

CCG-1500 Series User Manual

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www.moxa.com/products

MOXA®

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CCG-1500 Series User Manual

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1. Introduction

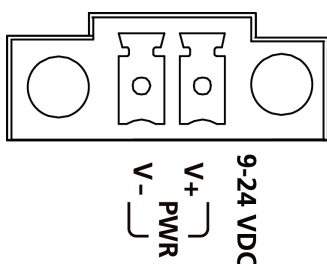
Overview

The CCG-1500 Series is designed for media and protocol conversion, including 5G-to-Ethernet and 5G-to-serial and is suitable for both public and private networks. The CCG-1500 Series acts as a protocol converter for Modbus TCP/RTU communications and supports 5G-based wireless communications. Equipped with a Cortex-A7 processor built for media conversion, the CCG-1500 Series is suitable for a wide range of industrial applications. The wide-temperature design also makes the CCG-1500 Series ideal for applications in harsh environments.

2. Getting Started

Connecting the Power

The CCG Series device is powered by connecting a power source to the terminal block. Refer to the power terminal block pin assignments below:



1. Loosen or remove the screws on the terminal block.
2. Turn off the power source and then connect a 9–24 VDC power line to the terminal block.
3. Tighten the connections, using the screws on the terminal block.
4. Turn on the power source.

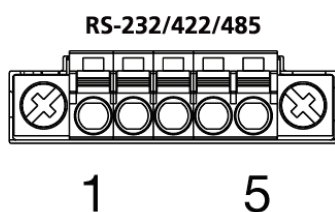


NOTE

The unit does not have an on/off switch. The device will automatically turn on when it receives power. When the system is ready, the SYS LED will light up green.

Connecting the Serial Devices

The CCG-1500 Series supports connections to Modbus serial devices through the DB9 male serial port. The serial port can be configured for the RS-232, RS-422, or RS-485 mode using serial software. Refer to the serial port pin assignment below:



Pin	Definition
1	RS-232TXD/RS-422T+
2	RS-232RXD/RS-422T-
3	RS-232RTS/RS-422R+/RS-485D+
4	RS-232CTS/RS-422R-/RS-485D-
5	GND

Connecting to a Network

Connect one end of an Ethernet cable to one of the CCG-1500 Series device's 10/100/1000 Mbps Ethernet ports. Connect the other end of the cable to your Ethernet network. If a connection is established, the corresponding LAN LED will turn solid green.

Accessing the Web Interface



NOTE

Make sure the host and the CCG device are on the same subnet. The CCG device's default subnet is **255.255.255.0**.

1. Connect the CCG device's LAN1 or LAN2 port to your network.
2. Open a web browser and enter the CCG device's IP address into the address bar. The default IP address is **https://192.168.225.1:443**.
3. Log in using your user account and password. If this is the first time logging in, use the default login credentials.

Account: **admin**

Password: **moxa**

MOXA

Sign in to
CCG1510

Account

Password

SIGN IN

4. Click **SIGN IN**. When logged in, the System Information screen will appear by default.

MOXA CCG-1510-V091 Admin

System Information

System Information

Firmware Version V1.2.2_BUILD_24051310 / RXLG1.20.00.375_0R09

Serial Number IWCCG0010010

IMEI 359855101785669

IMSI --

System Time Mar 12, 1980 23:47:49

GPS

Status Locating GPS

Latitude 22.990002

Longitude 119.349998

CCG-1510-V091

Leaflet | © OpenStreetMap contributors

3. Web Interface

Overview

System Information

The System Information page shows basic details about the device, including the firmware version and serial number. From this screen, you can also check the device's physical location and GPS coordinates.

The screenshot displays the MOXA web interface for device CCG-1510-V091. The left sidebar contains a navigation menu with the following items: System Information (selected), Network Overview, Lan Information, Cellular, IP Passthrough, NAT, Firewall, MTU Size, VXLAN, MAC ACL, LAN, Modbus, LWM2M, Maintenance, and General Operation. The main content area is titled 'System Information' and is divided into two panels. The left panel, titled 'System Information', contains the following data:

Firmware Version	V1.2.2_BUILD_24051310 / RXLG1.20.00.375_0R09
Serial Number	IWCCG0010010
IMEI	359855101785669
IMSI	--
System Time	Mar 12, 1980 23:47:49

The right panel, titled 'GPS', shows the device's location on a map of East Asia. The status is 'Locating GPS'. The coordinates are Latitude 22.990002 and Longitude 119.349998. A blue location pin is placed on the map near the coast of Taiwan. The map includes a search bar with the device ID 'CCG-1510-V091' and a 'Leaflet | © OpenStreetMap contributors' logo at the bottom.

Network Overview

This dashboard displays information about the device's cellular status (if a SIM card is inserted), WWAN statistics, WWAN IP configuration, and SIM card status. Refer to the following segments for more details about each section.

Cellular Status

The Cellular Status section displays the current modem status, LTE and NR information, and cellular signal strength. A SIM card must be installed to view this information.


Cellular Status

Modem Status ^

Operation Mode : online
Radio Access Technology : NR5G_NSA
Registration Status : Registered
Operator Name : Far EasTone
Operator MCC : 466
Operator MNC : 01

LTE Information


Band : Band 3
EARFCN : 1550
PCI : 75
TAC : 29323
ECI : 51767820
RSRP (dBm) : -86
SNR (dB) : 3
Bandwidth : LTE 20 MHz



The LTE signal strength bar chart shows a signal level of -86 dBm. The signal is categorized as 'Fair' (orange bar). The legend indicates: Good (green), Fair (orange), Poor (red), and No signal (grey).

NR Information

Band : Band 78
NR-ARFCN : 623328
NR-TAC : 0
NR-NCI : 0
RSRP (dBm) : -88
SNR (dB) : 9
Bandwidth : NR5G 80 MHz



The NR signal strength bar chart shows a signal level of -88 dBm. The signal is categorized as 'Fair' (orange bar). The legend indicates: Good (green), Fair (orange), Poor (red), and No signal (grey).

WWAN Statistics

The WWAN Statistics section displays information about the data sent and received through the WAN interface. The WWAN information automatically refreshes every 10 seconds.

WWAN Statistics

 ^

RX Bytes	: 4012
TX Bytes	: 750
RX Packets	: 14
TX Packets	: 14
RX Drop Packets	: 0
TX Drop Packets	: 0

WWAN IP Configs-1

The WWAN IP Config section displays WWAN IP configuration details, including the IPv4/v6 address and IPv4/v6 DNS server name.

