 1
- Quick-Start Guide x 1

Installation

Default Settings

Out of the Box Settings

- IP Address: DHCP
- Password: admin
- Network Protocol Mode: Telnet Server (RFC2217)
- Serial Mode: RS-232

Factory Default Button Settings

- IP Address: 192.168.5.252
- Password: admin
- Network Protocol Mode: Telnet Server (RFC2217)
- Serial Mode: RS-232

Hardware Installation

(Optional) Configure DB-9 Pin 9 Power

By default, the **Serial Device Server** is configured with the **Ring Indicator (RI)** on **Pin 9**, but it can be changed to **5V DC**. To change the **DB9 Connector Pin 9** to 5V DC output, please follow these steps:

WARNING! Static Electricity can severely damage electronics. Ensure that you are adequately Grounded before you open the device housing or touch the change the jumper. You should wear an Anti-Static Strap or use an Anti-Static Mat when opening the housing or changing the jumper. If an Anti-Static Strap isn't available, discharge any built-up static electricity by touching a large Grounded Metal Surface for several seconds.

1. Ensure the **Power Adapter** and all **Peripheral Cables** are disconnected from the **Serial Device Server**.
2. Using a **Phillips Screwdriver**, remove the **Screws** from the **Housing**.
   Note: Save these to re-assemble the housing after changing the jumper.
3. Using both hands, carefully open the **Housing** to expose the **Circuit Board** inside.
4. Identify **Jumper #4 (JP4)**, located inside the **Housing** next to the **DB9 Connector**.
5. Using a pair of fine-point tweezers or a small flat-head screwdriver, carefully move the jumper to the **5V** position.
6. Re-assemble the **Housing**, ensuring the **Housing Screw Holes** align.
7. Replace the **Housing Screws** removed in **Step 3**.

(Optional) Mounting The Serial Device Server With DIN Rail

1. Align the **DIN Rail Bracket** with the **DIN Rail Mounting Holes** on the bottom of the **Serial Device Server**.
2. Using the included **DIN Rail Mounting Screws** and a **Phillips Head Screwdriver**, secure the **DIN Rail Kit** to the **Serial Device Server**.
3. Insert the **DIN Rail Mounting Plate** at an angle starting from the **Top**, then **Push** it against the **DIN Rail**.

(Optional) Mounting The Serial Device Server To A Wall Or Other Surface

1. Secure the **Serial Device Server** to the desired **Mounting Surface** using the appropriate **Mounting Hardware** (i.e., wood screws) through the **Wall Mounting Bracket Holes**.

Install the Serial Device Server

1. Connect the included **Power Supply** or a **5V~24V DC Power Source** to the **Serial Device Server**.
   Note: The Serial Device Server can take up to 80 seconds to startup.
2. Connect an **Ethernet Cable** from the **RJ-45 Port** of the **Serial Device Server** to a **Network Router**, **Switch**, or **Hub**.
3. Connect an **RS-232 Serial Device** to the **DB-9 Port** on the **Serial Device Server**.

Software Installation

1. Navigate to:

   www.StarTech.com/I23-SERIAL-ETHERNET

   or

   www.StarTech.com/I43-SERIAL-ETHERNET
2. Click the **Drivers**/**Downloads** tab.
3. Under **Driver(s**), download the **Software Package** for **Windows Operating System**.
4. Extract the contents of the downloaded .zip file.
5. Run the extracted executable file to start the software installation.
6. Follow the on screen prompts to complete the installation.

Operation

Note: The devices support features which secure and protect the devices and its configuration using standard/best practices but as these are intended to be used in controlled environments using proprietary software (virtual COM port) and open communication standards (Telnet, RFC2217) which do not encrypt the data they should not be exposed to an unsecure connection.

Telnet

Using Telnet to send or receive data works with any operating system or host device that supports the Telnet protocol. The software for the connected serial peripheral device may require a COM Port or mapped hardware address. To configure this, the StarTech.com Device Server Manager is required, which is only supported on Windows operating systems.

