CLOUD-PS Userguide

Cloud Connectivity Gateway

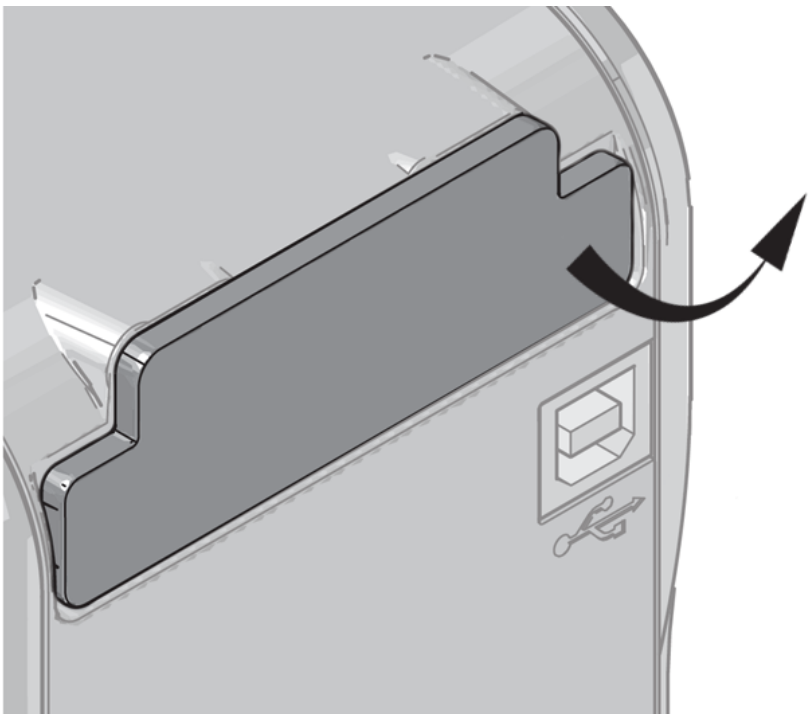
Exported on 05/21/2025

Table of Contents


CLOUD-PS
SETTINGS
10/100Mb ACT

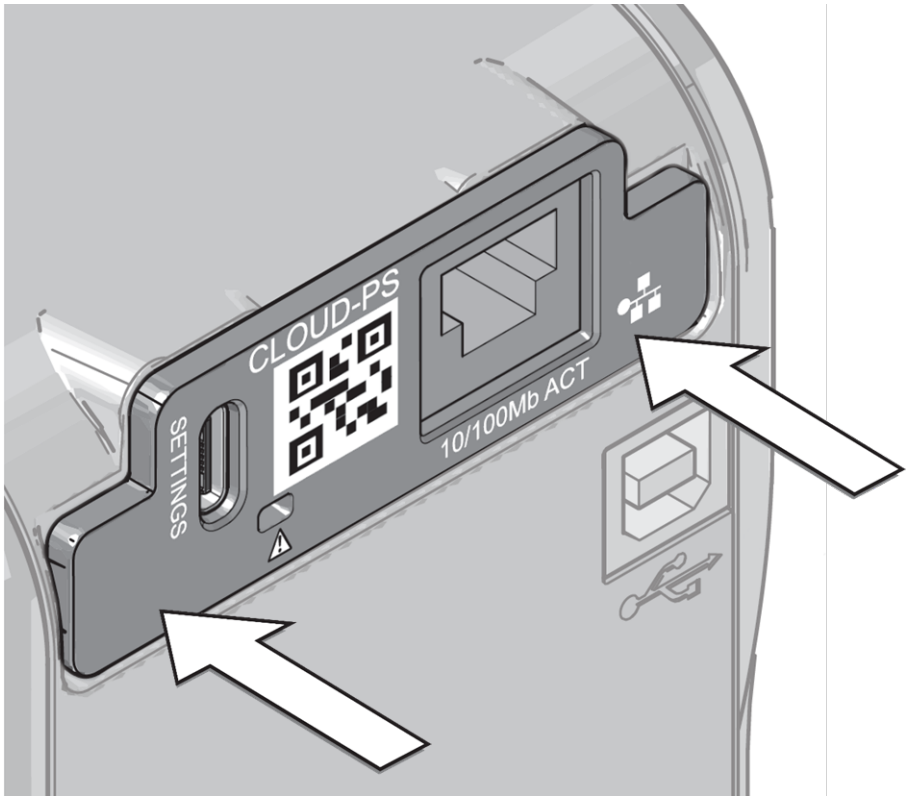
1 Device installation

Step 1 : Remove plastic plate

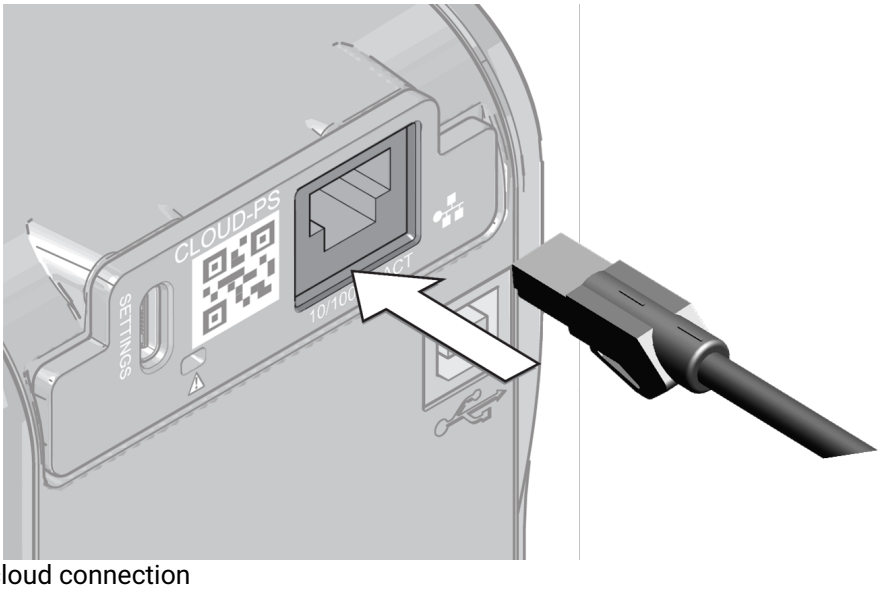