WWAN IP Configs - 1 ^

Profile Name	: auto-1
APN	: --
IPv4 Address	: 10.161.50.205
IPv4 DNS 1	: 168.95.1.1
IPv4 DNS 2	: 168.95.192.1
IPv6 Address	: 2001:b400:e20d:71b3:fc9d:790f:2ff2:924
IPv6 DNS 1	: 2001:b000:168::1
IPv6 DNS 2	: 2001:b000:168::2

SIM Status

The SIM Status section displays information about the installed SIM card including the PIN code, ICCID, and IMSI.

SIM Status ^

Card State	: PRESENT
Status	: READY
PIN Enable	: false
PIN Retries	: 3
PUK Retries	: 10
ICCID	: 89886920049200336147
IMSI	: 466924920033614

Network Settings

Cellular

The **Cellular** page is used to configure cellular connection health, profiles, bands, and SIM settings.

Go to **Cellular**.

Cellular

Home > Network Settings > Cellular

Enable Airplane Mode

Keep Alive Profiles Band SIM Settings

Enable Packet Keep Alive

Detection

Check Interval (sec)

60

Rx Packet Check

Ping Check

Ping Target Host

Ping Retry Count

3

Ping Timeout (sec)

5

DNS Check

DNS Target Domain Name (ex: google.com)

DNS Retry Count

3

DNS Query Timeout (sec)

20

Recovery

Profile Retry Count

3

Action Waiting Timeout (sec)

300

Profile Retry with Airplane Mode

SAVE

Enable Airplane Mode

Setting	Description	Factory Default
Toggle	Enable or disable Airplane Mode. If enabled, cellular functionality will be disabled.	Off

Keep Alive

The CCG-1500 Series device supports Keep Alive checks to monitor the health of the cellular connection and cellular connection recovery functionality.

Go to **Cellular > Keep Alive**.

Cellular
Home > Network Settings > Cellular

Enable Airplane Mode

Keep Alive Profiles Band SIM Settings

Enable Packet Keep Alive

Detection
Check Interval (sec)
60

Rx Packet Check

Ping Check
Ping Target Host
.....
Ping Retry Count
3
.....
Ping Timeout (sec)
5
.....

DNS Check
DNS Target Domain Name (ex: google.com)
.....
DNS Retry Count
3
.....
DNS Query Timeout (sec)
20
.....

Recovery
Profile Retry Count
3
.....
Action Waiting Timeout (sec)
300
.....

Profile Retry with Airplane Mode

SAVE

Enable Packet Keep Alive

Setting	Description	Factory Default
Toggle	Enable or disable Keep Alive packets to monitor the health of the cellular connection.	On

Detection

Setting	Description	Factory Default
1 to 3600	Specify the interval (in seconds) at which Keep Alive packets are sent.	60

Rx Packet Check

Setting	Description	Factory Default
Checkbox	Enable or disable Rx packets. If enabled, the system will check for incoming Keep Alive packets as a means to monitor connection health. This function is useful for scenarios where the network does not permit devices to send out ping packets.	Unchecked

Ping Check

Setting	Description	Factory Default
Checkbox	Enable or disable ping checks. If enabled, the system will ping the specified host to determine the health of the connection.	Unchecked

Ping Target Host

Setting	Description	Factory Default
Domain Name or IP Address	Specify the domain name or IP address of the host to ping.	N/A

Ping Retry Count

Setting	Description	Factory Default
1 to 10	Specify the number of times the system will attempt to ping an unresponsive host.	N/A

Ping Timeout (sec)

Setting	Description	Factory Default
1 to 300	Specify the duration (in seconds) before the host is considered unresponsive.	N/A

DNS Check

Setting	Description	Factory Default
Checkbox	Enable or disable DNS checks. If enabled, the system will ping the specified DNS server to determine the health of the connection.	Unchecked

DNS Target

Setting	Description	Factory Default
Domain Name	Specify the domain name of the DNS server.	N/A

DNS Retry Count

Setting	Description	Factory Default
1 to 5	Specify the number of times the system will attempt to ping an unresponsive DNS server.	N/A

DNS Query Timeout (sec)

Setting	Description	Factory Default
1 to 300	Specify the duration (in seconds) before the DNS server is considered unresponsive.	N/A

Profile Retry Count

Setting	Description	Factory Default
1 to 10	Specify the number of times the system will attempt to apply the assigned cellular profile.	3

Action Waiting Timeout (sec)

Setting	Description	Factory Default
0 to 3600	Specify the duration (in seconds) before the system considers the attempt failed.	300

Profile Retry with Airplane Mode

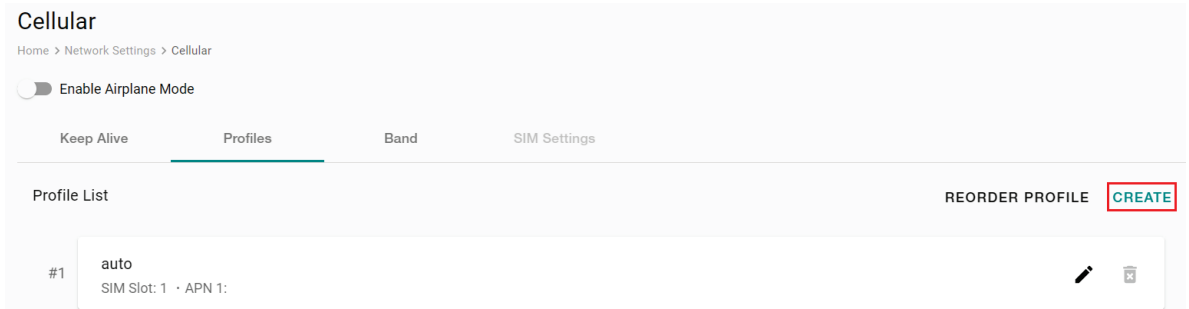
Setting	Description	Factory Default
Checkbox	Enable or disable profile retries if Airplane Mode is enabled. For more information about cellular profiles, refer to the Profiles section.	Checked

When finished, click **SAVE**.

Profiles

From the **Profiles** screen, you can create multiple customized cellular profiles with specific configuration settings. The CCG device will always deploy the cellular settings of the profile with the highest priority.

Go to **Cellular > Profiles**.



To create a new profile, click **CREATE**.

