



*RLH Industries, Inc.*



# Serial Ethernet Gateway

## Software Manual



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# 1 Getting Started

## 1.1 About

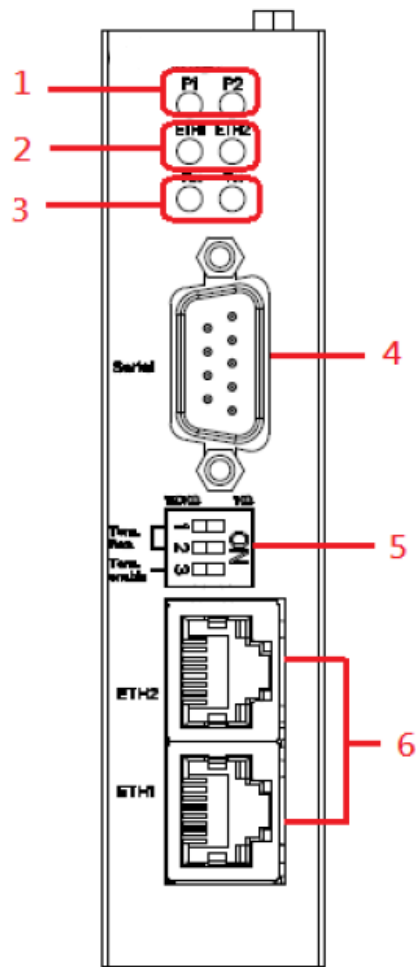
The SEG-12E-1 is an Industrial-grade Serial Gateway featuring one RS-232/422/485 serial port and two LAN ports, designed to convert data between serial and Ethernet networks. It offers standard device server capabilities, including TCP/IP interfaces and multiple operation modes such as Virtual COM, Serial Tunnel, TCP Server, TCP Client, and UDP.

Configuration is managed through the SEG-Tool Windows utility, Web interface, or CLI via SSL. The SEG-Tool enables users to configure multiple devices and establish Virtual COM port mappings.

For enhanced reliability, the SEG-12E-1 can simultaneously transfer data to up to five host PCs, ensuring redundancy in the event of a network failure or host PC issue. To protect critical data, the device also supports HTTPS, SSH, and SSL encryption for secure communications.

# 1.2 Hardware

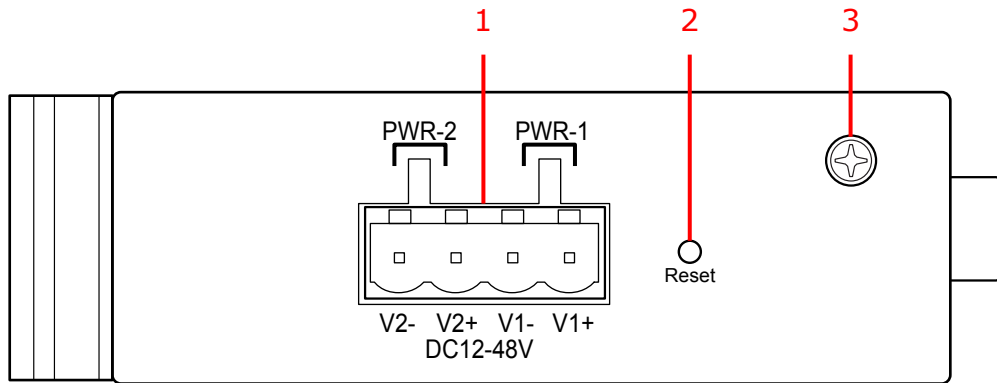
## 1.2.1 Front Panel



Front Panel

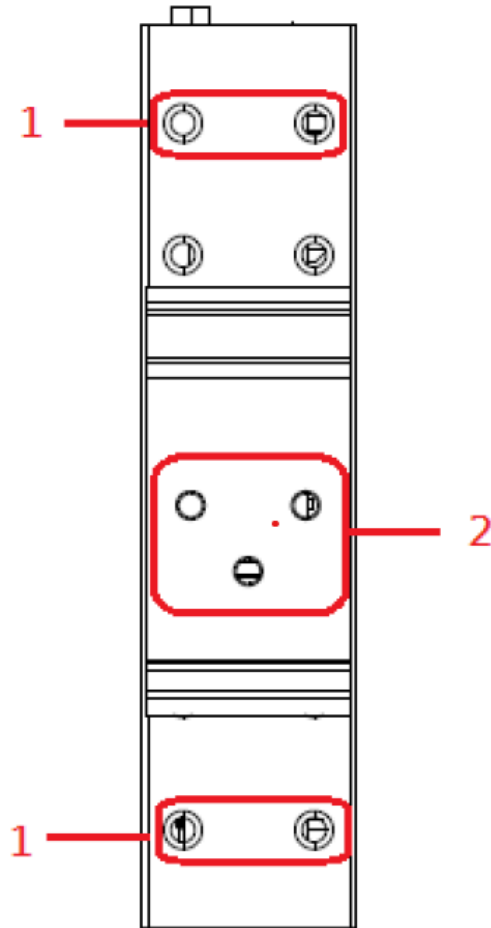
Label	Description
1	Power status (Green)
2	Ethernet port is linked (Green) (blinks for data)
3a (RX)	Receiving data from serial port (Amber)
3b (TX)	Transmitting data out serial port (Green)
4	DB9 serial port
5	RS 422/485 termination
6	Ethernet ports

## 1.1.2 Top



Label	Description
1	Terminal block for power. (12 to 48 VDC)
2	Reset default button (hold for 5 seconds)
3	Grounding point

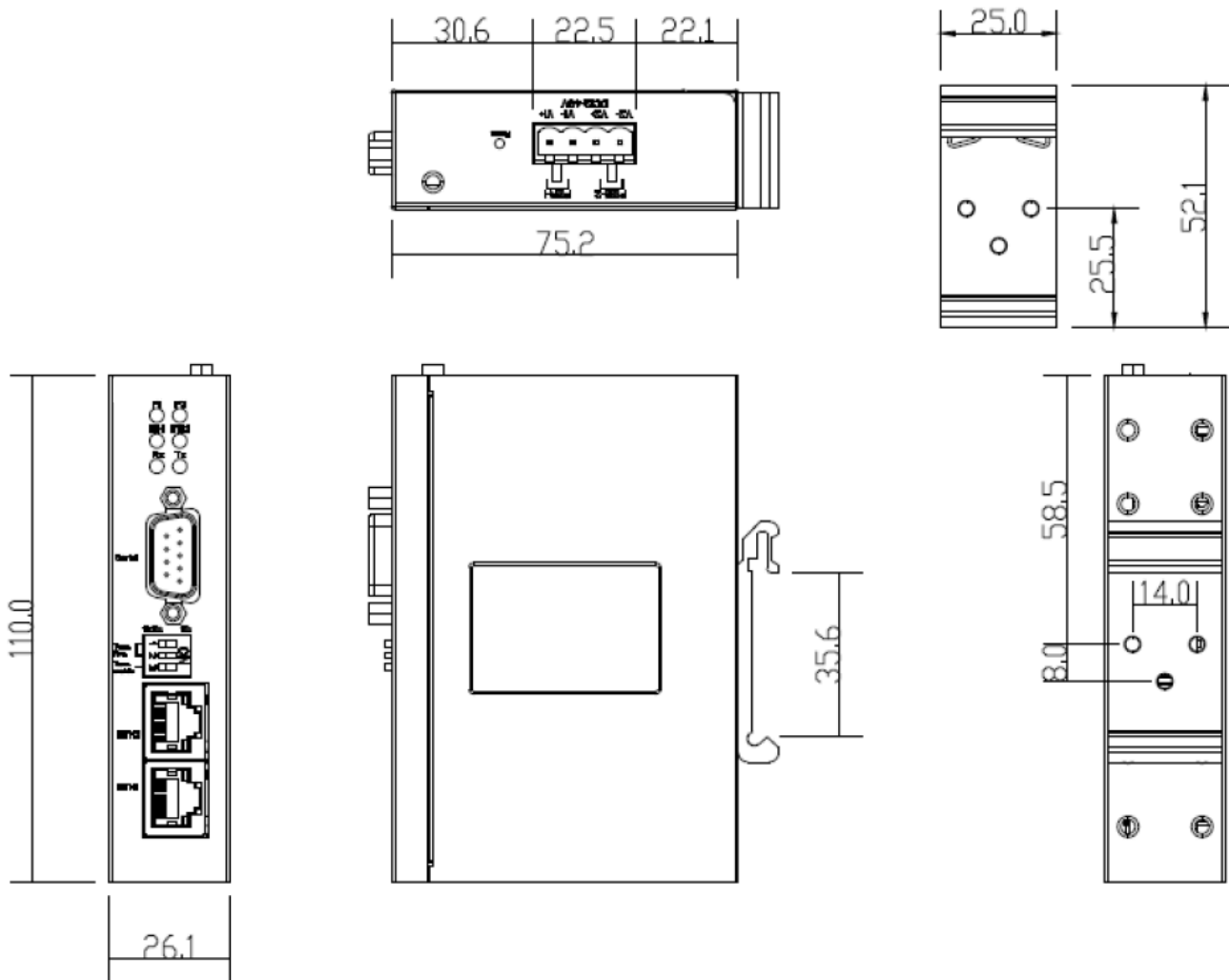
### 1.1.3 Rear



Label	Description
1	Wall-mount screw holes
2	DIN-Rail and screw holes

## 1.3 Mounting

### 1.3.1 Dimensional overview



- Measurements (units = mm)
- Screw sizes for mounting the DIN or Wall brackets is 3M x 4mm, do not use longer than 6mm screws.