Step 2 : Insert the card in the picoslot.

The card supports hotswap, allowing insertion/removal without shutting down the device.

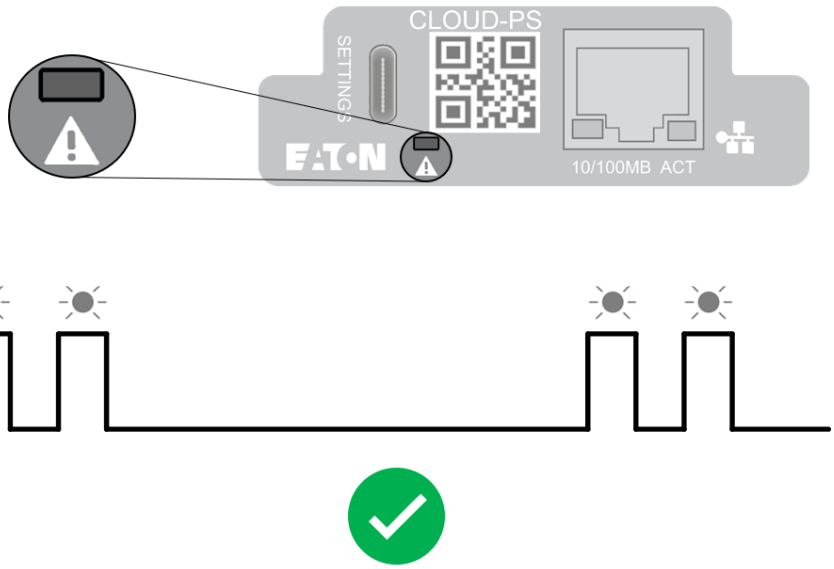


Step 3 : Connect the Ethernet cable to the network port on your device and the other end to the network outlet.