Create new profile

Profile Name

SIM Slot

1

SIM PIN - optional

Multi-APN settings - 1

APN

IP Type

ipv4

Authentication Type

none

+ Add APN Setting

CANCEL SAVE

Profile Name

Setting	Description	Factory Default
Name	Enter a name for the profile	N/A

SIM Slot

Setting	Description	Factory Default
1 or 2	Select the SIM slot of the profile.	1

SIM PIN - optional

Setting	Description	Factory Default
PIN number	If the inserted SIM card has a PIN code configured, specify the PIN code.	N/A

APN

Setting	Description	Factory Default
APN	Specify the Access Point Name (APN), if available.	N/A

IP Type

Setting	Description	Factory Default
IPv4, IPv6, IPv4v6	Select the IP type.	IPv4

Authentication Type

Setting	Description	Factory Default
None, PAP, CHAP, PAP-CHAP	Select the authentication mechanism.	None

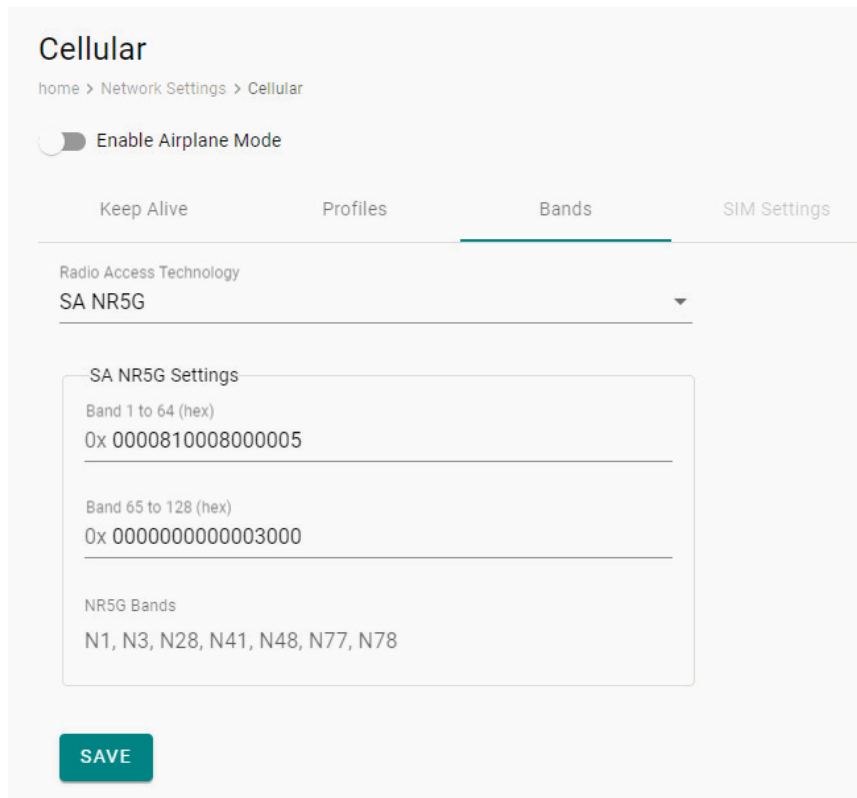
Click **+Add APN Setting** to configure an additional APN.

When finished, click **SAVE**.

Bands

From the **Bands** screen, you can configure specific bands for different radio technologies.

Go to **Cellular > Bands**.



Radio Access Technology

Setting	Description	Factory Default
LTE Only, NSA NR5G, SA NR5G	Select the radio access technology (RAT) from the list. Available settings depend on the selected type. Refer to the following sections for more information: LTE Only NSA NR5G SA NR5G	SA NR5G

LTE Only

RAT Setting
LTE Only

LTE Settings

Band 1 - 64 (hex)
0x 00000020080000C5

LTE Band
B1, B3, B7, B8, B28, B38

SAVE

Band 1-64 (hex)

Setting	Description	Factory Default
Hex Number	Specify the cellular band number in hex format.	N/A

LTE Band

Setting	Description	Factory Default
Read Only	This shows the supported LTE bands.	N/A

When finished, click **SAVE**.

NSA NR5G

NSA NR5G Settings

Band 1 - 64 (hex)
0x 0000010008000005

Band 65 - 128 (hex)
0x 00000000000002000

NR5G Band
N1, N3, N28, N41, N78

SAVE

Band 1-64 (hex)

Setting	Description	Factory Default
Hex Number	Specify the cellular band number in hex format.	N/A

Band 65-128 (hex)

Setting	Description	Factory Default
Hex Number	Specify the cellular band number in hex format.	N/A

NR5G Band

Setting	Description	Factory Default
Read Only	This shows the supported NSA NR5G bands.	N/A

When finished, click **SAVE**.

SA NR5G

Band 1-64 (hex)

Setting	Description	Factory Default
Hex Number	Specify the cellular band number in hex format.	N/A

Band 65-128 (hex)

Setting	Description	Factory Default
Hex Number	Specify the cellular band number in hex format.	N/A

NR5G Band

Setting	Description	Factory Default
Read Only	This shows the supported SA NR5G bands.	N/A

When finished, click **SAVE**.

SIM Settings

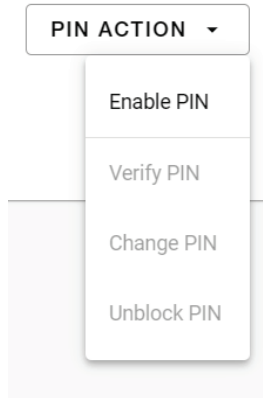
From the SIM Settings screen, you can select the active SIM slot and perform basic SIM card actions.

Go to **Cellular > SIM Settings**.

Current SIM Slot

Setting	Description	Factory Default
1 or 2	Select the active slot. If changed, the cellular connection will be temporarily uninterrupted.	1

From the **PIN ACTION** menu, you can perform the following actions:



PIN ACTION

Action	Description
Enable PIN	Enable or disable SIM card PIN code verification. If enabled, users will be required to enter the PIN code to unlock and use the SIM card. Every time the device is rebooted, users will be required to re-enter the PIN code using the Verify PIN function. If disabled, the SIM card will be unlocked without the need to enter a PIN code.
Verify PIN	If PIN code verification is enabled, enter the PIN code to verify and unlock the SIM card.
Change PIN	Change the current PIN code.
Unblock PIN	If the PIN code of the SIM card was entered incorrectly multiple times in a row, the SIM card will be blocked. Use the unblock PIN function to unblock the SIM card.