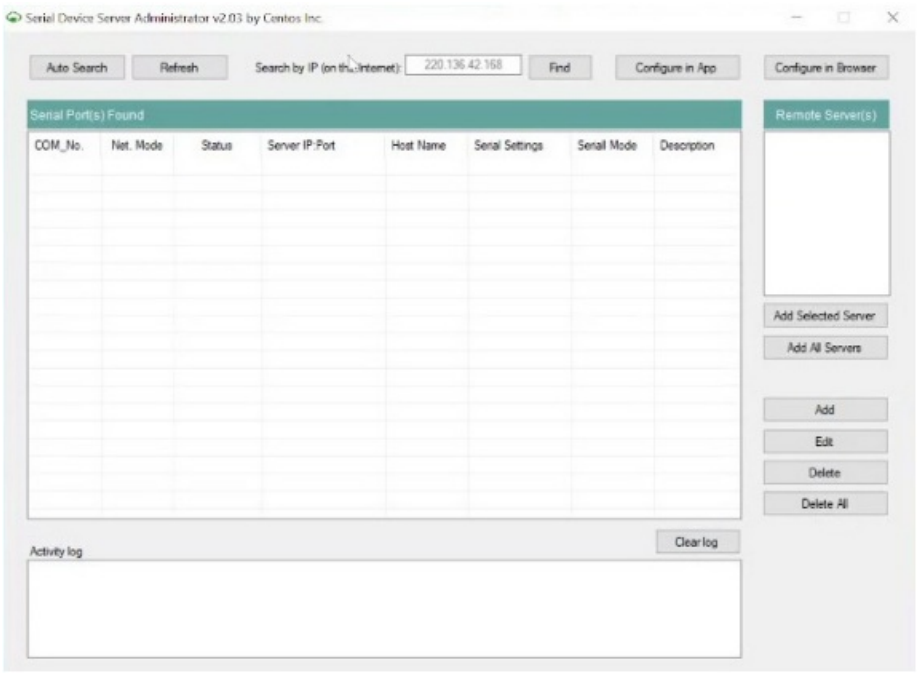
To communicate with the connected **Serial Peripheral Device** via Telnet, perform the following:

1. Open a terminal, command prompt, or third-party software that connects to a Telnet server.
2. Type the **IP Address** of the **Serial Device Server**.

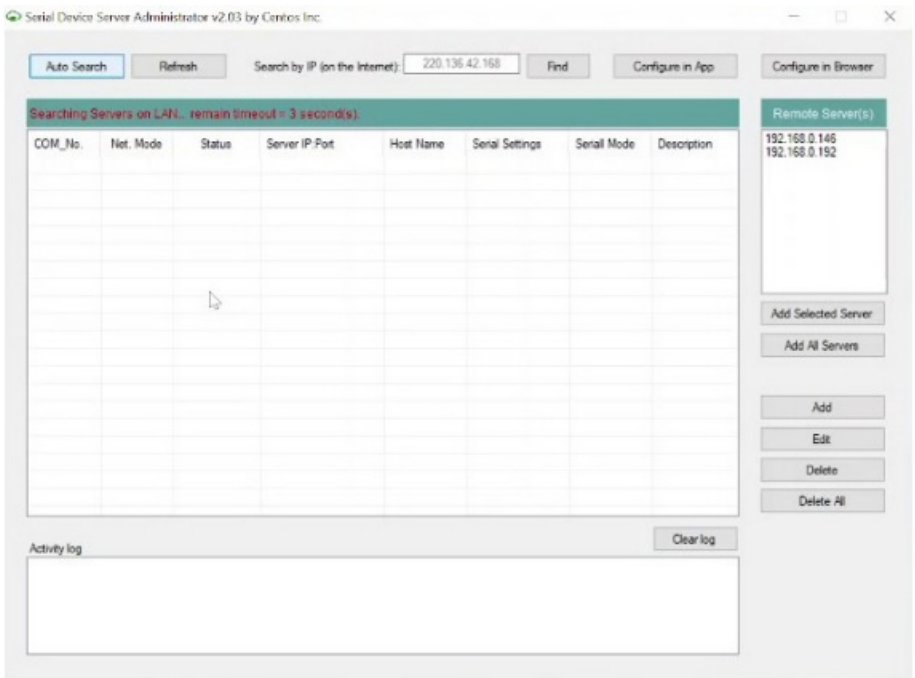
   Note: This can be found using the StarTech.com Device Server Manager for Windows, or by viewing the connected devices on the local network router.
3. Connect to the **Serial Device Server**.
4. Type in the terminal, command prompt, or third-party software to send commands/data to the **Serial Peripheral Device**.