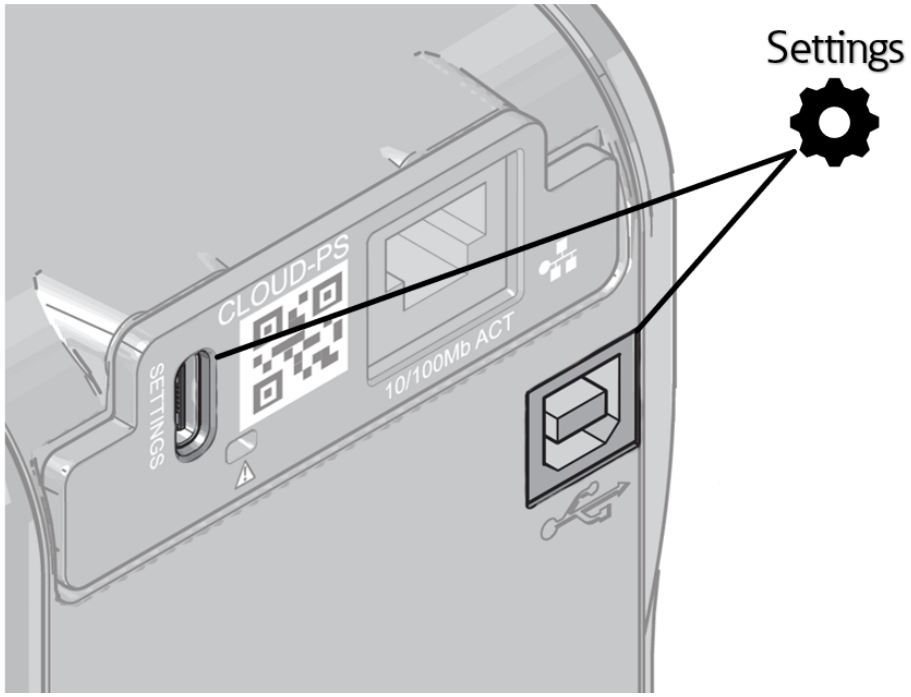
Step 4 : Check cloud connection

Card is connected to Eaton cloud when LED imitates heartbeat (2x blink and delay).



For more details on LED behavior, refer to Card Firmware Upgrade (see page 10) page.

Step 5 : Configure network setting (optional)



In case the cloud connection is not established, configure the network settings.

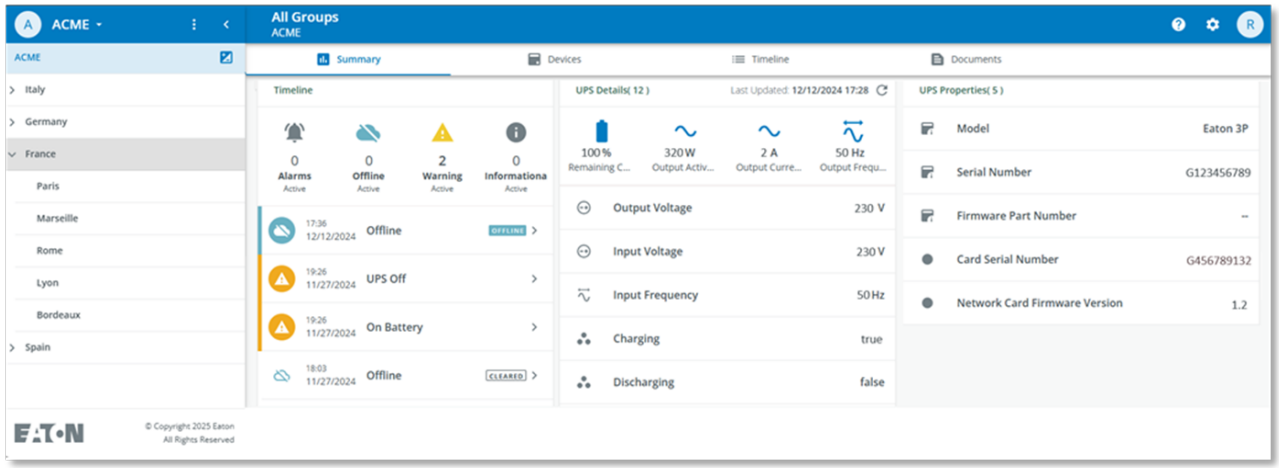
It can be done by CLI using the USB-C of card.

For more details, refer to following page:

- Network configuration (see page 22)

2 Device registration

The device monitoring is done through BrightLayer Remote Monitoring portal.[1]
https://brightlayer-remote-monitoring-eu.eaton.com/



Step 1: Sign up or Log in

Step 2: Create your organization or join an existing one.