IP Passthrough

The **IP Passthrough** page is used to enable or disable the IP Passthrough function.

Go to **IP Passthrough**.



WARNING

Enabling IP Passthrough will disable all NAT and firewall settings.

IP Passthrough

home > Network Settings > IP Passthrough

Note: VXLAN and IP Passthrough cannot be enabled at the same time.

Enable IP Passthrough
Enabling IP Passthrough will disable NAT and firewall functionality.

Client Device MAC Address

SAVE

Enable IP Passthrough

Setting	Description	Factory Default
Checkbox	Enable or disable the IP Passthrough function.	Disabled

When finished, click **SAVE**.

NAT Settings

The **NAT** page is used to set the NAT mode and configure relevant NAT and port forwarding settings. Configurable settings depend on which NAT mode is selected.

Go to **NAT**.

NAT

home > Network Settings > NAT

Symmetric

IPsec VPN Passthrough

PPTP VPN Passthrough

L2TP VPN Passthrough

Web Server WWAN Access

DMZ IP

UPDATE

Select NAT Type

Setting	Description	Factory Default
Symmetric	Set the NAT mode to Symmetric.	Symmetric
Port Restricted	Set the NAT mode to Port Restricted.	

Full Cone	Set the NAT mode to Full Cone.	
Access Restricted	Set the NAT mode to Access Restricted.	

IPSEC VPN Pass-Through

Setting	Description	Factory Default
Checkbox	Enable or disable IPsec VPN passthrough functionality.	Enabled

PPTP VPN Pass-Through

Setting	Description	Factory Default
Checkbox	Enable or disable PPTP VPN passthrough functionality.	Enabled

L2TP VPN Pass-Through

Setting	Description	Factory Default
Checkbox	Enable or disable L2TP VPN passthrough functionality.	Enabled

Webserver WWAN Access

Setting	Description	Factory Default
Checkbox	Enable or disable Webserver WWAN Access functionality. If enabled, the web interface can be accessed via the WWAN interface.	Unchecked

DMZ IP

Setting	Description	Factory Default
IP Address	Specify the NAT DMZ IP address.	N/A

When finished, click **UPDATE**.

Port Forwarding

The **Port Forwarding** section on the NAT page is used to enable or disable the port forwarding function and to manage port forwarding rules.

Go to **NAT**.

Port Forwarding

Enable Port Forwarding

[+ ADD ENTRY](#)

No.	Private IP	Private Port	Global Port	Protocol
No entry yet. Click + ADD ENTRY to create port forwarding entry.				

Enable Port Forwarding

Setting	Description	Factory Default
Toggle	Use the toggle button to enable or disable the port forwarding function.	Enabled

Adding a Port Forwarding Entry

In the Port Forwarding section, click **+ADD ENTRY** to create a port forwarding entry.

Add Port Forwarding Entry

Protocol
TCP

Private IP

Private Port
1

Global Port
1

CANCEL SAVE

Protocol

Setting	Description	Factory Default
ICMP, TCP, UDP, TCP & UDP	Select the port forwarding protocol.	TCP

Private IP

Setting	Description	Factory Default
IP Address	Specify the private IP address.	Disabled

Private Port

Setting	Description	Factory Default
1 to 65535	Specify the private port number.	None

Global Port

Setting	Description	Factory Default
1 to 65535	Specify the global port number.	None

When finished, click **SAVE**.

Firewall Settings

The **Firewall** page is used to enable or disable the IPv4 firewall function and to manage IPv4 and IPv6 firewall rules.

Go to **Firewall**.

Firewall

home > Network Settings > Firewall

Enable Firewall

IPv4 Firewall Entries

No.	Protocol	Source Address	Source Subnet Mask
No entries yet. Click + ADD ENTRY to create a firewall entry.			

IPv6 Firewall Entries

No.	Protocol	Address	Prefix Length
No entries yet. Click + ADD ENTRY to create a firewall entry.			

Enable Firewall

Setting	Description	Factory Default
Toggle	Use the toggle button to enable or disable the firewall function.	Disabled

Adding an IPv4 Firewall Entry

In the IPv4 Firewall Entries section on the Firewall Settings screen, click **+ ADD ENTRY** to create a new IPv4 firewall entry.

Firewall

home > Network Settings > Firewall

Enable Firewall

IPv4 Firewall Entries

+ ADD ENTRY

No.	Protocol	Source Address	Source Subnet Mask
No entries yet. Click + ADD ENTRY to create a firewall entry.			

IPv6 Firewall Entries

Add Firewall Entry

Protocol
NONE

Source Address

Source Subnet Mask

CANCEL SAVE

Protocol

Setting	Description	Factory Default
None, ICMP, TCP, UDP, TCP & UDP	Select the protocol for the firewall rule.	TCP

Source Address

Setting	Description	Factory Default
IP Address	Specify the source IP address.	N/A

Source Subnet Mask

Setting	Description	Factory Default
Subnet Mask	Specify the source subnet mask.	N/A

When finished, click **SAVE**.

Adding an IPv6 Firewall Entry

In the IPv6 Firewall Entries section on the Firewall Settings screen, click **+ ADD ENTRY** to create a new IPv6 firewall entry.

+ ADD ENTRY

No.	Protocol	Address	Prefix Length
-----	----------	---------	---------------

No entry yet. Click **+ ADD ENTRY** to create firewall entry.

Add Firewall Entry

Protocol

NONE

Address

Prefix Length

0

CANCEL

SAVE

Protocol

Setting	Description	Factory Default
None, ICMP6, TCP, UDP, TCP & UDP	Select the protocol for the firewall rule.	TCP

Address

Setting	Description	Factory Default
IPv6 Address	Specify the IPv6 address.	N/A

Prefix Length

Setting	Description	Factory Default
IPv6 Prefix Length	Specify the prefix length for the IPv6 address.	0

When finished, click **SAVE**.

MTU Size

The **MTU Size** page is used to configure the largest packet size that can be transmitted over the network.

Go to **MTU Size**.