### 1.3.2 DIN Rail Installation

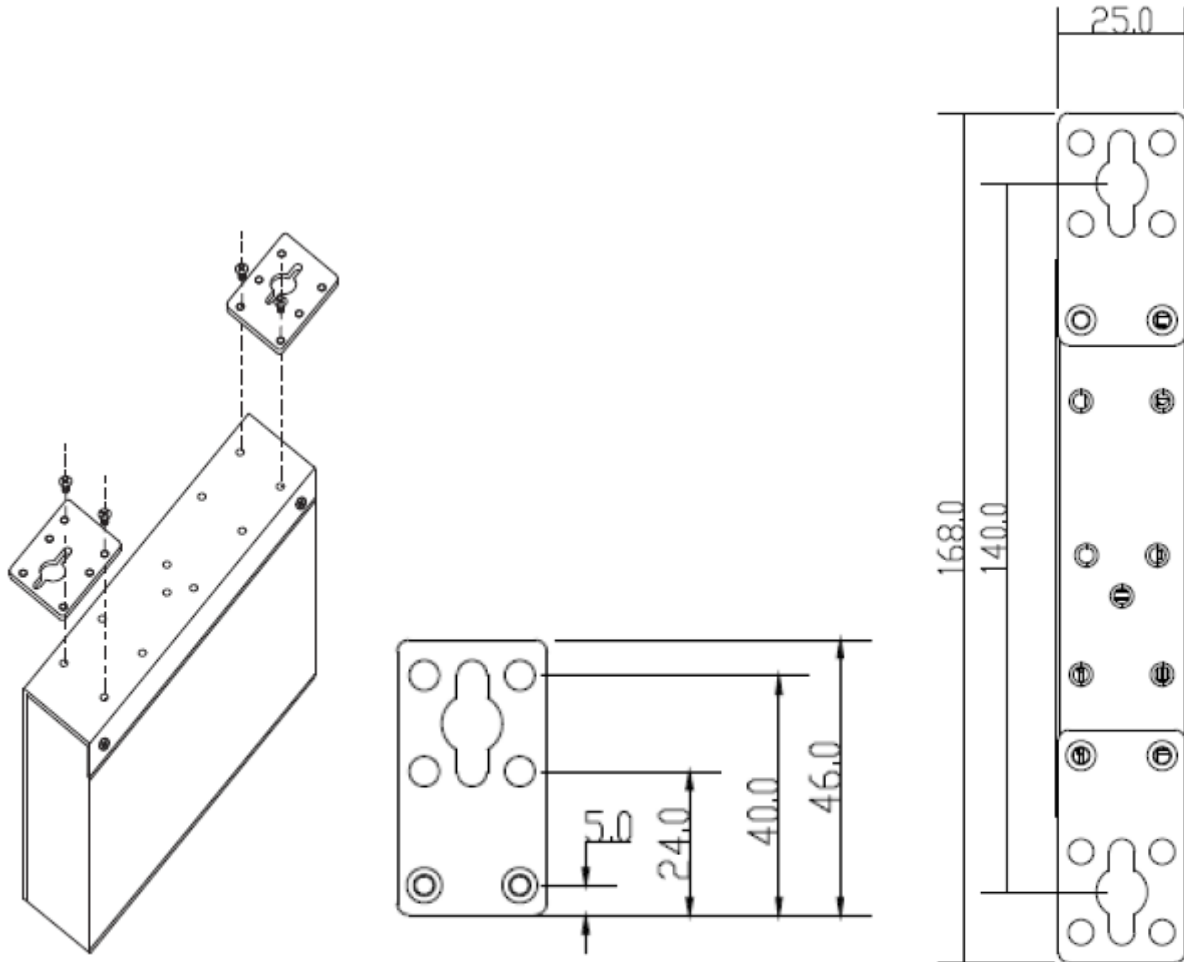
The DIN rail mounting clip should be preinstalled on the industrial serial server. In a case where it may come as an accessory, install the clip with the three accompanying screws.

#### Vertical and Horizontal Clearance Recommendations

- At least 25 mm (1 inch) of free space above and below the unit.
- At least 10 mm (0.4 inch) of clearance on each side.

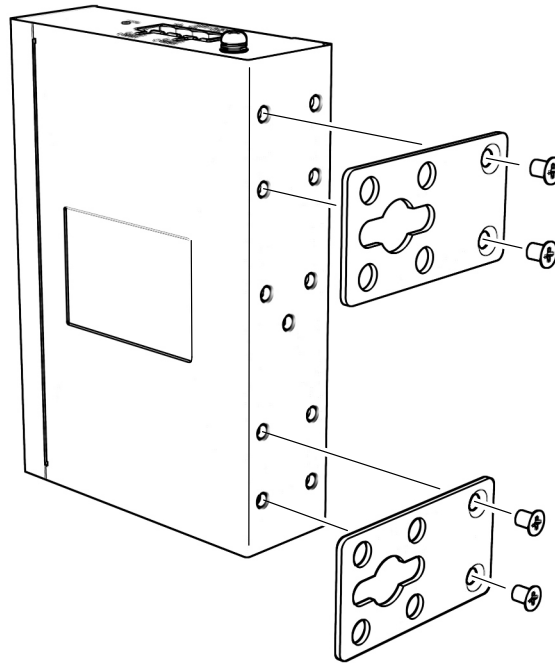
### 1.3.3 Wall Mount Installation

The Wall mount brackets come as an accessory and will need to be attached to the server but the DIN-Rail clip will need to be removed first. After removing the DIN rail clip add the two wall mount brackets with the 4 screws provided. See diagram below.



- Measurements (units = mm)

## Alternative mounting method



### 1.3.4 Electrical Wiring

The device features two sets of DC power inputs on a 4-pin terminal block located at the top of the unit. Power requirements are 12 to 48 VDC, consuming 4.8 watts maximum, with a typical current draw of 0.05 to 0.1 A depending on operating conditions.

Follow the steps below to properly connect the power wires (Range 12~24 AWG):

1. Ensure power is disconnected before making any wiring connections. Always verify that the power source is turned off to avoid electrical shock or equipment damage.
2. Prepare the power wires. Strip approximately 4~5 mm of insulation from the wire ends.
3. Insert the positive and negative leads into the appropriate V+ and V- terminals on the 4-pin power input block.
  - PWR1: V+ and V- (Primary power input)
  - PWR2: V+ and V- (Secondary/redundant power input)
4. Tighten the terminal screws to secure the wires. Ensure the connections are snug, but do not overtighten to avoid damaging the terminal block. Tightening Torque, Min .5 Nm, Max .6 Nm
5. Verify polarity before powering on. Reversing polarity will cause the unit to fail to start.
6. Reconnect power and confirm that the Power LED (PWR1/PWR2) indicators on the front panel illuminate confirming successful power input.

# 1.4 Connecting

## 1.4.1 Ethernet

The device has two standard Ethernet ports. According to the link type, the device uses CAT 3, 4, 5,5e UTP cables to connect to any other network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

### Cable Types and Specifications

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-T	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

With 10/100Base-T(X) cables, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data.

### 10/100 Base-T(X) RJ-45 Pin Assignments

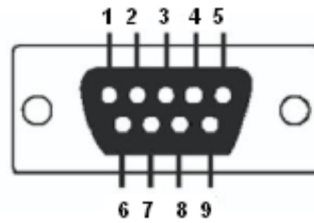
Pin Number	Assignment
1	TD+(Transmit)
2	TD-(Transmit)
3	RD+(Receive)
4	Not used
5	Not used
6	RD-(Receive)
7	Not used
8	Not used

The device also supports auto MDI/MDI-X operation. You can use a cable to connect the device to a PC. The table below shows the 10/100Base-T(X) MDI and MDI-X port pin outs. Note: “+” and “-” signs represent the polarity of the wires that make up each wire pair.

The two Ethernet ports are bridged together.

## 1.4.2 Serial (DB9)

The serial ports can be connected using a DB9 cable. The DB9 connector supports RS232 / RS422 / RS485 operation modes. Please refer to the following table for the pin assignments of the DB9 connector.



**DB-9 Connector**

Pin #	Rs-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TX-	TX-	
2	RXD	TX+	TX+	
3	TXD	RX+	RX+	DATA+
4	DTR	RX-	RX-	DATA-
5	GND			
6	DSR			
7	RTS			
8	CTS			

## 2 Access via SEG-Tool

### 2.1 Download and install SEG-Tool

**Note:** SEG-Tool is a Windows only program.

### 2.2 Run SEG-Tool (Windows 11)

#### 2.2.1 Open GUI

In the **lower-right corner** of your Windows screen (the **system tray**), click the small **chevron (⌵)** icon to display hidden running applications.

Locate the **SEG-Tool** icon in the list.