Use the Software to Discover the Serial Device Server

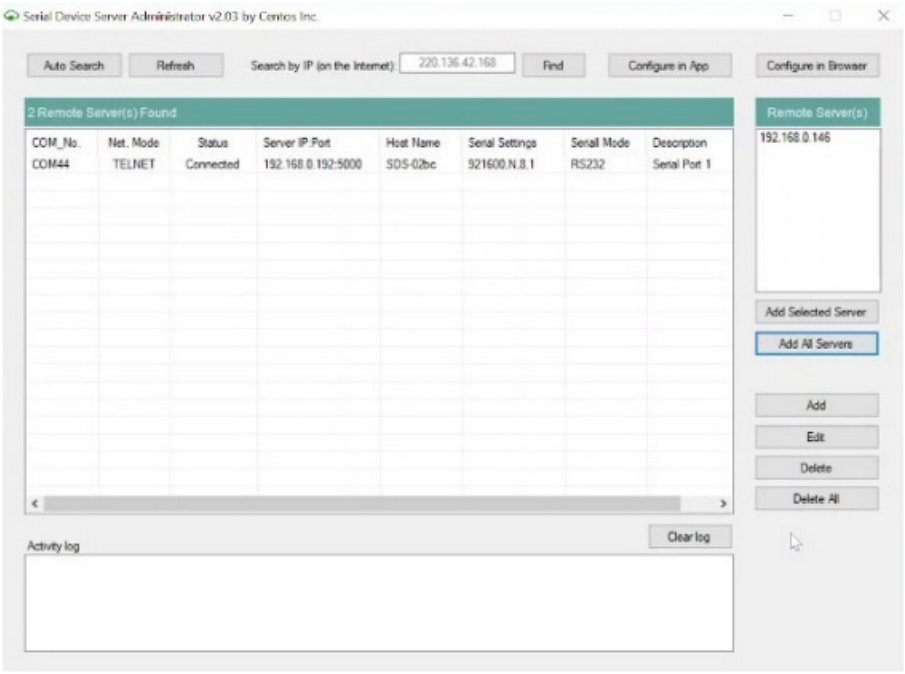
1. Launch the StarTech.com Device Server Manager.



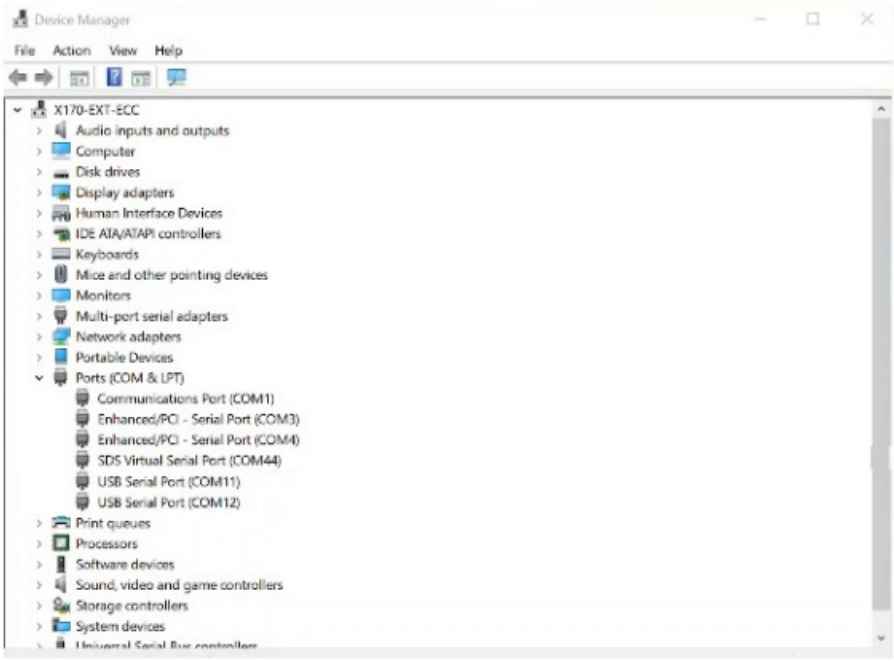
2. Click **Auto Search** to initiate the process of discovering **Serial Device Servers** on the local network.
3. Discovered **Serial Device Servers** will appear in the “Remote Server(s)” list in the right pane.



4. Select “Add Selected Server” to add a specific **Serial Device Server** or “Add All Servers” to add all discovered **Serial Device Servers**.



5. The **Serial Device Servers** will be mounted in Device Manager as “SDS Virtual Serial Port” with an associated COM port number.