MTU Size

home > Network Settings > MTU Size

MTU Size

1500

1200 ~ 1500

APPLY

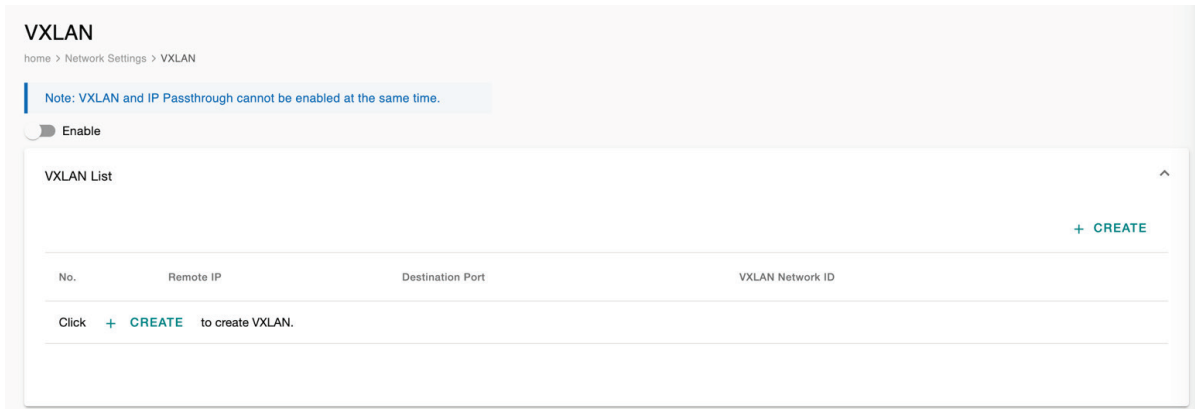
LAN DHCP Lease Time

Setting	Description	Factory Default
1200 to 1500	Specify the MTU size (in bytes).	1500

VXLAN

The **VXLAN** page is used to configure the Virtual Extensible LAN (VXLAN) function that enables CCG-1500 Series gateway to push Layer 2 or Layer 3 packets through a VXLAN tunnel.

Go to **VXLAN**.



Enable

Setting	Description	Factory Default
Enable or Disable	Use the toggle to enable or disable VXLAN functionality.	Disabled

Adding a VXLAN

In the VXLAN List section on the VXLAN screen, click **+ CREATE** to create a new VXLAN.

Create Interface

Remote IP

Destination Port

1~ 65535

VXLAN Network ID

0~ 16777215

[CANCEL](#) [SAVE](#)

Remote IP

Setting	Description	Factory Default
IP Address	Specify the remote IP of this VXLAN.	None

Destination Port

Setting	Description	Factory Default
1 to 65535	Specify the destination port of this VXLAN.	None

Enable

Setting	Description	Factory Default
0 to 16777215	Specify the network ID for this VXLAN.	None

When finished, click **SAVE**.

MAC ACL

The **MAC ACL** page is used to enable or disable the MAC-based Access Control List, which allows you to configure access to the device based on specific MAC addresses.

Go to **MAC ACL**.



Enable

Setting	Description	Factory Default
Enable or Disable	Use the toggle to enable or disable MAC ACL functionality.	Disabled

Adding a MAC ACL Entry

In the MAC Access Control List Entries section on the MAC ACL screen, click **+ ADD ENTRY** to create a new MAC ACL entry.

Source MAC Address

Setting	Description	Factory Default
MAC Address	Specify the source MAC address.	Disabled

Enable

Setting	Description	Factory Default
Deny, Permit	Choose to deny or permit access to the device for the specified MAC address.	Deny

When finished, click **SAVE**.

LAN Settings

IP Address

The **IP Address** page is used to configure the device's access IP address and specify the LAN DHCP IP pool range.

Go to **LAN > IP Address**.

IP Address

Home > Network Settings > LAN Settings > IP Address

LAN IP

192 . 168 . 225 . 1

LAN Subnet Mask

255 . 255 . 255 . 0

Enable LAN DHCP

LAN DHCP Start IP

192 . 168 . 225 . 20

LAN DHCP End IP

192 . 168 . 225 . 60

LAN DHCP Lease Time

43200

UPDATE

LAN IP

Setting	Description	Factory Default
IP Address	Specify the device's LAN IP address.	192.168.225.1:443

LAN Subnet Mask

Setting	Description	Factory Default
Subnet Mask	Specify the device's LAN subnet mask.	255.255.255.0

Enable LAN DHCP

Setting	Description	Factory Default
Enable or Disable	Enable or disable the LAN DHCP server.	255.255.255.0

LAN DHCP Start IP

Setting	Description	Factory Default
IP Address	Specify the starting IP address of the LAN DHCP IP address pool.	192.168.225.20

LAN DHCP End IP

Setting	Description	Factory Default
IP Address	Specify the ending IP address of the LAN DHCP IP address pool.	192.168.225.60

LAN DHCP Lease Time

Setting	Description	Factory Default
120 to 86400	Specify the IP address lease time (in seconds).	43200

When finished, click **UPDATE**.

Advanced Functions

The **Advanced Functions** page is used to manage the device's advanced functions.

Go to **LAN > Advanced Functions**.

Advanced Functions

home > Network Settings > LAN > Advanced Functions

Enable LAN Port Isolation

Disable LAN Port Isolation will affect VLAN tags in the packets.

Enable LAN port isolation

Setting	Description	Factory Default
Enable or Disable	Enable or disable the LAN port isolation function. Enabling this function will isolate devices connected to the CCG Series device's LAN ports from each other.	Enabled

Protocol Management

Modbus

The **Modbus** page is used to enable Modbus protocol support and configure relevant protocol settings.

Go to **Modbus**.

Modbus

Home > Protocol > Modbus

Enable

Interface
RS232

TCP Port
502

Maximum Connections
32

Retry Count
3

Timeout (sec)
60

Serial Baud Rate
115200

Parity
None

Data Bits
 8

Stop Bits
 1 2

SAVE

Enable

Setting	Description	Factory Default
Enable or Disable	Enable or disable Modbus protocol support.	Disabled

Interface

Setting	Description	Factory Default
RS232, RS422, RS485	Select the interface used for Modbus communication.	RS232

TCP Port

Setting	Description	Factory Default
1 to 65535	Specify the Modbus TCP port.	502

Maximum Connections

Setting	Description	Factory Default
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1 to 32	Specify the maximum number of concurrent connections allowed.	32
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Retry Count

Setting	Description	Factory Default
0 to 15	Specify the number of times the system will attempt to re-establish the Modbus connection.	3

Timeout (sec)

Setting	Description	Factory Default
0 to 1000	Specify the duration of inactivity (in seconds) after which the connection will time out.	60

Serial Baud Rate

Setting	Description	Factory Default
9600, 19200, 38400/, 57600, 115200, 230400, 460800, 921600	Specify the serial baudrate value.	115200

Parity

Setting	Description	Factory Default
None, Even, Odd	Select the parity mode.	None

Data Bits

Setting	Description	Factory Default
8	Select the number of data bits.	8

Stop Bits

Setting	Description	Factory Default
1, 2	Select the number of stop bits.	1

When finished, click **SAVE**.