Step 3: Build your organization structure (optional)

Step 4: Add a device

Step 5: Monitor your device

For more details, refer to the Brightlayer Remote Monitoring application note under the ressources section of Eaton.com/CLOUD-PS[2] website.

1 https://brightlayer-remote-monitoring-eu.eaton.com/
2 https://Eaton.com/CLOUD-PS

3 Card Firmware Upgrade

This section provides an overview of the process for upgrading the firmware on your communication card.

3.1 Important note

When connected to the network and to the cloud, the updates are automatic and transparent.

Downgrade is not possible.

In case those automatic upgrades are not possible, below documentation explains how to manually upgrade the card.

3.1.1 Prerequisites

- Ensure you are logged into the CLI

The `card_upgrade` command is used to manage the firmware upgrade process for the communication card.

- **Usage**: `card_upgrade [OPTION]...`

3.1.2 Options and Arguments

Option	Additional Arguments	Description	Ask for User Confirmation?
`--help`		Display help page	No
`show`		Display configured URL or IP address, last upgrade status, and current card FW revision	No
`set-url`	`<URL>`	Set URL or IP address of the location of the firmware	No
`launch`		Start card firmware upgrade and display the status	Yes

Option	Additional Arguments	Description	Ask for User Confirmation?
`launch -f`		Start card firmware upgrade without confirmation and display the status	No

3.2 Usage Examples

3.2.1 Display Help Page

```
-> card_upgrade --help
Usage: card_upgrade [OPTION]...
```

3.2.2 Show Current Configuration

```
-> card_upgrade show
Card firmware URL: 192.168.1.2
Card firmware version: X.X.X
Last update: <fail/success> on <date>
```

3.2.3 Set Firmware URL

```
-> card_upgrade set-url https://eaton.com/CLOUD-PS/firmware/latest
```

3.2.4 Trigger Firmware Upgrade

```
-> card_upgrade launch
After downloading the firmware, the product will reboot, do you want to continue?
Yes/No?: y
Card firmware upgrade start
<Status messages>
Card firmware upgrade aborted
```

3.2.5 Abort Firmware Upgrade

```
-> card_upgrade launch
After downloading the firmware, the product will reboot, do you want to continue?
Yes/No?: n
Card firmware upgrade aborted
```

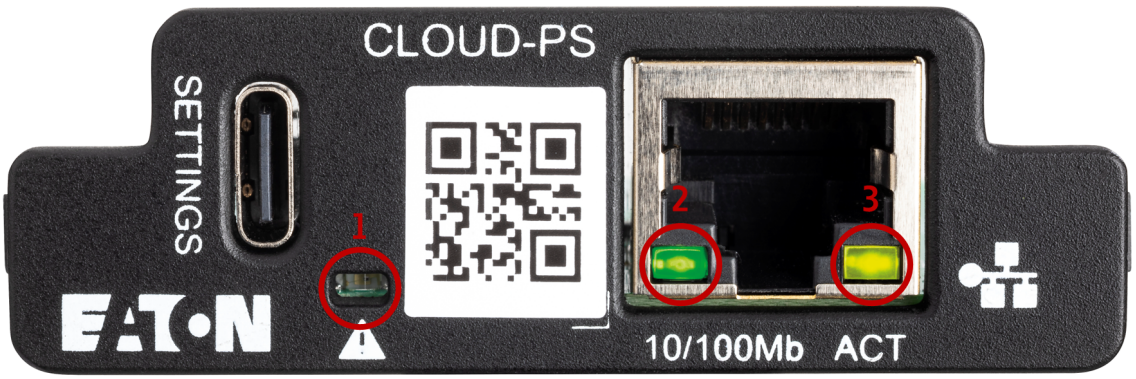
Please notice only the CLOUD-PS card will reboot. UPS output will not be impacted.

3.2.6 Force Firmware Upgrade

```
-> card_upgrade launch -f
Card firmware upgrade start
<Status messages>
Card will reboot. Connection will be lost
```

4 LED behaviour

The LEDs on your device provides visual indicators of the device's current state and activity. This guide will help you understand the different LED behaviors and what they signify.