Configure the Serial Port Settings

Available Serial Port Options

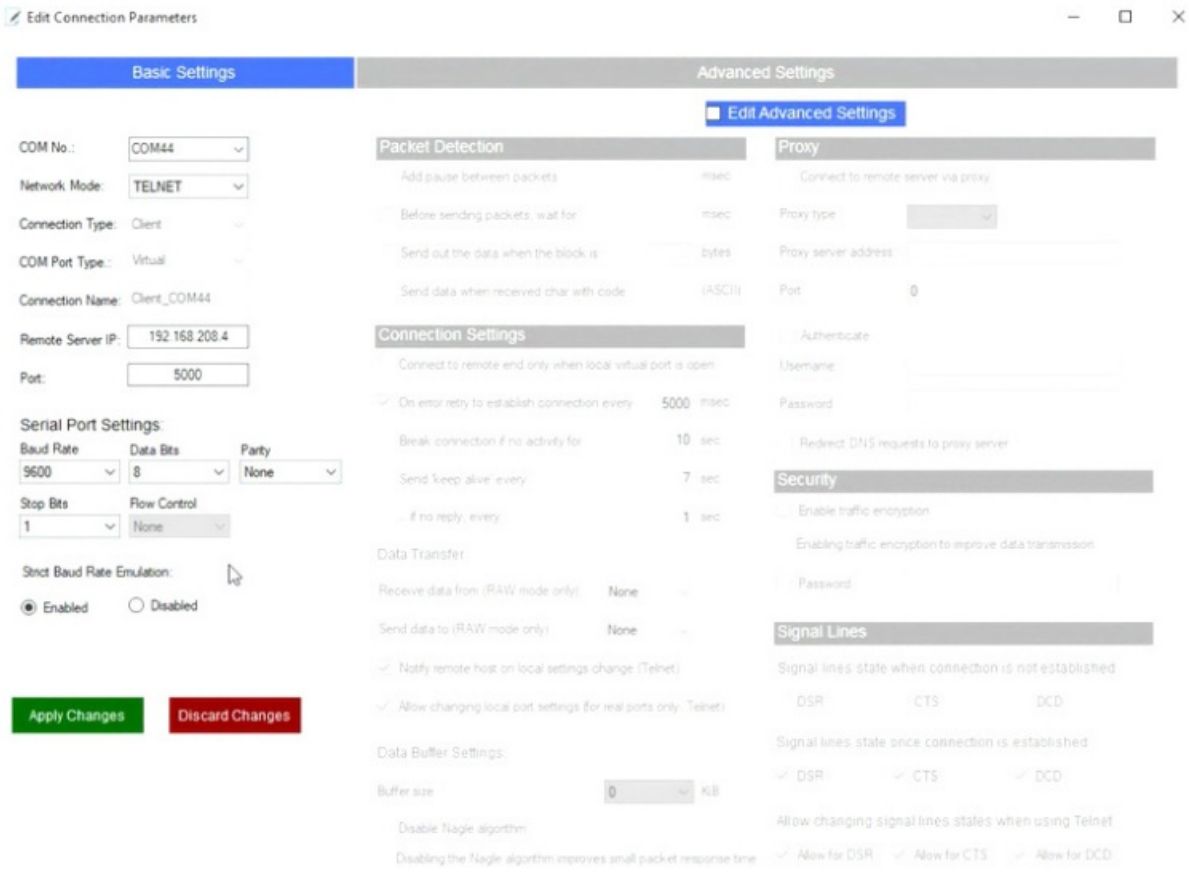
Setting	Available Options
Baud Rate	• 300 • 600 • 1200 • 1800 • 2400 • 4800 • 9600 • 14400 • 19200 • 38400 • 57600 • 115200 • 230400 • 921600
Data Bits	• 7 • 8
Parity	• None • Even • Odd • Mark • Space
Stop Bits	• 1 • 2
Flow Control	• Hardware • Software • None

In the Software

1. Open the **StarTech.com** Device Server Manager.
2. Select “Configure in App” or double click the **Serial Device Server** in the list.
3. When the **Settings Window** opens, use the drop down menus to change Baud Rate, Data Bits, COM Port Number, and more.