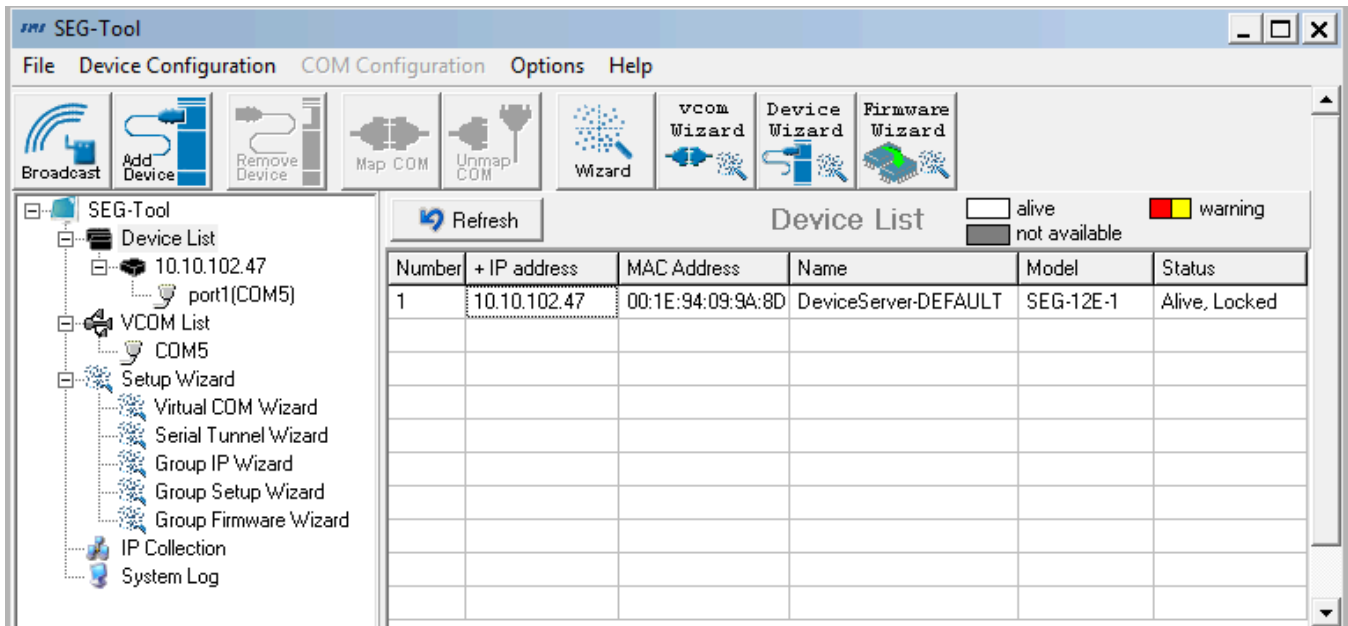
**Right-click** the SEG-Tool icon to open its menu.

From the menu, **select “Open.”**

**Note:**

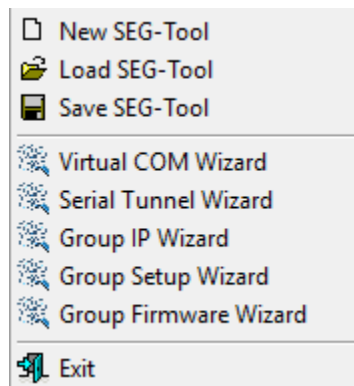
- If you are using multiple monitors, the SEG-Tool window may open partially off-screen — sometimes showing only a thin edge of the window. Drag the window toward the center of your main display before using the application.

## 2.2.2 Screen overview



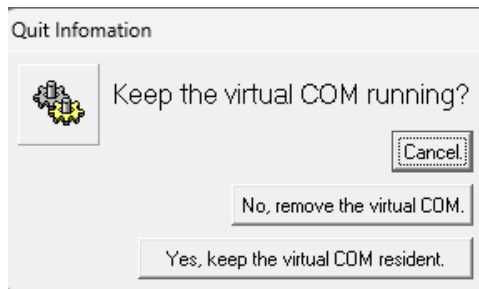
### 2.2.2.1 Main Menu

- File



- New SEG-Tool - This will wipe the current configurations
- Load SEG-Tool - Load a saved configuration
- Save SEG-Tool - Save the current configuration
- Virtual COM Wizard - A step through process to map a local virtual com port to a remote device
- Serial Tunnel Wizard - A step through process to build a virtual tunnel from one gateway to another gateway
- Group IP Wizard - A step through process to assign IP addresses to a group of gateways
- Group Setup Wizard - A step through process to configure a group of gateways
- Group Firmware Wizard - A step through process to update firmware across a group of gateways

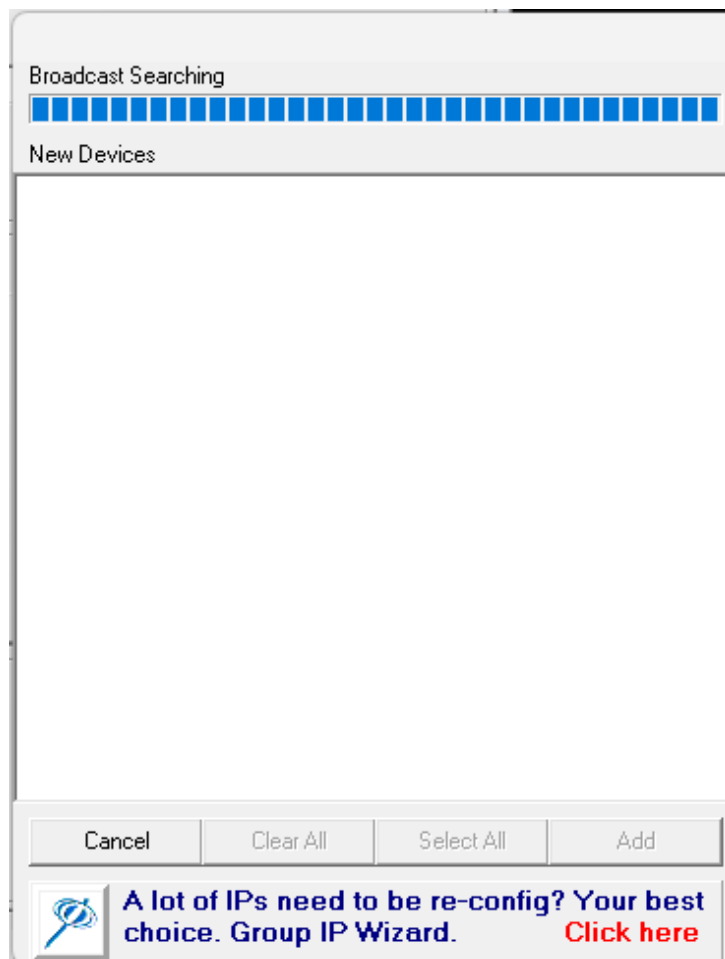
- Exit - exit the SEG-Tool with options, see below.



- Device Configuration

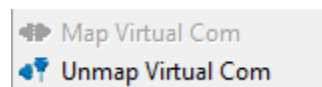


- Broadcast Search - This will use a broadcast message to find SEG gateways on the local broadcast domain, even if the IP address is not configured correctly on the gateway.



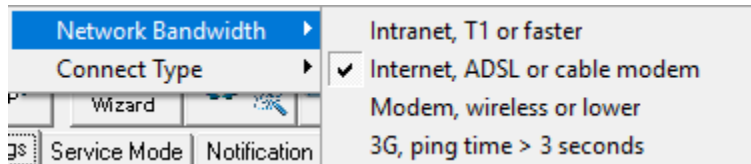
- Add Device by IP - allows the SEG-Tool to find gateways by IP address, the IP address must be configured correctly on the gateway for the network it is on.

- Remove Device - removes a device from the device list
- Import Device Configuration - imports and applies a saved configuration to a device (SEG gateway)
- Export Device Configuration - exports or saves the configuration of a device (SEG gateway)
- COM Configuration

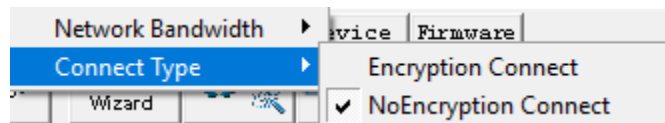


- Map Virtual Com - maps a local COM port to a remote serial port on an SEG gateway
- Unmap Virtual com - Detaches a local COM port from a remote serial port on an SEG gateway

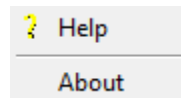
- Options
  - Network Bandwidth



- Intranet T1 or faster
  - Internet, ADSL or Cable Modem
  - Modem, Wireless or lower
- 3G, Ping time > 3 seconds
  - Connect Type - This configuration will help with latency of the connection between the SEG-Tool and the SEG gateway device.



- Encryption Connect
  - No Encryption Connect
- Help



- Help - Limited help file.
- About -

### 2.2.2.2 Quick access buttons

- Broadcast - Broadcast Search - This will use a broadcast message to find SEG gateways on the local broadcast domain, even if the IP address is not configured correctly on the gateway.
- Add Device - Add Device by IP - allows the SEG-Tool to find gateways by IP address, the IP address must be configured correctly on the gateway for the network it is on.
- Remove Device - Removes a device from the SEG-Tool
- Map COM - maps a local COM port to a remote serial port on an SEG gateway
- Unmap COM - Detaches a local COM port from a remote serial port on an SEG gateway
- Wizard -
  - Virtual COM Wizard - A step through process to map a local virtual com port to a remote device
  - Serial Tunnel Wizard - A step through process to build a virtual tunnel from one gateway to another gateway.
  - Group IP Wizard - A step through process to assign IP addresses to a group of gateways
  - Group Setup Wizard - A step through process to configure a group of gateways
  - Group Firmware Wizard - A step through process to update firmware across a group of gateways
- VCOM Wizard - A step through process to map a local virtual com port to a remote device
- Device Wizard - Group Setup Wizard - A step through process to configure a group of gateways
- Firmware Wizard - Group Firmware Wizard - A step through process to update firmware across a group of gateways

### 2.2.2.3 Navigation Pane (SEG-Tool)

- Device List - List of known gateway devices
- VCOM List - List of mapped virtual com ports
- Setup Wizard - list of setup wizards available
- System Log - Can display syslog messages from the SEG devices

## 3 Access via Web Browser (firmware version 1.0)

### 3.1 Web GUI Login

The RLH Industrial Grade Serial Gateway includes an intuitive graphical user interface (GUI) that simplifies device configuration and management. The interface is accessible through any standard web browser on a typical PC, allowing users to easily adjust settings and monitor device operation.