The card has 3 LEDs

1. Status LED
2. Green Ethernet LED
3. Yellow Ethernet LED

4.1 Status LED

Status	Meaning	Behavior	Flashing sequence
IoT Connecting	The device is attempting to connect to the IoT network.	Slow flash	
IoT Connected	The device is successfully connected to the IoT network.	Heartbeat	

4.2 Ethernet LED Behavior

4.2.1 Green LED Behavior

The Ethernet port's green LED indicates the network speed.

Flashing Sequence	Meaning
1 flash	Port operating at 10Mbps
2 flashes	Port operating at 100Mbps

4.2.2 Yellow LED Behavior

The Ethernet port's yellow LED indicates the network link/activity.

State	Meaning
Off	Product is not connected to the network
Solid yellow	Product is connected to the network, but no activity detected
Flashing yellow	Product is connected to the network and sending or receiving data

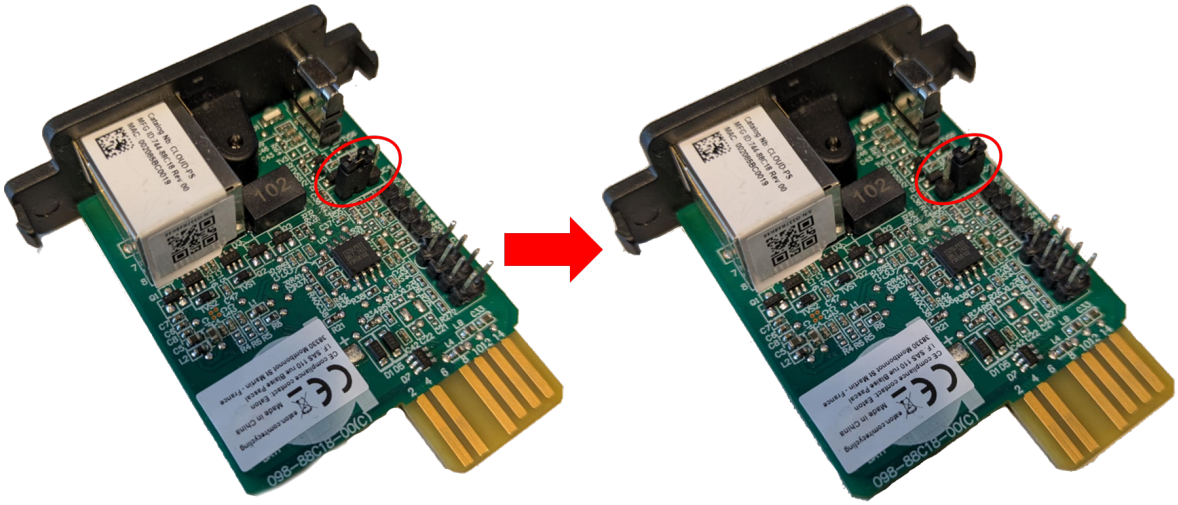
5 Sanitizing the Product

This section provides instructions on how to reset your product to its factory state using the `sanitize` command.

5.1 Sanitization by jumper manipulation

The card can be sanitized by swiching the jumper position.

- Unplug the card
- Find the jumper and change its position as on the picture below.



- Plug back the card

After restart, the card will be back to default parameters. Password will be restored back to default `password`.

5.2 Sanitization by CLI

5.2.1 Prerequisites

- Ensure you are logged into the CLI.

5.2.2 `sanitize` Command Description

The `sanitize` command restores all default parameters and reboots the card.

5.2.2.1 Usage

```
sanitize [-h | -f]
```

5.2.2.2 Options

Option	Description
`-h`	Display help message and usage
	Sanitize the product (ask for user confirmation)
`-f`	Sanitize the product (without user confirmation)

6 Default parameters

This section provides an overview of the default settings for your communication card. These parameters are pre-configured to ensure optimal performance and connectivity. You can modify these settings as needed to suit your network environment and requirements.