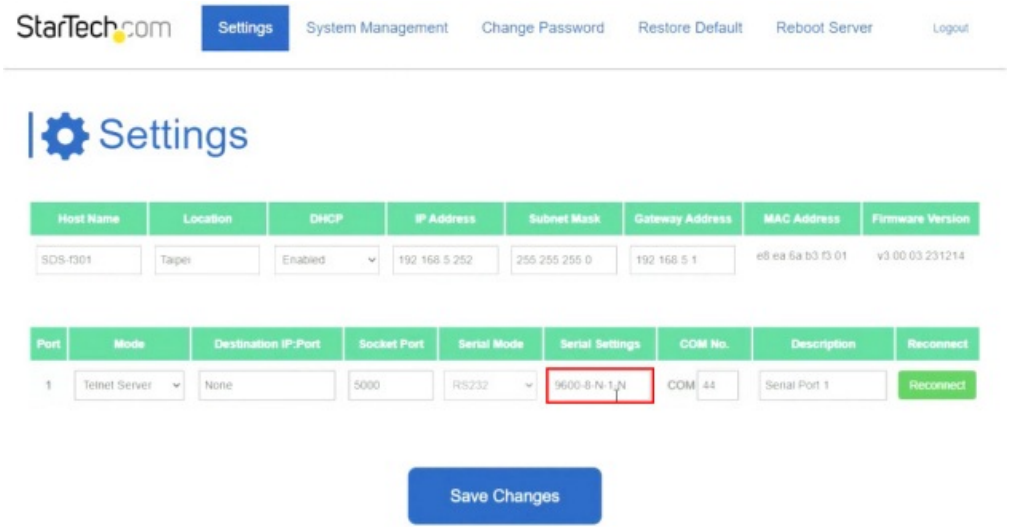
   Note: If changing the COM Port Number, see “Changing COM Port or Baud Rate in Windows” on Page 15.

4. Select “Apply Changes” to save the settings.

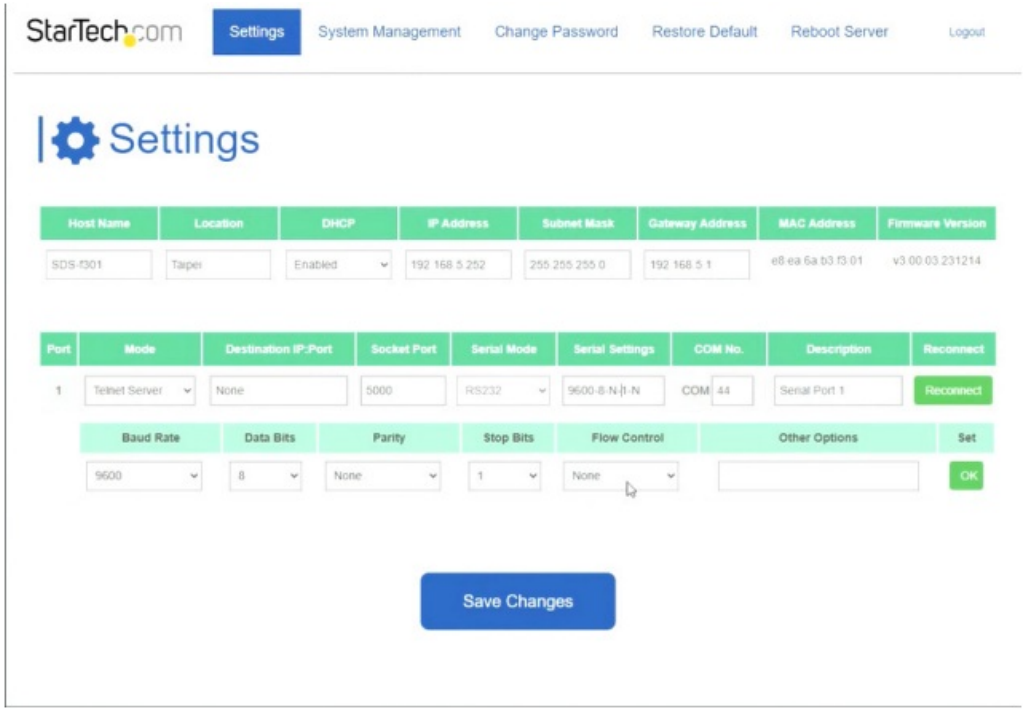


In the Web Interface

1. Open a web browser.
2. Type the IP address of the **Serial Device Server** into the address bar.
3. Enter the password and select “Login”. See Default Password on Page 6.
4. Select the “Serial Settings” to expand the options.
5. Use the drop down menus to change Baud Rate, Data Bits, COM Port Number, and more.