**Note:** By default, IE 5.0 and later enforce Java's security restrictions, which prevent unsigned Java applets from opening network connections except back to their originating host. To allow an applet to access other network ports or hosts, the Java security settings must be adjusted separately. Also it seems that you can't connect via HTTP and must use HTTPS, and the Cert for HTTPS can't be third party certified.

**Step 1:** Configure your PC or laptop with an IP address in the 192.168.10.0/24 network, ensuring it is different from the switch's default IP address (192.168.10.2). Then, connect your PC or laptop to one of the switch's Ethernet ports.

**Step 2:** To access, open a web browser and type the factory default IP address: `https://192.168.10.2`


**Note:** The Gateway uses a self-assigned SSL Cert which can't be third party certified. You cannot update the Cert. You must bypass the warning.



## Your connection is not private

Attackers might be trying to steal your information from **192.168.1.43** (for example, passwords, messages, or credit cards). [Learn more about this warning](#)

NET::ERR\_CERT\_AUTHORITY\_INVALID

 [Turn on enhanced protection](#) to get Chrome's highest level of security

Advanced

Back to safety

Click on the "Advanced" button.

This server could not prove that it is **192.168.1.43**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

[Proceed to 192.168.1.43 \(unsafe\)](#)

Click on the link "Proceed to aaa.bbb.ccc.ddd (unsafe)" Where aaa.bbb.ccc.ddd is the ip address of your Industrial Serial Gateway.

Yes, you can avoid this error by manually "trusting" your self-signed certificate on each device that accesses the site. This tells the operating system and browser that you vouch for the identity of the certificate, even if it wasn't issued by a public authority like Let's Encrypt.

### Windows

To trust a certificate for all browsers (except Firefox):

- **Export the cert:** In Chrome, click the "Not Secure" warning > **Certificate is not valid** > **Details** > **Export** (save as .cer or .crt).
- **Import to Trusted Root:**
  1. Press Win + R, type certmgr.msc, and hit Enter.
  2. Right-click Trusted Root Certification Authorities > All Tasks > Import.
  3. Browse to your file and follow the wizard until it confirms success.
  4. Restart Chrome completely for changes to take effect.

## macOS

- **Add to Keychain:** Open **Keychain Access** and drag your certificate file into the System keychain.
- **Set to "Always Trust":** Double-click the certificate in the list, expand the **Trust** section, and change "When using this certificate" to **Always Trust**.

## Linux (Chrome)

- **Chrome Settings:** Go to Settings > Privacy and security > Security > Manage certificates.
- **Authorities Tab:** Click the **Authorities** tab and select **Import**. Choose your .pem or .crt file and check the box "Trust this certificate for identifying websites".

## Important Technical Requirements

Browsers now require specific fields to be present in self-signed certificates, or they will still show an error (e.g., NET::ERR\_CERT\_COMMON\_NAME\_INVALID) even if you trust it:

- **Subject Alternative Name (SAN):** Modern browsers ignore the "Common Name" field. Your certificate must include a SAN that matches your domain or IP address.
- **Tools for Local Dev:** If you are doing local development, tools like mkcert automate this entire process by creating a local CA and automatically installing it in your system trust stores.

**Step 4:** The default WEB GUI login.

Username: admin

Password: admin

### Sign in

https://192.168.1.43

Username

Password

Sign in

Cancel

## Summary of default networking values

Parameter	Assignment
IP Address	192.168.10.1
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.254
User Name	admin
Password	admin

The screenshot shows a management interface. On the left is a dark blue sidebar with the text 'open all' at the top. Below it are several items: 'Serial Device Server' (with a document icon), 'System' (with a folder icon), 'Time(SNTP)' (with a document icon), 'IP Configuration' (with a document icon), 'User Authentication' (with a document icon), 'Port Serial Setting' (with a folder icon), 'Management' (with a folder icon), 'Diagnostics' (with a folder icon), and 'Save/Reboot' (with a document icon). The main area is light gray and titled 'System Information'. It contains a table with two rows: 'IP Address' with the value '192.168.1.43' and 'MAC Address' with the value 'F0:DA:7C:05:06:C5'.

On the left hand side of the management interface shows links to various settings. Clicking on the links will bring you to individual configuration pages.

## 3.2 System

### 3.2.1 Time(SNTP)

SNTP (Simple Network Time Protocol) is a communication protocol used to synchronize a system's clock with an accurate time source available on the Internet. It ensures that your device's internal clock remains accurate by connecting to a time server synchronized with a reliable reference, such as a radio signal, satellite receiver, or modem-based source. Accurate time synchronization is also critical for troubleshooting, as it helps establish the correct sequence of events when diagnosing system issues or analyzing network activity.

### SNTP Configuration

<b>Name</b>	SEG-12E-1-DEFAULT
<b>Time</b>	
<b>SNTP</b>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
<b>Time Zone</b>	(GMT-08:00)Pacific Time (US & Canada); Tijuana
<b>Local Time</b>	Tue Jan 27 2026 14:16:48 GMT-0800
<b>Time Server</b>	pool.ntp.org Port 123
<b>Console</b>	
<b>SSH Console</b>	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

Apply

Parameter	Description
Name	Enter the name used to identify this device
SNTP	Enable or Disable SNTP
Time Zone	Choose the appropriate time zone
Local Time	Set up/Display the local time
Time Server	Enter the time server information
Port	Enter the port the time server uses
SSH Console	Click to enable or disable SSH

### 3.2.2 IP Configuration

This page allows you to configure the device's IP settings. You can either assign a static IP address manually or allow a DHCP/BOOTP server to automatically provide an IP address and subnet mask in response to the device's network request. The assigned IP address must be unique within the network; otherwise, the device will fail to establish a valid network connection. Select Static IP if you prefer to use a fixed address. Once all settings have been configured, click Apply to save the changes.

#### IP Configuration

LAN Interface	
IP Configuration	Static ▼
IP Address	192.168.1.43
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS Server 1	8.8.8.8
DNS Server 2	
Auto IP Report	
Auto Report to IP	
Auto Report to TCP Port	0
Auto Report Interval	0 seconds

Parameter	Description
IP Configuration	<p>Choose whether to use a Static, DHCP/BOOTP, or PPPoE IP configuration method.</p> <p>Static: Manually enter a fixed IP address for the device.</p> <p>DHCP/BOOTP: Allows the device to automatically receive its IP address from a network configuration server. When this option is selected, the static IP configuration fields will be grayed out.</p> <p>PPPoE: Select this option if your Internet Service Provider (ISP) requires a PPPoE connection, commonly used by older DSL services. Enter the PPPoE username and password provided by your ISP to establish the connection.</p>
IP Address	Enter the IPv4 address that identifies the server on the TCP/IP network
Netmask	Enter a subnet mask for the device.
Gateway	Enter the IP address of the router that provides network access outside the server's LAN
DNS Server 1/2	Enter the IP address of the primary and secondary domain name server
Auto Report to IP	Specify an IP address for reports generated by the Auto report function to be automatically sent to.
Auto Report to TCP Port	Specify a TCP Port for reports generated by the Auto report function to be automatically sent to.
Auto Report Interval	Specify a time interval for which reports will be delivered.

### 3.2.3 User Authentication

This page allows you to change the “admin” password.

**User Authentication**

<b>Old Password</b>	<input type="text"/>
<b>New Password</b>	<input type="text"/>
<b>Confirm New Password</b>	<input type="text"/>

## 3.3 Port Serial Setting

### 3.3.1 Serial Configuration

This page allows you to configure the parameters of the serial port.

**Serial Configuration**

	<b>Port1</b>
<b>Port Alias</b>	<input type="text" value="Port0"/>
<b>Interface</b>	RS232 <input type="button" value="v"/>
<b>Baud Rate</b>	115200 <input type="button" value="v"/>
<b>Data Bits</b>	8 <input type="button" value="v"/>
<b>Stop Bits</b>	1 <input type="button" value="v"/>
<b>Parity</b>	None <input type="button" value="v"/>
<b>Flow Control</b>	None <input type="button" value="v"/>
<b>Force TX Interval Time</b>	<input type="text" value="0"/> ms
<b>Performance</b>	<input checked="" type="radio"/> Throughput <input type="radio"/> Latency

Parameter	Description
Port Alias	A descriptive name or label for the port.
Interface	Choose an interface for your serial device. Available interfaces include RS-232, RS-422, RS-485(2-wires), and RS-485(4-wires).
Baud Rate	Choose a baud rate in the range between 110 bps and 460800 bps.
Data Bits	Choose the number of data bits to transmit. You can configure data bits to be 7, or 8. Data is transmitted as a series of five, six, seven, or eight bits (five and six bit data formats are used rarely for specialized communications equipment).
Stop Bits	Choose the number of bits used to indicate the end of a byte. You can configure stop bits to be 1 or 2(1.5). If Stop Bits is 1.5, the stop bit is transferred for 150% of the normal time used to transfer one bit. Both the computer and the peripheral device must be configured to transmit the same number of stop bits
Parity	<p>Choose the method of detecting errors in transmission. Parity control bit modes include None, Odd, Even, Mark, and Space.</p> <p>None: parity checking is not performed and the parity bit is not transmitted.</p> <p>Odd: the number of mark bits in the data is counted, and the parity bit is asserted or unasserted to obtain an odd number of mark bits.</p> <p>Even: the number of mark bits in the data is counted, and the parity bit is asserted or unasserted to obtain an even number of mark bits.</p> <p>Mark: the parity bit is always set to the mark signal condition (logical 1)</p> <p>Space: the last transmitted data bit will always be a logical 0</p>
Flow Control	<p>Serial communication consists of hardware flow control and software flow control, so called as the control is handled by software or hardware. XOFF and OXN is software flow control while RTS/CTS or DTR/DSR is hardware flow control.</p> <p>Choose XOFF to tell the computer to stop sending data; then the receiving side will send an XOFF character over its Tx line to tell the transmitting side to stop transmitting. Choose XON to tell the computer to begin sending data again; then the receiving side will send an XON character over its Tx line to tell the transmitting side to resume transmitting. In hardware flow control mode, when the device is ready to receive data, it sends a CTS (Clear To Send) signal to the device on the other end. When a device has something it wants to send, it will send a RTS (Ready To Send) signal and waits for a CTS signal to come back its way. These signals are sent apart from the data itself on separate wires.</p>
Force TX Interval Time	Force TX interval time is to specify the timeout when no data has been transmitted. When the timeout is reached or TX buffer is full (4K Bytes), the queued data will be sent. 0 means disable. Factory default value is 0.
Performance	<p>Throughput: This mode is optimized for highest transmission speed.</p> <p>Latency: This mode is optimized for shortest response time.</p>