6.1 Settings and Default Values

Setting	Default Value
IPv4 mode	DHCP
Static IPv4 IP address	0.0.0.0
Static IPv4 subnet mask	0.0.0.0
Static IPv4 gateway	0.0.0.0
Proxy status	Disabled
Proxy URL	None (empty)
Proxy port	8080
Proxy username	None (empty)
Proxy password	********** (empty)
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
SNTP server 1	pool.ntp.org
SNTP server 2	time.windows.com

Setting	Default Value
SNTP server 3	time.cloudflare.com

NOTE 1: Please make sure DNS and SNTP are correctly configured when using Static IP address as they are mandatory for cloud connection.

7 CLI Access and behavior

7.1 CLI Access and Behavior

This section provides an overview of the CLI behavior, including login procedures, command access, and session management.

7.1.1 Prerequisites

- Ensure the board is powered on.
- Connect a USB-C cable from your computer to the card.
- Open a terminal application like Tera Term on your computer.
- Open the correct serial port in the terminal application.
- Set the baud rate to 115200.

7.1.2 Logging In

- **First-Time Login**: You can log in for the first time using a default password: `password`. Upon your first login, you will be prompted to change your password to ensure security.

7.1.3 Inactivity Timeout

- **Automatic Logout**: If you are inactive for 5 minutes, the system will automatically log you out of the CLI.

7.2 Available Commands

Command	Details
`about`	Display various information about the card.
`reboot`	Reboot the card.
`sanitize`	Restore all default parameters and reboot the card.

Command	Details
`passwd`	Change the password of the logged-in user.
`date`	Get the current date and time (UTC).
`logs`	Utility to show and clear logs.
`netconf`	Utility to display and configure network settings and statuses.
`card_upgrade`	Utility to manage card firmware upgrade.
`ups_upgrade`	Utility to manage UPS firmware upgrade.

7.3 CLI Banner

Upon each connection, the following banner should be displayed:

```
-----------------------------------------------
        Eaton
        Cloud Card-PS
        Version x.y.z
        421G456777
        00:20:85:D7:00:CA
        This session will be automatically closed after 5 minutes of inactivity.
Appropriate use:
 (a) you are accessing a private or government system.
 (b) this system usage may be monitored, recorded, and subject to audit.
 (c) unauthorized use of this system is prohibited and subject to criminal and civil
penalties.
 (d) use of this system indicates consent to monitoring and recording.
-----------------------------------------------
 Welcome to the Command Line Interface
 * To know the list of commands, press Tab
 * If you need help, enter help
-----------------------------------------------
```

By following these guidelines, you can effectively manage access and commands through the CLI. If you encounter any issues or need further assistance, please refer to the help messages for each command by using the `-h` or `--help` option.

7.4 About

The `about` command displays various information about your card, including details about the card itself, UPS, and cloud status. This section will guide you through the usage and options available for the `about` command.

7.4.1 Prerequisites

- Ensure you are logged into the CLI.

7.4.2 Displaying Product Information

To view various information about your card, use the `about` command:

7.4.2.1 Command Usage

- **about -h**
  - **Description**: Display help message and usage.
  - **Usage**: `about [-h]`

7.4.2.2 Options

Option	Description
-h	Display help message and usage

7.4.2.3 Examples

7.4.2.3.1 Display Help Page

```
-> about -h
about - Display various information about the card.
```

```
Usage: about [-h/--help]
```

7.4.2.3.2 Get Information About the Product

```
-> about
Card info:
    Vendor name          Eaton
    Product name         CLOUD-PS
    Serial number        <SN>
    Part number          <PN>
    Hardware revision    <REV>
    Firmware revision    <REV>
    Bootloader revision  <REV>
    MAC address          <MAC>
    GUID                 <GUID>
UPS info:
    Product name         <product name>
    Firmware revision    <REV>
    Serial Number        <SN>
    Part number          <PN>
Cloud info:
    Status               <Connected/Not connected>
```

7.4.2.3.3 Wrong Use of the Command

```
-> about additional_arg
about: wrong parameter count
about - Display various information about the card.
Usage: about [-h/--help]
```

7.5 Network configuration

The `netconf` command is a versatile tool for displaying and configuring network settings on your device. This section will guide you through the various subcommands and options available for managing network configurations.

7.5.1 Prerequisites

- Ensure you are logged into the CLI.

7.5.2 Displaying Network Settings and Status

To view the current network settings and status, use the `show` subcommand:

```
netconf show
```

This command displays all network settings, including domain, IPv4, proxy configurations, link status, and MAC address.