LWM2M

The CCG-1500 Series device supports Lightweight M2M (LWM2M) communication protocol by the Open Mobile Alliance, which enables links between devices equipped with a LWM2M agent and LWM2M-enabled servers.

LWM2M Configuration

From the LWM2M page, you can enable LWM2M functionality and configure relevant connection parameters.

Go to **LWM2M > LWM2M Configuration**.

LWM2M
home > Protocol > LWM2M

LWM2M Configuration Status

Enable

Use DTLS

Use Cached LWM2M server

LWM2M Server Type
Bootstrap

Client Name
CCG-1500

Server Hostname
none

Server Port
5784
1 - 65535

APPLY

Enable

Setting	Description	Factory Default
Checkbox	Enable or disable LWM2M connections. If enabled, the system will connect to the specified LWM2M server.	Disabled

Use DTLS

Setting	Description	Factory Default
Checkbox	Enable or disable DTLS. The LWM2M client connects to the server using the CoAP protocol. For secure connections it uses DTLS with the Pre-Shared Key (PSK). If DTLS is enabled, you have to enter the PSK information manually.	Disabled

Use Cached LWM2M Server

Setting	Description	Factory Default
Checkbox	Enable or disable cached LWM2M server. If enabled, the system will use session cache on the client side first before falling back to performing a full DTLS handshake. This reduces handshake traffic by avoiding the need to perform a full registration.	Enabled

LWM2M Server Type

Setting	Description	Factory Default
Bootstrap, LWM2M	Select the server type. Bootstrap is recommended for deployments that require enhanced security and management of multiple LWM2M servers. LWM2M is suitable for single-server deployments with end-to-end authentication.	Bootstrap

Client Name

Setting	Description	Factory Default
Client Name	Enter a LWM2M client name for the CCG device.	N/A

Server Hostname

Setting	Description	Factory Default
Server Hostname	Enter the LWM2M server hostname. This information is provided by the LWM2M server.	None

Server Port

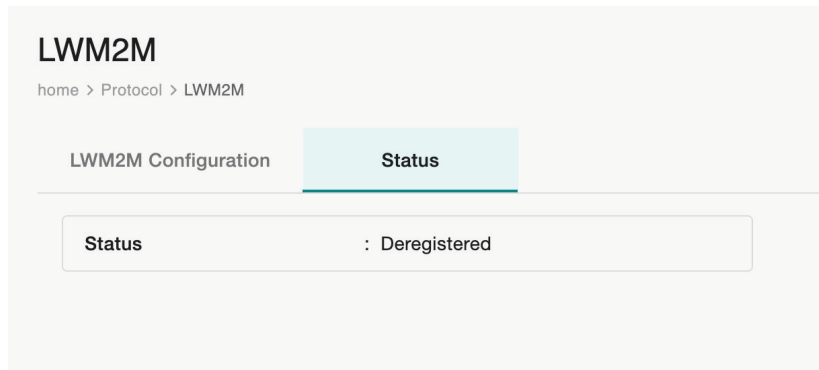
Setting	Description	Factory Default
1 to 65535	Specify the LWM2M server port. This information is provided by the LWM2M server.	5784

When finished, click **APPLY**.

Status

From the **Status** page, you can check the LWM2M server connection status.

Go to **Protocol > LWM2M > Status**.



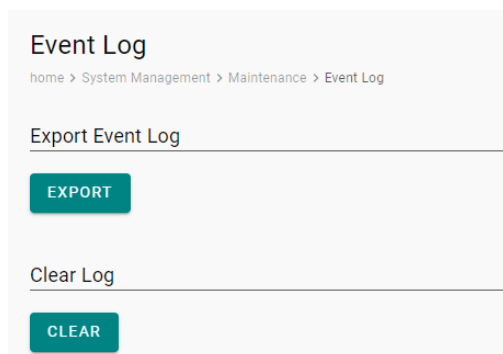
Maintenance

The **Maintenance** section covers the event log, configuration backup and import, and diagnostics functions.

Event Log

The **Event Log** page is used to export the device's event log to a specified location.

Go **Maintenance > Event Log**.



Click **EXPORT** to save the event log to your local host.

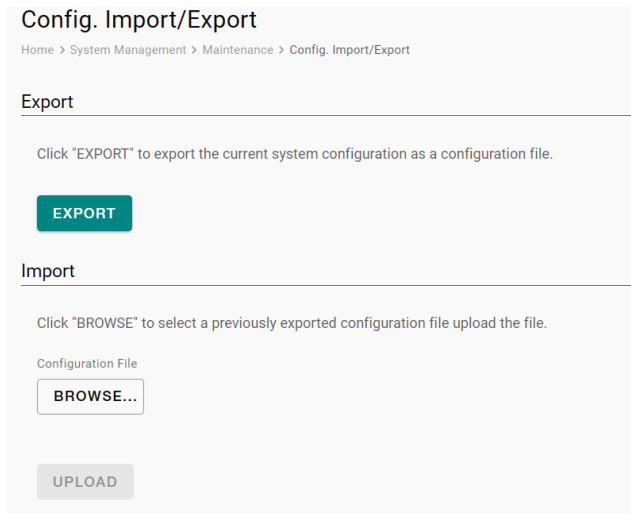
Click **CLEAR** to clear the event log.

Configuration File Import/Export

From the **Config. Import/Export** page, you can export the current configuration or import a previously exported configuration file.

Go to **Maintenance > Config. Import/Export**.