### 3.3.2 Port Profile

#### Port Profile

	Port1
<b>Local TCP Port</b>	<input type="text" value="4000"/>
<b>Mode</b>	Serial to Ethernet
<b>Flush Data Buffer After</b>	<input type="text" value="0"/> ms
<b>Delimiter(Hex 0~ff)</b>	1: <input type="text" value="00"/> 2: <input type="text" value="00"/> 3: <input type="text" value="00"/> 4: <input type="text" value="00"/>
<b>Mode</b>	Ethernet to Serial
<b>Flush Data Buffer After</b>	<input type="text" value="0"/> ms
<b>Delimiter(Hex 0~ff)</b>	1: <input type="text" value="00"/> 2: <input type="text" value="00"/> 3: <input type="text" value="00"/> 4: <input type="text" value="00"/>

Parameter	Description
Local TCP Port	The TCP port the device uses to listen to connections, and that other devices must use to contact the device. To avoid conflicts with well known TCP ports, the default is set to 4000.
Flush Data Buffer After	The received data will be queuing in the buffer until all the delimiters are matched. When the buffer is full (4K Bytes) or after "flush S2E data buffer" timeout the data will also be sent. You can set the time from 0 to 65535 seconds.
Delimiter	For advanced data packing options, you can specify delimiters for Serial to Ethernet and / or Ethernet to Serial communications. You can define max. 4 delimiters (00~FF, Hex) for each way. The data will be hold until the delimiters are received or the option Flush Serial to Ethernet data buffer times out. 0 means disable. Factory default is 0.

### 3.3.3 Service Mode

#### 3.3.3.1 Virtual Com Mode

In Virtual COM Mode, the driver creates a transparent link between the host and the serial device by mapping the serial server's port to a local COM port on the host computer. This mode supports up to five simultaneous connections, allowing multiple hosts to send and receive data through the same serial device concurrently.

#### Service Mode

	Port1
<b>Data Encryption</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Service Mode</b>	<input type="text" value="Virtual COM Mode"/>
<b>Idle Timeout</b>	<input type="text" value="0"/> (0~65535)seconds
<b>Alive Check</b>	<input type="text" value="40"/> (0~65535)seconds
<b>Max Connection</b>	<input type="text" value="5"/> max. connection (1~5)

Parameter	Description
Data Encryption	Click on the radio button to enable or disable data encryption
Idle Timeout	When a serial port stops data transmission for a defined period of time, the connection will be closed and the port will be freed and try to connect with other hosts. 0 indicates disable this function. Factory default value is 0. If Multilink is configured, only the first host connection is effective for this setting.
Alive Check	The serial device will send TCP alive-check packages in each defined time interval to the remote host to check the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed. 0 indicates disable this function. Factory default is 0.
Max Connections	The number of Max connections that can be supported simultaneously is 5, default value is 1.

Note: the mapping of a com port on a PC must be done using software installed on the PC. This can not be done using the web interface.

### 3.3.3.2 TCP Server Mode

In TCP Server Mode, the industrial serial gateway is configured with a unique port number on the TCP/IP network. In this mode, the DS passively waits for incoming connection requests from network devices. Once a connection is established, data transmission between the network device and the serial device can begin. TCP Server Mode supports up to five simultaneous connections, allowing multiple devices to receive data from the same serial port at the same time.

**Service Mode**

	Port1
<b>Data Encryption</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Service Mode</b>	TCP Server Mode ▾
<b>Telnet Negotiation</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>TCP Server Port</b>	<input type="text" value="4000"/>
<b>Idle Timeout</b>	<input type="text" value="0"/> (0~65535)seconds
<b>Alive Check</b>	<input type="text" value="40"/> (0~65535)seconds
<b>Max Connection</b>	<input type="text" value="5"/> max. connection(1~5)

Parameter	Description
Data Encryption	Click on the radio button to enable or disable data encryption
Telnet Negotiation	??
TCP Server Port	Enter the TCP server port number
Idle Timeout	When a serial port stops data transmission for a defined period of time, the connection will be closed and the port will be freed and try to connect with other hosts. 0 indicates disable this function. Factory default value is 0. If Multilink is configured, only the first host connection is effective for this setting.
Alive Check	The serial device will send a TCP alive-check package in each defined time interval (Alive Check) to the remote host checking the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed. 0 indicates disable this function. Factory default is 0.
Max Connections	The number of Max connections that can be supported simultaneously is 5, default value is 1

### 3.3.3.3 TCP Client Mode

In TCP Client Mode, the industrial serial gateway can establish a TCP connection with the server based on the method you select (Startup or Any Character). After data transfer, the device can automatically disconnect from the server using the TCP alive check or idle timeout settings.

#### Service Mode

	Port1
<b>Data Encryption</b>	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<b>Service Mode</b>	TCP Client Mode <span style="float: right;">▼</span>
<b>Destination Host</b>	<input style="width: 100%;" type="text"/> : <input style="width: 50px;" type="text" value="4000"/>
<b>Idle Timeout</b>	<input style="width: 50px;" type="text" value="0"/> (0~65535)seconds
<b>Alive Check</b>	<input style="width: 50px;" type="text" value="40"/> (0~65535)seconds
<b>Connect on</b>	<input checked="" type="radio"/> Startup <input type="radio"/> Any Character
Destination Host	Port
1. <input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text" value="65535"/>
2. <input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text" value="65535"/>
3. <input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text" value="65535"/>
4. <input style="width: 100%;" type="text"/>	<input style="width: 50px;" type="text" value="65535"/>

Parameter	Description
Data Encryption	Click on the radio button to enable or disable data encryption
Destination Host	Set the IP address of the host and the port number of the data port. Default port number is 4000.
Idle Timeout	When a serial port stops data transmission for a defined period of time, the connection will be closed and the port will be freed and try to connect with other hosts. 0 indicates disable this function. Factory default value is 0. If Multilink is configured, only the first host connection is effective for this setting.
Alive Check	The serial device will send a TCP alive-check package in each defined time interval (Alive Check) to the remote host checking the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed. 0 indicates disable this function. Factory default is 0.
Connect on (startup)	The TCP Client will build TCP connection once the connected serial device is started.
Connect on (Any Character)	The TCP Client will build TCP connection once the connected serial device starts to send data.
Destination Host	Set the IP address of additional hosts to send duplicate data
Port	Set the TCP port number of the additional hosts(default 65535)

### 3.3.3.4 UDP Mode

Compared to TCP communications, UDP is faster and more efficient. In UDP Mode, the industrial serial gateway can uni-cast or multi-cast data to host computers, and it can also receive data from one or multiple hosts.

**Service Mode**

Port1		
<b>Service Mode</b>	UDP Mode ▾	
<b>Listen Port</b>	4000	
Host start IP	Host end IP	Send Port
1. <input type="text"/>	<input type="text"/>	65535
2. <input type="text"/>	<input type="text"/>	65535
3. <input type="text"/>	<input type="text"/>	65535
4. <input type="text"/>	<input type="text"/>	65535

Parameter	Description
Listen Port	Allows the user to set a new TCP port number to listen on rather than the default value of the device
Host Start/End IP	If there are more than one destination hosts, specify the IP address range by inputting a value in Host Start / End IP. You can also auto scan the sending port number of the device
Send Port	Set the send port number.

## 3.4 Management

### 3.4.1 Access IP Control

When the Access IP Control List feature is enabled, the industrial serial gateway will deny access to all IP addresses by default. Only the IP addresses or network ranges that have been explicitly added to and activated in the list will be allowed to connect. All other hosts attempting to access the device will be blocked, ensuring that only authorized systems can communicate with the gateway.

**Access IP Control List**

Enable IP Filtering (Not check this option will allow any IP to have assessability)

No.	Activate the IP	IP Address	Netmask
1	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
4	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
5	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
6	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
7	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
8	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
9	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
10	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
11	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
12	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
13	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
14	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
15	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
16	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>

Parameter	Description
Enable IP Filtering	Checking this box enables the IP filtering feature
Activate the IP	Activates the IP address/network range for access
IP Address/Netmask	For a specific address example:192.168.10.42/255.25.255.255. For a range address example:192.168.10.0/255.255.255.0

### 3.4.2 SMTP/SNMP Conf.

The Email Server Configuration section allows you to define the settings required for the device to send notification emails. You must specify the mail server's IP address or domain name that will be used to relay outgoing messages. If the mail server requires authentication, you will also need to provide a valid username and password to enable successful login and message delivery.

In addition, you can configure up to four recipient email addresses to receive event notifications or system alerts generated by the device. This ensures that multiple users or administrators can be promptly informed of important status changes or faults.