7.5.3 Configuring IPv4 Settings

You can configure the IPv4 settings using the `ipv4` subcommand. The following options are available:

- `-m, --method static|dhcp` : Set the method to either static or DHCP.
- `-i, --ip <IP_ADDR>` : Specify the IP address.
- `-n, --netmask <NETMASK_ADDR>` : Specify the netmask address.
- `-g, --gateway <GATEWAY_ADDR>` : Specify the gateway address.

Example:

```
netconf ipv4 -m static -i 192.168.1.10 -n 255.255.255.0 -g 192.168.1.1
```

7.5.4 Configuring Proxy Settings

To configure proxy settings, use the `proxy` subcommand with the following options:

- `-s, --status enable|disable` : Enable or disable the proxy.
- `-u, --url <URL>` : Set the proxy address.
- `-p, --port <PORT>` : Set the proxy port.
- `-U, --username <USERNAME>` : Set the proxy username.
- `-P, --password <PASSWORD>` : Set the proxy password.

Example:

```
netconf proxy -s enable -u 123.132.1.1 -p 8080 -U user -P password
```

To clear username and password fields, use the bellow command.

```
netconf proxy -U "" -P ""
```

7.5.5 Configuring DNS Settings

To configure DNS settings, use the `dns` subcommand. The following options are available:

- `-p, --primary <ADDR>` : Set the primary DNS address.
- `-s, --secondary <ADDR>` : Set the secondary DNS address.

Example:

```
netconf dns -p 8.8.8.8 -s 8.8.4.4
```

NOTE: Please make sure DNS is correctly configured when using Static IP address as it is needed for cloud connection.

7.5.6 Configuring SNTP Settings

To configure SNTP settings, use the `sntp` subcommand. The following options are available:

- `-1 <ADDR>` : Set SNTP server 1 address.
- `-2 <ADDR>` : Set SNTP server 2 address.
- `-3 <ADDR>` : Set SNTP server 3 address.

Example:

```
netconf sntp -1 ntp.server1.com -2 ntp.server2.com -3 ntp.server3.com
```

NOTE: Please make sure SNTP is correctly configured when using Static IP address as it is needed for cloud connection.

7.5.7 Applying Changes

After making changes to the network configuration, you need to apply them using the `apply` subcommand. This will reboot the product to apply the changes.

- `-f, --force` : Apply changes without user confirmation.

Example:

```
netconf apply -f
```

7.5.8 Discarding Changes

If you need to discard unapplied changes, use the `discard` subcommand. This will revert any changes that have not been applied.

- `-f, --force`: Discard changes without user confirmation.

Example:

```
netconf discard -f
```

7.5.9 Important Notes

- Unapplied changes are marked with a `*` and the future value.
- If unapplied changes exist, a warning will be printed when using the `discard` subcommand.
- Unapplied changes are lost upon reboot or power-down.

By following these instructions, you can effectively manage the network settings on your device using the `netconf` command. If you encounter any issues or need further assistance, please refer to the help messages for each subcommand by using the `-h` or `--help` option.

7.6 Logs

The `logs` command is a tool for displaying and managing log entries on your device. This section will guide you through the various subcommands and options available for handling logs effectively.

Note: The card can store up to 89 logs. Once the limit is reached, the automatic log rotation will erase oldest ones to save new ones.

7.6.1 Prerequisites

Ensure you are logged into the CLI.

7.6.2 Displaying Logs

7.6.2.1 `logs show` Subcommand

The `logs show` command allows you to display all device logs.

- **Usage**: `logs show [-h/--help | -c/--csv]`

7.6.2.1.1 Options

- **-h**: Display help message and usage.
- **-c/--csv**: Show logs in CSV format.