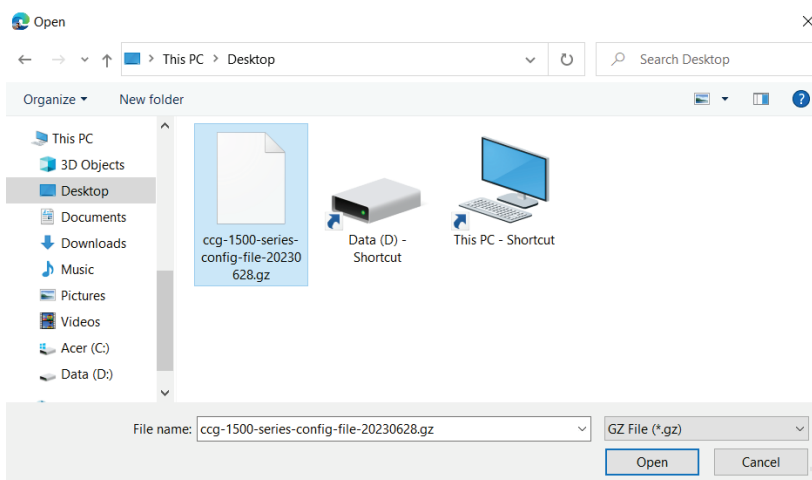
Exporting the Device Configuration



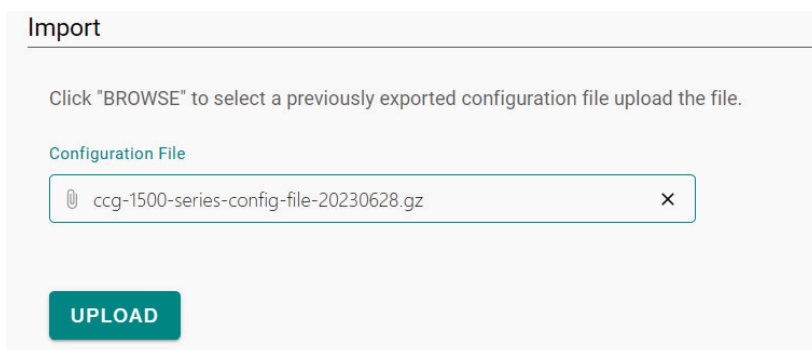
Click **EXPORT** to export the configuration file of the CCG Series device to the local host machine. The configuration file will be compressed and exported to the specified location in **.gz** format.

Importing a Device Configuration Backup

Click **BROWSE** and navigate to the configuration backup file (in .gz format) on the local machine. Select the file and click **OPEN**.



Click **UPLOAD** to import the selected configuration file to the CCG Series device. A prompt will appear to reboot the device. Once rebooted, the system will apply the imported configuration settings.

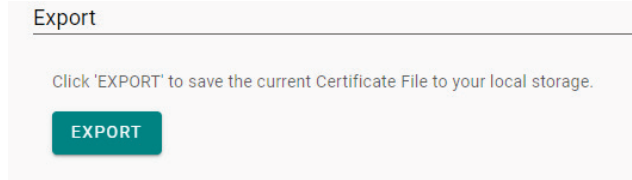


Web SSL Certificate

From the **Web SSL Certificate** page, you can export the web SSL certificate or upload a third-party SSL certificate and key file.

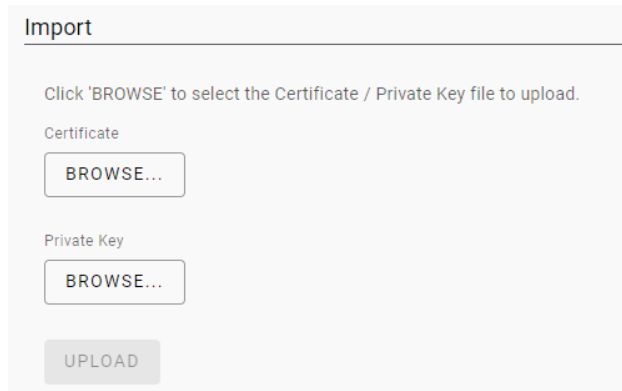
Go to **Maintenance > Web SSL Certificate**.

Exporting the Certificate



Click **EXPORT** to export the web SSL certificate of the CCG Series device to the local host machine. The certificate file will be exported to the specified location in **.crt** format.

Importing a Certificate



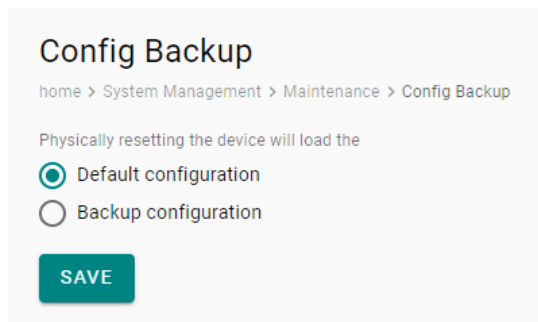
Click **BROWSE** and navigate to the certificate file (in **.crt** format) and key file (in **.pem**, **.pk**, **.key** format) on the local machine. Select the file and click **OPEN**.

Click **UPLOAD** to import the selected certificate and key file to the CCG Series device. A prompt will appear to reboot the device. Once rebooted, the system will apply the imported certificate.

Configuration File Backup

The **Config Backup** page is used to select which configuration the device will restore if the device is physically reset.

Go to **Maintenance > Config Backup**.



Default/Backup Config

Setting	Description	Factory Default
Default config	The device will restore the default factory configuration when reset.	Default config

Backup config	The device will restore the currently saved backup configuration when reset. To upload a backup configuration, refer to Configuration File Import/Export .	
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When finished, click **SAVE**.

DiagPartner

The **DiagPartner** page allows you to enable or disable the DiagPartner cellular modem debug mode. This function is mainly used by Moxa technical support engineers to troubleshoot the connection of the cellular modem to the cellular base station and core network.

Go to **Maintenance > DiagPartner**.

DiagPartner

home > System Management > Maintenance > DiagPartner

Enable

DiagPartner Server Address

192 . 168 . 225 . 123

DiagPartner Service Port

9123

APPLY

Enable

Setting	Description	Factory Default
Checkbox	Enable or disable the DiagPartner debug mode.	Disabled

Client Name

Setting	Description	Factory Default
IP Address	Specify the DiagPartner server address.	192.168.225.123

Client Name

Setting	Description	Factory Default
1 to 65535	Specify the DiagPartner service port.	9123

When finished, click **APPLY**.

General Operation

The **General Operation** section covers service port and time settings. You can also restart or reset the device from this section.

Service Port Settings

From the **Service Port** page, you can configure the protocol access ports to connect to the device.

Go to **General Operation > Service Port**.

Service Port

home > System Management > General Operation > Service Port

HTTPS Port
443

SAVE

HTTPS

Setting	Description	Factory Default
1 to 65535	Specify the HTTPS port number. The following ports are reserved and cannot be used: 53, 80, 500, 502, 1701, 1723, 4500, 5037, 7777.	443

When finished, click **SAVE**.