The SNMP Server Configuration section allows you to define the parameters required for sending SNMP trap notifications. You must specify the SNMP trap server's IP address, along with the appropriate community string, location, and contact information to identify the device within the network management system.

The configuration supports up to four SNMP trap destination addresses, enabling notifications to be sent to multiple monitoring stations or administrators for effective system supervision and event tracking.

SMTP/SNMP Configuration	
<b>E-mail Settings</b>	
SMTP Server	<input type="text"/> Port <input type="text" value="25"/>
Connection type	<input type="text" value="NONE"/>
<input type="checkbox"/> Server requires authentication	
User Name	<input type="text"/>
Password	<input type="text"/>
E-mail Sender	<input type="text"/>
E-mail Address 1	<input type="text"/>
E-mail Address 2	<input type="text"/>
E-mail Address 3	<input type="text"/>
E-mail Address 4	<input type="text"/>
<b>SNMP Trap Server</b>	
SNMP Server 1	<input type="text"/>
SNMP Server 2	<input type="text"/>
SNMP Server 3	<input type="text"/>
SNMP Server 4	<input type="text"/>
Community	<input type="text"/>
Location	<input type="text"/>
Contact	<input type="text"/>
<b>Syslog Server</b>	
Syslog Server IP	<input type="text"/>
Syslog Server Port	<input type="text" value="0"/>
<input type="button" value="Apply"/>	

Parameter	Description
E-mail settings	
SMTP Server	The IP address or name of the Simple Mail Transfer Protocol (SMTP) server
Port	The port open on the server for SMTP (default 25)
My server requires authentication	Check box if the SMTP server requires authentication to be able to receive messages
User Name	SMTP authentication name
Password	SMTP password associated with the user name
E-mail Sender	The "from" name when a message is sent
E-mail address 1-4	Up to 4 email addresses can be added to the message
SNMP Trap server	
SNMP Server 1-4	UP to 4 SNMP trap servers can be added for redundance
Community	The community string used for the trap server (like a password)
Location	Additional information added to the trap for clarity
Contact	Additional information added to the trap for clarity
Syslog Server	
Syslog Server IP	The IP address of the syslog server
Syslog Server Port	The port the syslog server uses (default 0)

### 3.4.3 System Event Conf.

Specify which system events should be reported to the administrator for monitoring purposes. Notifications for these selected events can be delivered through multiple channels, including email, SNMP trap, or the system log, ensuring that administrators are promptly informed of important status changes or operational issues.

System Event Configuration			
<b>Device Event Notification</b>			
<b>Hardware Reset (Cold Start)</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Software Reset (Warm Start)</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Login Failed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>IP Address Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Password Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Access IP Blocked</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Port Event Notification</b>			
<b>DCD Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>DSR Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>RI Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>CTS Changed</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Port Connected</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<b>Port Disconnected</b>	<input type="checkbox"/> SMTP Mail	<input type="checkbox"/> SNMP Trap	<input type="checkbox"/> Syslog
<input type="button" value="Apply"/>			

## 3.5 Save/Reboot

You can create a backup configuration file to save the device's current settings, or restore the device to a previous configuration by uploading a saved file. To restore settings, simply browse to the desired configuration file stored on your computer and click Restore. The device will then apply the imported parameters, reverting to the saved configuration.

Parameter	Description
Hardware Reset(Cold Start)	This refers to starting the system from power off (in contrast with warm start). When performing a cold start, DS will automatically issue an auto warning message via e-mail, logs, or SNMP trap after booting.
Software Reset(Warm Start)	This refers to restarting the computer without turning the power off. When performing a warm start, DS will automatically send an e-mail, log or SNMP trap after rebooting.
Login Fail	When unauthorized access from the console or Web interface occurs, a notification will be sent.
IP Address Change	When the IP address of the device is changed, a notification will be sent.
Password Change	When the password of the device is changed, a notification will be sent.
Access IP Blocked	When the host accesses the device with a blocked IP address, a notification will be sent.
DCD Changed	When a DCD (Data Carrier Detect) signal changes, indicating modem connection status has been changed, a notification will be sent.
DSR Change	When a DSR (Data Set Ready) signal changes, indicating data communication equipment is powered off, a notification will be sent.
RI Changed	When a RI (Ring Indicator) signal changes, indicating there is an incoming call, a notification will be sent.
CTS Changed	When a CTS (Clear To Send) signal changes, indicating transmission between computer and DCE can proceed, a notification will be sent.
Port Connected	In TCP Server Mode, when the device accepts an incoming TCP connection, this event will be triggered. In TCP Client Mode, when the device has connected to the remote host, the event will be triggered. In Virtual COM Mode, when Virtual COM is ready to use, this event will be triggered. A notification will be sent when an event is triggered.
Port Disconnected	In TCP Server/Client Mode, when the device loses the TCP link, this event will be triggered. In Virtual COM Mode, when Virtual COM is not available, this event will be triggered. A notification will be sent when an event is triggered.

**Factory Default**  
 Reset to default configuration.  
 Click Reset button to reset all configurations to the default value.

**Restore Configuration**  
 You can restore the previous saved configuration to Device Server.

File to restore:  No file chosen

**Backup Configuration**  
 You can save current EEPROM value from the Device Server as a backup file of configuration.

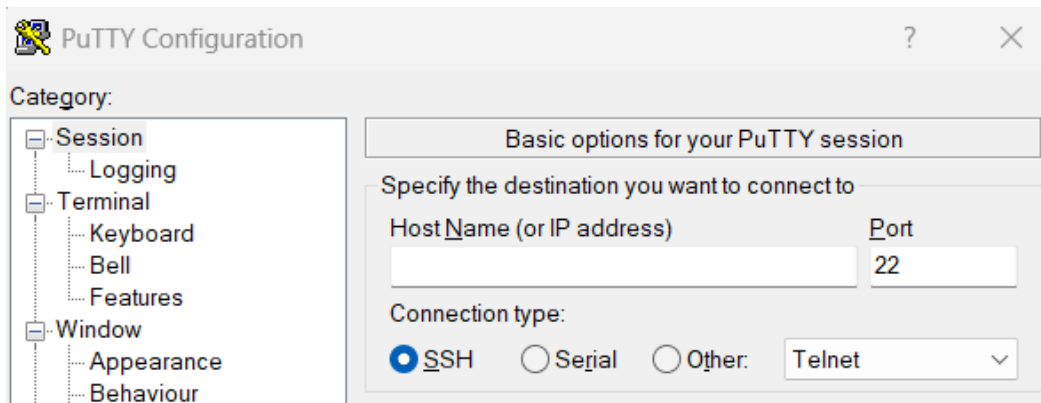
**Upgrade Firmware**  
 Specify the firmware image to upgrade.  
 Note: Please DO NOT power off this device while upgrading firmware.

Firmware:  No file chosen

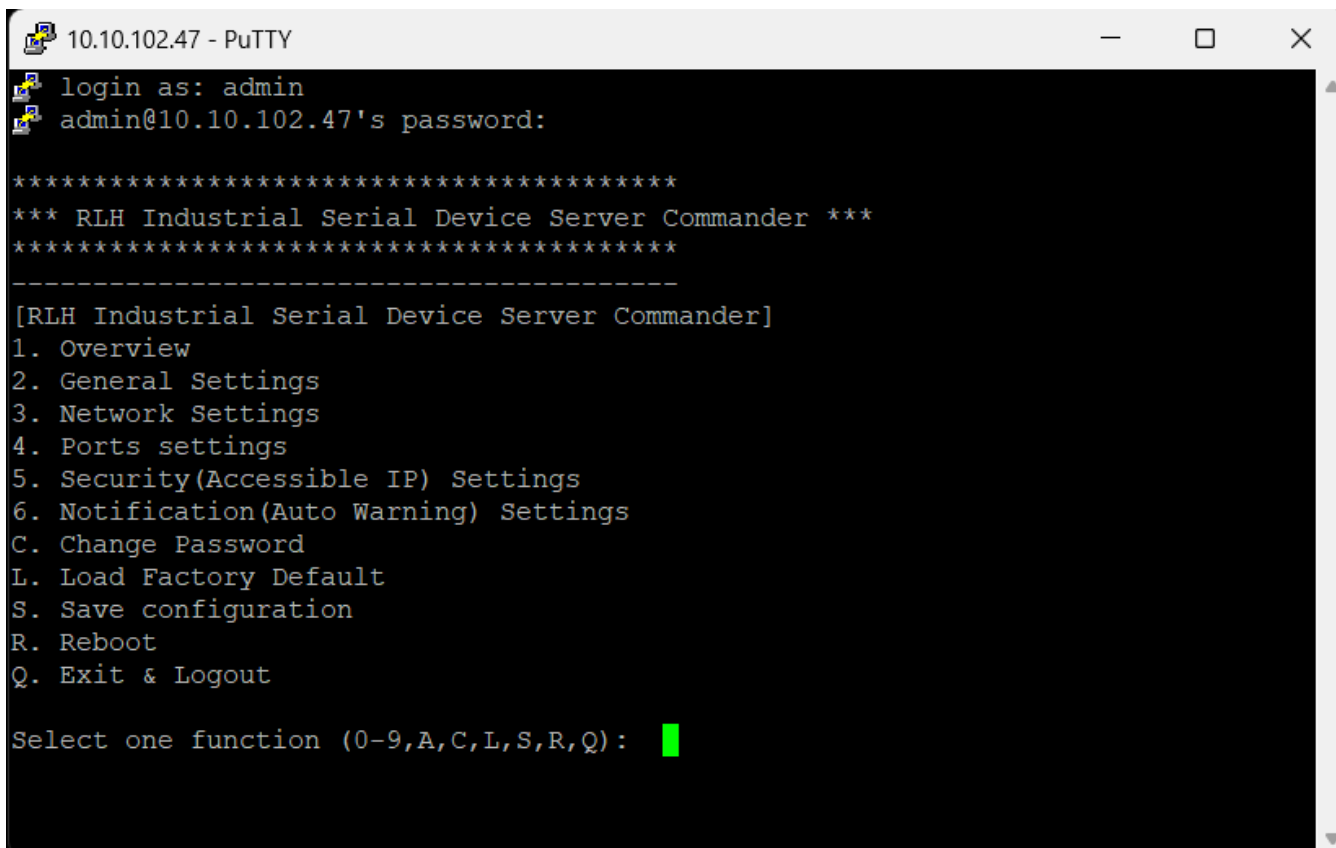
**Reboot Device**  
 Please click [**Reboot**] button to restart device.