7.6.2.1.2 Examples

Show Logs (Default)

```
-> logs show
Number of logs: X/Y
+---------------------+-----------+-----+-------------------
| date                | interface | id  | description
+---------------------+-----------+-----+-------------------
| YYYY-MM-DD hh:mm:ss | source1   | id1 | desc1
| YYYY-MM-DD hh:mm:ss | source2   | id2 | desc2
| YYYY-MM-DD hh:mm:ss | source3   | id3 | desc3
+---------------------+-----------+-----+-------------------
```

Show Logs (CSV Mode)

```
-> logs show --csv
date; interface; event id; description
YYYY-MM-DD hh:mm:ss; source1; id1; desc1
YYYY-MM-DD hh:mm:ss; source2; id2; desc2
YYYY-MM-DD hh:mm:ss; source3; id3; desc3
```

Event log IDs

Name	ID	Description
NO_EVENT	0	No Event
NV_EVENT	10	Generic NV Event
NV_PARAM_WRITE_FAIL	11	NV param write fail
NV_PARAM_ERASE_FAIL	12	NV parameter erase fail
NV_PARAM_ERASE_ALL_FAIL	13	NV erase all parameters fail
REBOOT_ASKED	20	Reboot asked by user

Name	ID	Description
CARD_POWERED_ON	21	Card powered on
FACTORY_RESET	22	Factory Reset
LOGS_CLEARED	23	All logs cleared by user
SYSTEM_INTEGRITY_CHECKED	24	System integrity check done
USER_LOG_IN	30	User logged in event
USER_LOG_OUT	31	User logout
USER_LOCKED	32	User locked event
PASSWORD_CHANGE	33	User password change
CARD_UPGRADE_START	40	Card upgrade started
CARD_UPGRADE_INFO	41	Various info about card upgrade
CARD_UPGRADE_SUCCESS	42	Card upgrade complete
CARD_UPGRADE_FAIL	43	Card upgrade fail
UPS_UPGRADE_START	50	UPS upgrade started
UPS_UPGRADE_INFO	51	Various info about UPS upgrade
UPS_UPGRADE_SUCCESS	52	UPS upgrade complete
UPS_UPGRADE_FAIL	53	UPS upgrade fail
CONFIG_DATA_CHANGE	60	Config data has been updated

7.6.3 Clearing Logs

7.6.3.1 `logs clear` Subcommand

The `logs clear` command allows you to clear all device logs.

- **Usage**: `logs clear [-h/--help | -f/--force]`

7.6.3.1.1 Options

- **-h**: Display help message and usage.
- **-f**: Clear logs without user confirmation.

7.6.3.1.2 Examples

Clear Logs

```
-> logs clear
Logs are about to be cleared, do you want to continue?
Yes/No?: y
Logs have been cleared
```

Force Clear Logs

```
-> logs clear -f
Logs have been cleared
```

Cancel Clearing Logs

```
-> logs clear
Logs are about to be cleared, do you want to continue?
Yes/No?: n
Logs clearing aborted.
```

8 Troubleshooting

8.1 Card not connecting to cloud

8.1.1 Introduction

If your card is having trouble connecting to the cloud, follow these steps to diagnose and resolve the issue.

To check if the card is connected, you can use the status LED (see page 13) or the About command (see page 21).

8.1.2 Common Issues and Solutions

8.1.2.1 Check Internet Connection

- **Ensure** your device is connected to a stable internet connection.
- **Restart** your router and modem to refresh the connection.

8.1.2.2 Verify Network Settings

- **Check** if your network settings are correctly configured.
- **Ensure** your firewall or antivirus software is not blocking the connection.

8.1.2.3 Update Firmware

- **Ensure** your card's firmware is up to date. Outdated firmware can cause connectivity issues.
- **Follow** the instructions on the manufacturer's website to update the firmware.

8.1.2.4 Check for Server Outages

- **Visit** the cloud service provider's status page to check for any ongoing outages or maintenance.
- **Wait** for the service to be restored if there is an outage.

8.1.2.5 Reboot Device

- **Turn off** your card and wait for a few minutes before turning it back on.
- **Reboot** your device to clear any temporary issues.

8.1.2.6 Verify Account Credentials

- **Ensure** you are using the correct login credentials for your cloud account.
- **Reset** your password if you are unable to log in.

8.1.2.7 Inspect Hardware Connections

- **Check** all cables and connections to ensure they are secure and undamaged.
- **Replace** any faulty cables.

8.1.3 Advanced Troubleshooting

8.1.3.1 Network Configuration

- **Configure** your router to allow the necessary ports for cloud connectivity (e.g., ports 443, 8443).
- **Disable** any parental controls or security features that might be blocking the connection.

8.1.3.2 Contact Support

If the issue persists, please contact our support team for further assistance.