6. Under “Set”, select “OK” to set the serial settings to the port.



7. Select “Save Changes” to save the settings to the **Serial Device Server**.

Changing COM Port or Baud Rate in Windows

To change the **COM Port** number or **Baud Rate** in **Windows**, the device must be deleted and re-created in the **StarTech.com** Device Server Manager.

Note: This is not necessary when using macOS or Linux which use Telnet to communicate with the Serial Device Server and do not map the device to a COM port or hardware address.

1. Open a web browser and navigate to the IP address of the **Serial Device Server** or click “Configure in Browser” in the **StarTech.com** Device Server Manager.
2. Enter the **Serial Device Server** password.
3. Under “COM No.”, change it to the desired **COM Port** number or change the **Baud Rate** to match the **Baud Rate** of the connected **Serial Peripheral Device**.
   Note: Ensure the COM port number you assign is not already in use by the system, otherwise it will cause a conflict.
4. Click **Save Changes**.
5. In the **StarTech.com** Device Server Manager, click the **Serial Device Server** which should still have the old **COM Port** number, then click Delete.
6. Re-add the **Serial Device Server** using “Add Selected Server” to add a specific **Serial Device Server** or “Add All Servers” to add all discovered **Serial Device Servers**.
7. The **Serial Device Server** should now be mapped to the new **COM Port** number.

LED Chart

LED Name		LED Function
1	Link/Activity LEDs (RJ-45)	• **Steady Green:** Indicates Ethernet connection has established, but no data activity • **Blinking Green:** Indicates data activity • **Off:** Ethernet is not connected

2	Serial Port LEDs (DB-9)	• **Blinking Green:** Indicates serial data is being transmitted and/or received
		  ◦ **Right LED:** Transmit Data Indicator
		  ◦ **Left LED:** Receive Data Indicator
		• **Off:** No serial data is being transmitted or received

3	Power/Status LED	• **Steady Green:** Power is On • **Off:** Power is Off • **Blinking Green:** Restoring to Factory Defaults

Warranty Information

This product is backed by a two-year warranty.

For further information on product warranty terms and conditions, please refer to **www.startech.com/warranty**.

Limitation of Liability

In no event shall the liability of **StarTech.com** Ltd. and **StarTech.com** USA LLP (or their officers, directors, employees or agents) for any damages (whether direct or indirect, special, punitive, incidental, consequential, or otherwise), loss of profits, loss of business, or any pecuniary loss, arising out of or related to the use of the product exceed the actual price paid for the product.

Some states do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.

Hard-to-find made easy. At StarTech.com, that isn't a slogan.
It's a promise.

StarTech.com is your one-stop source for every connectivity part you need. From the latest technology to legacy products — and all the parts that bridge the old and new — we can help you find the parts that connect your solutions.

We make it easy to locate the parts, and we quickly deliver them wherever they need to go. Just talk to one of our tech advisors or visit our website. You'll be connected to the products you need in no time.

Visit www.**StarTech.com** for complete information on all **StarTech.com** products and to access exclusive resources and time-saving tools.

StarTech.com is an ISO 9001 Registered manufacturer of connectivity and technology parts. **StarTech.com** was founded in 1985 and has operations in the United States, Canada, the United Kingdom and Taiwan servicing a

worldwide market.

Reviews

Share your experiences using **StarTech.com** products, including product applications and setup, what you love about the products, and areas for improvement.

StarTech.com Ltd.
45 Artisans Crescent
London, Ontario
N5V 5E9
Canada

StarTech.com LLP
4490 South Hamilton Road
Groveport, Ohio
43125
U.S.A.

StarTech.com Ltd.
Unit B, Pinnacle 15
Gowerton Road Brackmills,
Northampton
NN4 7BW
United Kingdom

StarTech.com Ltd.
Siriusdreef 17-27
2132 WT Hoofddorp
The Netherlands

FR: fr.startech.com
DE: de.startech.com
ES: es.startech.com
NL: nl.startech.com
IT: it.startech.com
JP: jp.startech.com

To view manuals, videos, drivers, downloads, technical drawings, and more visit **www.startech.com/support**

Documents / Resources

	**StarTech RS232 Serial Over IP Device Server** [pdf] User Manual I23-SERIAL-ETHERNET, I43-SERIAL-ETHERNET, RS232 Serial Over IP Device Server, RS232 Serial, RS232 Serial IP Device Server, Over IP Device Server, IP Device Server, IP Server, Device Server, Server

References

- **User Manual**