Parameter	Description
Factory Default	Hardware: press the reset button next to the power connector for five seconds. Software: Click the reset button on this page, it will immediately change the startup configuration to the default setting only requiring a reboot for them to take effect.
Restore Configuration	Select a configuration file using the "Choose File" button then click "Restore", this will require a reboot for the settings to take effect.
Backup Configuration	This will copy a backup file of the configuration to the download folder
Upgrade Firmware	Select a firmware file using the "Choose File" button then click "Upgrade", this will reboot the industrial serial gateway
Reboot Device	Immediately reboots the Industrial Serial Gateway

# 4 Access via SSH Console



Parameter	Description
Host Name (or IP address)	Add the IP address of the Industrial Serial Gateway (default IP 192.168.10.2)
Port	22 is the default



## 4.1 Overview

Displays basic information about device

```
-----  
[Overview]  
Model Name :          SEG-12E-1  
MAC Address  :          F0-DA-7C-05-06-C5|  
Firmware Version :    1.0  
Device name  :          SEG-12E-1-DEFAULT  
  
Press ENTER to continue.
```

Parameter	Description
Model Name	The RLH model name of the device
MAC Address	The layer 2 address assigned to the device at the factory
Firmware Version	The current installed firmware version
Device name	A custom name to identify this device. This name can be modified at any time by the user

## 4.2 General Settings

```
-----  
[General Settings]  
<Basic Setting>  
1. Device name :          SEG-12E-1-DEFAULT  
<SNTP Time>  
2. SNTP Enable   Enable  
3. SNTP server  :          pool.ntp.org  
4. Port         :          123  
5. Time Zone    :          Etc/GMT+8  
<Management>  
6. Web console  :          Enable  
<SNMP management>  
7. Community   :  
8. Location    :  
9. Contact     :  
Q. Exit  
  
Select one function (1-8,Q): █
```

#### 4.2.1 Device Name

```
-----  
[Server name]  
Input new server name or (Q)uit: █
```

#### 4.2.2 SNTP Enable

```
-----  
[SNTP Enable]  
Input 1(Enable) or 2(Disable) : █
```

#### 4.2.3 SNTP Server

```
-----  
[Time server]  
Input new Time server address or (Q)uit: █
```

#### 4.2.4 Port

```
-----  
[SNTP time Server port]  
Input new port number or (Q)uit: █
```

#### 4.2.5 Time Zone

```
-----  
[Time zone]  
Please select one of following choice :  
0. (GMT-12:00)Eniwetok, Kwajalein  
1. (GMT-11:00)Midway Island, Samoa  
2. (GMT-10:00)Hawaii  
3. (GMT-09:00)Alaska  
4. (GMT-08:00)Pacific Time (US & Canada); Tijuana  
5. (GMT-07:00)Arizona  
6. (GMT-07:00)Mountain Time (US & Canada)  
7. (GMT-06:00)Central Time (US & Canada)  
8. (GMT-06:00)Mexico City, Tegucigalpa  
9. (GMT-06:00)Saskatchewan  
Press Q to exit or ENTER to continue... █
```

```
60. (GMT+11:00)Magadan, Solomon Is., New Caledonia  
61. (GMT+12:00)Auckland, Wllington  
62. (GMT+12:00)Fiji, Kamchatka, Marshall Is  
-----  
[Time zone]  
Input the index number of Time zone or (Q)uit: █
```

#### 4.2.6 Web console

```
-----  
[Web console]  
Input 1(Enable) or 2(Disable) : █
```

#### 4.2.7 SNMP Management - Community

```
-----  
[SNMP Community]  
Input Get/Set Request Community (max 64) or Q(uit): █
```

#### 4.2.8 SNMP Management - Location

```
-----  
[SNMP Location]  
Input Get/Set Request Location (max 64) or Q(uit): █
```

#### 4.2.9 SNMP Management - Contact

```
-----  
[SNMP Contact]  
Input Get/Set Request Contact (max 64) or Q(uit): █
```

#### 4.3 Network Settings

```
-----  
<Network Setting>  
1. IP configuration          Static  
2. IP address               192.168.1.43  
3. Netmask                  255.255.255.0  
4. Gateway                  192.168.1.1  
5. DNS server 1  
6. DNS server 2  
A. Apply New Network Settings  
R. Refresh Status  
* Please select (A) "Apply New Network Settings"  
  after changed your settings  
<IP Address report>  
7. To IP  
8. To TCP port              Set "To IP" first  
9. Period(sec)              Set "To IP" first  
Q. Exit  
  
Select one function (1-9,A,R,Q): █
```

### 4.3.1 IP Configuration

```
-----  
[IP configuration]  
Input new IP configuration setting,  
(1)static, (2)DHCP/BOOTP or (Q)uit: █
```

### 4.3.2 IP address

```
-----  
[IP address]  
Input new IP address or (Q)uit: █
```

### 4.3.3 Netmask

```
-----  
[Netmask address]  
Input new Netmask address or (Q)uit: █
```

### 4.3.4 Gateway

```
-----  
[Gateway address]  
Input new Gateway address or (Q)uit: █
```

### 4.3.5 DNS Server 1-2

```
-----  
[DNS server 1]  
Input new DNS server 1 address or (Q)uit: █
```

### 4.3.6 Apply New Network Settings / Refresh Status

Upon executing these functions apply or refresh the settings immediately.

### 4.3.7 IP Address report - To IP

```
-----  
[set Auto report IP]  
Input new IP address device auto report to or (Q)uit: █
```

### 4.3.8 IP Address report - To TCP Port

```
-----  
[set Auto report IP TCP port]  
Input new Auto report to TCP port or (Q)uit: █
```

### 4.3.9 IP Address report - Period (Sec)

```
-----  
[set Auto report IP period]  
Input new Auto report IP period(in seconds) or (Q)uit: █
```

## 4.4 Ports Settings

```
-----  
[Ports setting]  
1. port1 (Port0)  
Q. Exit  
  
Select port or (Q)uit: █
```

This device only has one serial port so you must select "1" to move on to the next menu.

```
-----  
[port1(Port0) Setting]  
1. Serial Settings  
2. Operating Settings  
3. Port Notification Settings  
A. Apply Settings  
R. Refresh Port Status  
Q. Exit  
  
* Please select (A)"Apply Settings" after changed your settings  
Select one function (1-3,A,R,Q): █
```

#### 4.4.1 Serial Settings

```
* Please select (A) "Apply Settings" after changed your settings
Select one function (1-3,A,R,Q): 1
-----
[Serial Setting]
<port1>
 1. Port Alias: Port0
 2. Baudrate: 38400      6. Stop Bits: 1STOPBIT
 3. Parity: No Parity  7. Flow Ctrl: No Flow
 4. Data Bits: 8       8. Interface: RS232
 5. performance: Throughput
<Delimiter Settings>
  <Serial to Ethernet>
  A. Delimiter1: Disable  B. Delimiter2: Disable
  C. Delimiter3: Disable  D. Delimiter4: Disable
  E. Flush Serial to Ethernet Data Buffer After: 0 ms
  <Ethernet to Serial>
  F. Delimiter1: Disable  G. Delimiter2: Disable
  H. Delimiter3: Disable  I. Delimiter4: Disable
  J. Flush Ethernet to Serial Data Buffer After: 0 ms
  K. Force TX interval time: 0 ms
  Q. Exit
Select one function (1-8,A-K,Q): █
```

##### 4.4.1.1 Port Alias

```
-----
[port1 Alias Setting]
Input new alias or (Q)uit: █
```

#### 4.4.1.2 Baudrate

```
-----  
[port1 Baudrate Setting]  
1 110 bps  
2 300 bps  
3 1200 bps  
4 2400 bps  
5 4800 bps  
6 9600 bps  
7 19200 bps  
8 38400 bps  
9 57600 bps  
10 115200 bps  
11 230400 bps  
12 460800 bps  
Select new setting(1-12) or (Q)uit: █
```

#### 4.4.1.3 Parity

```
-----  
[port1 Parity Setting]  
1. No Parity  
2. Even  
3. Odd  
4. Mark  
5. Space  
Select new setting(1-5) or (Q)uit: █
```

#### 4.4.1.4 Data Bits

```
-----  
[port1 Data Bits Setting]  
1. 5  
2. 6  
3. 7  
4. 8  
Select new setting(1-4) or (Q)uit: █
```

#### 4.4.1.5 Performance

```
-----  
[port1 Performance Setting]  
1. Throughput  
2. Latency  
Select new setting(1-2) or (Q)uit: █
```

#### 4.4.1.6 Stop Bits

```
-----  
[port1 Stop Bits Setting]  
1. 1STOPBIT  
2. 2STOPBITS  
Select new setting(1-2) or (Q)uit: █
```

#### 4.4.1.7 Flow Ctrl

```
-----  
[port1 Flow Control Setting]  
1. No Flow  
2. Xon/Xoff  
3. RTS/CTS  
4. DTR/DSR  
Select new setting(1-4) or (Q)uit: █
```