Time Settings

From the **Time** page, you can configure the system time.

Go to **General Operation > Time**.

Time Settings

Home > System Management > General Operation > Time Settings

Current date and time: Jun 27, 2023 13:09:12

Sync Mode

NITZ NTP Server Sync with browser

SAVE

Sync Mode

Setting	Description	Factory Default
NITZ	Synchronize the system time using NITZ.	NITZ
NTP Server	Synchronize the system time with the specified NTP server. Additional configuration options will be available.	
Sync with browser	Synchronize the system time with the browser time.	

When finished, click **SAVE**.

If you selected **NTP Server**, configure the following settings.

Sync Mode

NITZ
 NTP Server
 Sync with browser

Time Zone
GMT+08:00

Interval (sec)
7200

Time Server
time.stdtime.gov.tw

SAVE

Time Zone

Setting	Description	Factory Default
Time Zone	Select the NTP server's time zone.	GMT +08:00

Interval (sec)

Setting	Description	Factory Default
60 to 604800	Specify the interval (in seconds) at which the device will sync the system time with the NTP server.	7200

Time Server

Setting	Description	Factory Default
Server Address	Specify the NTP server address.	time.stdtime.gov.tw

When finished, click **SAVE**.

Reset to Defaults

Go to **General Operation > Reset to Defaults**.

Reset to Defaults

home > System Management > General Operation > Reset to Defaults

Factory Reset

Click "RESET" to reset the device back to its factory default settings. This will delete all user data and configurations and cannot be undone.

RESET

Click **RESET** to reset the device to its default factory settings.

Firmware Upgrade

From the **Firmware Upgrade** page, you can upload new firmware versions to the device.

Go to **General Operation > Firmware Upgrade**.

Firmware Upgrade

Home > System Management > General Operation > Firmware Upgrade

Upgrade

You may upload the upgrade file from your local drive.

Firmware File Type

General Image Full Image

Firmware Upgrade File

BROWSE...

UPLOAD

Firmware Upgrade

home > System Management > General Operation > Firmware Upgrade

Upgrade

Upload a firmware file from your local drive to upgrade the device's firmware.

Firmware Upgrade File

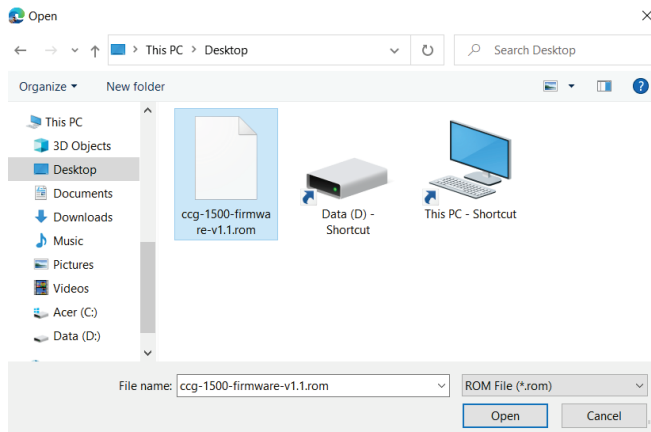
BROWSE...

UPLOAD

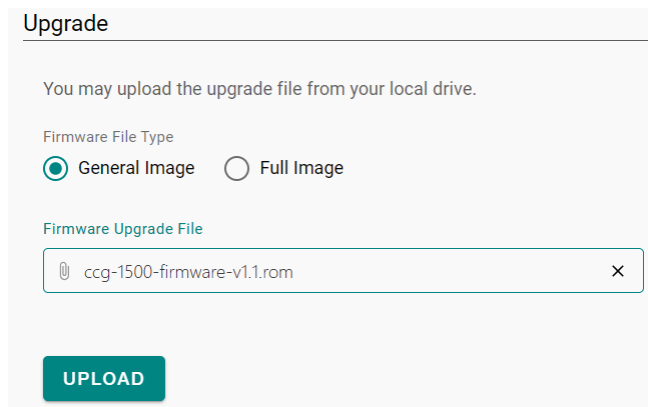
Firmware File Type

Setting	Description	Factory Default
General Image	Upload a general firmware image. This type of firmware only includes an applications component.	General Image
Full Image	Upload a full firmware image. This type of firmware includes both an applications and baseband component.	

Click **BROWSE** and navigate to the firmware file (in .rom format) on the local machine. Select the file and click **OPEN**.

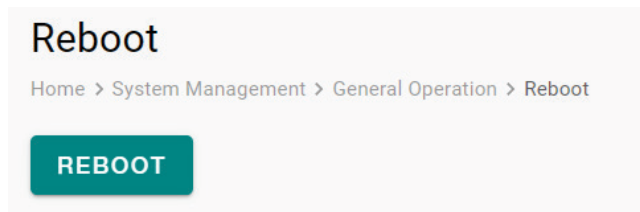


Click **UPLOAD** to import the selected firmware file to the CCG Series device.



Reboot

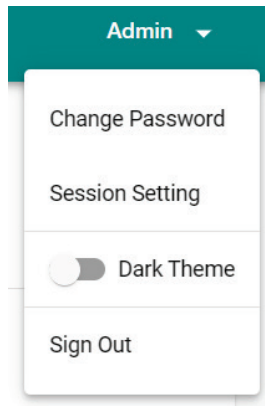
Go to **General Operation > Reboot**.



Click **REBOOT** to restart the device.

Administration Management

Click **Admin** in the upper-right corner of the page to open the user management menu. You can perform several basic functions from this menu.



Change Password

From the user management menu, click **Change Password** to update your user password. The password is subject to certain limitations and requirements.

Change Password

New Password

Contains at least 8 characters
Contains at least 1 number
Contains at least 1 special character
Contains at least 1 lower character
Contains at least 1 upper character

Confirm Password

CANCEL SAVE

When finished, click **SAVE**.

Session Settings

From the user management menu, click **Session Settings** to specify the duration of inactivity before the login session is terminated.

Session Setting

Session Timeout (min)

5

CANCEL

SAVE

When finished, click **SAVE**.

Dark Theme

From the user management menu, click the **Dark Theme** toggle to enable or disable the dark UI theme.



Log Out

From the user management menu, click **Log Out** to immediately log out from the device. You will be automatically redirected to the login page.