#### 4.4.1.8 Interface

```
-----  
[port1 Interface Setting]  
1. RS232  
2. RS422  
3. RS485(2-wires)  
4. RS485(4-wires)  
Select new setting(1-4) or (Q)uit: █
```

#### 4.4.1.9 Serial to Ethernet - Delimiter1-4

```
-----  
[port1 Serial to Ethernet Delimiter0 Setting]  
Input new Delimiter number(2 digit Hex) or  
'X' to set disable or (Q)uit: █
```

#### 4.4.1.10 Serial to Ethernet - Flush

```
-----  
[port1 Serial to Ethernet Delimiter Setting]  
<Time of Flush Data Buffer After setting>  
* The received data will be queueing in the buffer until all the  
  delimiters are matched. When the buffer is full (4K Bytes) or  
  after "flush S2E data buffer" timeout, the data will also be sent.  
Input new time(in ms) or (Q)uit: █
```

#### 4.4.1.11 Ethernet to Serial - Delimiter1-4

```
-----  
[port1 Ethernet to Serial Delimiter0 Setting]  
Input new Delimiter number(2 digit Hex) or  
'X' to set disable or (Q)uit: 
```

#### 4.4.1.12 Ethernet to Serial - Flush

```
-----  
[port1 Ethernet to Serial Delimiter Setting]  
<Time of Flush Data Buffer After setting>  
* The received data will be queueing in the buffer until all the  
  delimiters are matched. When the buffer is full (4K Bytes) or  
  after "flush E2S data buffer" timeout, the data will also be sent.  
Input new time(in ms) or (Q)uit: 
```

#### 4.4.1.13 Force TX Interval Time

```
-----  
[port1 Force TX interval time Setting]  
* TThe received data will be queueing in TX buffer until  
  TX interval time is timeout or TX buffer is full (4K Bytes), the data  
  will also be sent. 0 is disable.  
Input new time(in ms) or (Q)uit: 
```

#### 4.4.2 Operating Settings

```
-----  
[port1(Port0) Operating Setting]  
1. Operating Mode: Vircom mode  
<Vircom mode>  
2. idle Timeout : 0 sec                    3. Alive check : 40 sec  
<Multilink>  
A. Max Connections: 1  
E Data Encryption: Disable  
Q. Exit  
  
Select one function : 
```

#### 4.4.2.1 Operating Mode

```
-----  
[set port1 Operating Mode]  
1. TCP server mode  
2. TCP Client mode  
3. UDP listening mode  
4. Virtual COM mode  
Q. Exit  
Select one Operating Mode (1-4,Q): █
```

#### 4.4.2.2 Idle Timeout

```
-----  
[set port1 Idle Timeout time]  
Input new time(sec) or (Q)uit: █
```

#### 4.4.2.3 Alive Check

```
-----  
[set port1 Alive Check time]  
Input new check time(sec) or (Q)uit: █
```

#### 4.4.2.4 Multilink - Max Connections

```
-----  
[set port1 Multilink Max Connection]  
Input new value(1-5) or (Q)uit: █
```

#### 4.4.2.5 Data Encryption

```
-----  
[set port1 Encryption Mode]  
1. Disable  
2. Enable  
Q. Exit  
Select one Encryption Mode (1-2, Q): █
```

#### 4.4.3 Port Notification Settings

```
-----  
[port1 Notification Settings]  
1. SNMP Trap setting  
2. Email Notification settings  
3. System Log setting  
Q. Exit  
Select one function (1-3,Q): █
```

#### 4.4.3.1 SNMP Trap setting

```
-----  
[port1 SNMP Notification Settings]  
<Event Type>  
1. DCD Changed:          Disable  
2. DSR Changed:          Disable  
3. RI Changed:           Disable  
4. CTS Changed:          Disable  
5. Port Connected:       Disable  
6. Port Disconnected:    Disable  
Q. Exit  
  
Select one function (1-6,Q): 
```

#### 4.4.3.2 Email Notification settings

```
-----  
[port1 SMTP Notification Settings]  
<Event Type>  
1. DCD Changed:          Disable  
2. DSR Changed:          Disable  
3. RI Changed:           Disable  
4. CTS Changed:          Disable  
5. Port Connected:       Disable  
6. Port Disconnected:    Disable  
Q. Exit  
  
Select one function (1-6,Q): 
```

#### 4.4.3.3 System Log setting

```
-----  
[port1 System Log Notification Settings]  
<Event Type>  
1. DCD Changed:          Disable  
2. DSR Changed:          Disable  
3. RI Changed:           Disable  
4. CTS Changed:          Disable  
5. Port Connected:       Disable  
6. Port Disconnected:    Disable  
Q. Exit  
  
Select one function (1-6,Q): 
```

#### 4.4.4 Apply Settings

Immediately applies settings

#### 4.4.5 Refresh Port Status

Immediately refreshes the screen

### 4.5 Security (Accessible IP) Settings

```
-----  
[Access IP Setting]  
          IP Address      Netmask  
1.  IP-1  
2.  IP-2  
3.  IP-3  
4.  IP-4  
5.  IP-5  
6.  IP-6  
7.  IP-7  
8.  IP-8  
9.  IP-9  
10. IP-10  
11. IP-11  
12. IP-12  
13. IP-13  
14. IP-14  
15. IP-15  
16. IP-16  
Q.  Exit  
  
Select one function (1-16,Q): █
```

#### 4.5.1 IP-1~16 IP Address Netmask

```
-----  
[Set Access IP-1]  
Input new Access IP-1 IP address or (Q)uit: 192.168.1.211  
Input new Access IP-1 netmask address: 255.255.255.0 █
```

## 4.6 Notification (Auto Warning) Settings

```
-----  
[Notification Settings]  
1. SNMP Trap setting  
2. Email Notification settings  
3. System Log setting  
Q. Exit  
Select one function (1-3, Q): █
```

### 4.6.1 SNMP Trap Setting

```
-----  
[SNMP Trap settings]  
<SNMP trap server>  
A. SNMP trap server1 address:  
B. SNMP trap server2 address:  
C. SNMP trap server3 address:  
D. SNMP trap server4 address:  
<Event Type>  
1. Cold start Disable  
2. Warm start Disable  
3. Authentication failure Disable  
4. IP address changed Disable  
5. Password changed Disable  
6. Access IP block Disable  
Q. Exit  
Select one function (A-I,1-9,Q): █
```

#### 4.6.1.1 SNMP trap server - 1-4

```
-----  
[SNMP Trap Server1]  
Input new SNMP trap server IP or domain name or (Q)uit: █
```

#### 4.6.1.2 Event Type - enable/disable

```
-----  
[(SNMP trap)Cold start event type setting]  
Input (1)Enable or (2)Disable or (Q)uit: █
```

## 4.6.2 Email Notification Settings

```
-----  
[Email Notification settings]  
<SMTP server>  
A. Server Address :  
B. Server Port :    0  
<E-mail list>  
S. E-mail list Settings  
<Event Type>  
1. Cold start           Disable  
2. Warm start           Disable  
3. Authentication failure Disable  
4. IP address changed   Disable  
5. Password changed     Disable  
6. Access IP block      Disable  
Q. Exit  
  
Select one function (A,B,E-I,s,1-9,Q):  █
```

### 4.6.2.1 Server address

```
-----  
[SMTP Server]  
Input new mail server or (Q)uit:  █
```

### 4.6.2.2 Server Port

```
-----  
[SMTP Server port]  
Input new port number or (Q)uit:  █
```

### 4.6.2.3 E-mail list settings

```
-----  
[Email Notification settings]  
<SMTP server>  
A. Server Address :  
B. Server Port : 0  
<E-mail list>  
S. E-mail list Settings  
<Event Type>  
1. Cold start           Disable  
2. Warm start           Disable  
3. Authentication failure Disable  
4. IP address changed   Disable  
5. Password changed     Disable  
6. Access IP block      Disable  
Q. Exit  
  
Select one function (A,B,E-I,s,1-9,Q): █
```

Server address

```
-----  
[SMTP Server]  
Input new mail server or (Q)uit: █
```

Server port

```
-----  
[SMTP Server port]  
Input new port number or (Q)uit: █
```

Event enable

```
-----  
[(Email notification)Cold start event type setting]  
Input (1)Enable or (2)Disable or (Q)uit: █
```

### 4.6.3 System Log setting

```
-----  
[System Log settings]<System Log server>  
A. Server address:  
B. Port: 0  
<Event Type>  
1. Cold start Disable  
2. Warm start Disable  
3. Authentication failure Disable  
4. IP address changed Disable  
5. Password changed Disable  
6. Access IP block Disable  
Q. Exit  
Select one function (A-I,1-9,Q): █
```

#### 4.6.3.1 Server address

```
-----  
[System Log Server]  
Input new System log server IP or domain name or (Q)uit: █
```

#### 4.6.3.2 Port

```
-----  
[System Log Server port]  
Input new port number or (Q)uit: █
```

#### 4.6.3.3 Event Type - enable/disable

```
-----  
[(System Log notification)Cold start event type setting]  
Input (1)Enable or (2)Disable or (Q)uit: █
```

## 4.7 Change Password

```
-----  
[Change Password]  
Input old password: *****  
Input new password: *****  
Confirm new password:***** █
```

## 4.8 Load Factory Default

Immediately loads defaults and requires a reboot

## 4.9 Save configuration

```
-----  
[Save to file]  
Are you sure? (Y/N) █
```

## 4.10 Reboot

```
-----  
[Reboot System]  
Are you sure? (Y/N) █
```

## 4.11 Exit & Logout



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