PARADOX

IPC10

IP to CMS Converter

INSTALLATION MANUAL

V1.0.5

For latest manual updates, please refer to paradox.com/Manuals/IPC10.pdf.

The following manual describes the basic connections and programming required to get your Paradox IPC10 Converter up and running.

Introduction

The IPC10 receives signals from Paradox systems/accounts encoded with Paradox IP protocol, records them, converts them to known formats, and sends them to central monitoring station (CMS) software. The IPC10 is based on MQTT technology that is continuously supervised, reliable, and fast. Reporting from the Panel to the CMS, the cycle is usually less than 100ms. Created for the modern CMS with a low footprint and minimal wire connections, it offers a high account capacity of up to 5,000, one cable connection, very low power consumption, reliability, and redundancy.

Main Features:

- Up to 5,000 supervised accounts (20,10, or 5 minutes supervision) and 3,500 accounts at **90 seconds.**
- 100ms reporting cycle from panel to CMS.
- Fully encrypted communications with AES 128-bit certificates.
- Fully supervised
- Simple and fast up time with minimal programming for input (reporting devices) and output ports to CMS, with no registration from reporting devices is required.
- One single-wire Ethernet connection, for data and POE; no other connections are needed.
- Support all legacy Paradox systems with IP180 or upgraded IP150+ (version 6.0 and higher) or PCS265V7 (version 8.0 and higher).
- 5 minutes up and running replacement, new receiver same as replaced receiver, only IP address and port configuration needed (can be prepared before, and normal operation for all accounts will be restored in full.
- Connect to CMS software via local Ethernet, supports Sur-Gard MLR2-DG, Ademco 685, or Ademco CID-TCP formats.
- 10,000 event internal buffer in case of lost CMS.
- Simple and minimal UI
- Low footprint (rack mount 1U) and low power consumption
- CMS receives offline and online restore status without the need for a new event from the panel.
- Fully remotely upgradable via local Ethernet.

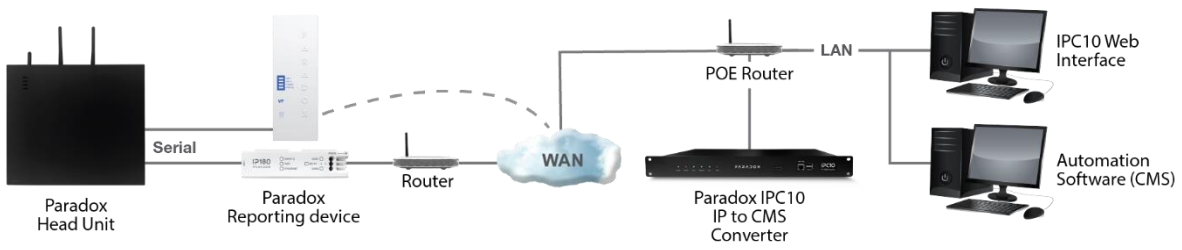


Figure 1

IPC10 Overview

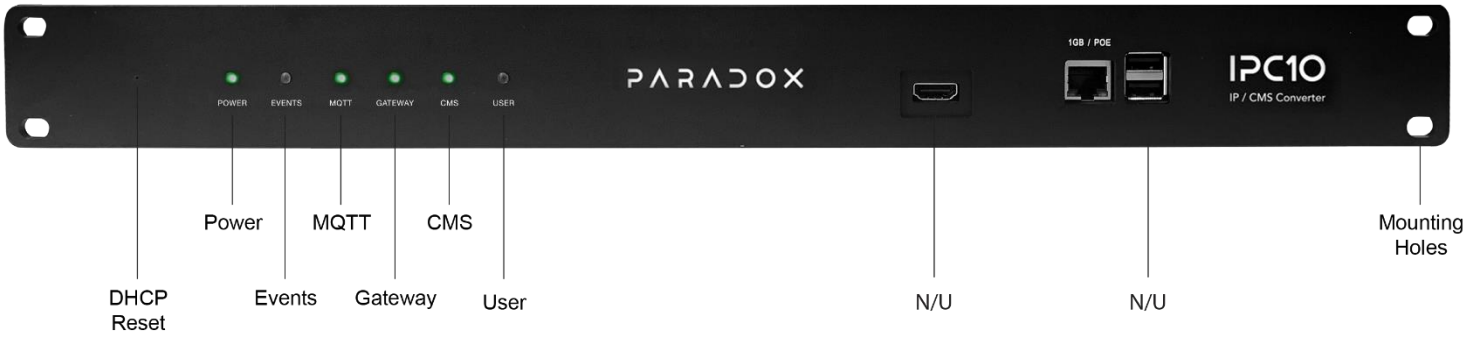


Figure 2

LED Indicators

Button/LED	Description
DHCP Reset	Use pin to press the reset button momentary (up to 3 sec.), It will ignore the IP address and will switch to DHCP and restore factory network settings. DHCP status will be indicated by three flashes of LEDs. **Reset to default** - Press for at least 10 seconds until LED's start flashing and depress. LEDs will shut down and the IPC10 will restart; all values will be set to default and **all data (including events) will be deleted**.
Power	Green – Power ON
Events	Green blinking – Data transmission from reporting devices
MQTT	Green – MQTT active
Gateway	Green - Valid gateway
CMS	Green – Connected to the CMS Amber blinking – Transmitting data to the CMS
User	Green – User connected to the IPC10 web page

Location and Mounting

The IPC10 can be mounted on a 19" (48.3 cm) rack. Use appropriate mounting hardware to secure unit to rack.

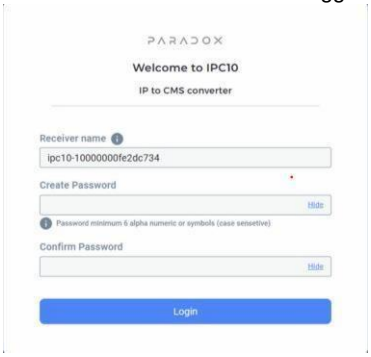
Hardware Installation

Connect the Ethernet cable from the router with POE to the Ethernet port located in the front of the IPC10 Converter, refer to Figure 2.

Note 1: It is strongly recommended to have the POE router connected to a professional UPS to avoid loss monitoring in case of power failure.
Note 2: On reporting device panel programming, there is no need/use to enter receiver password.

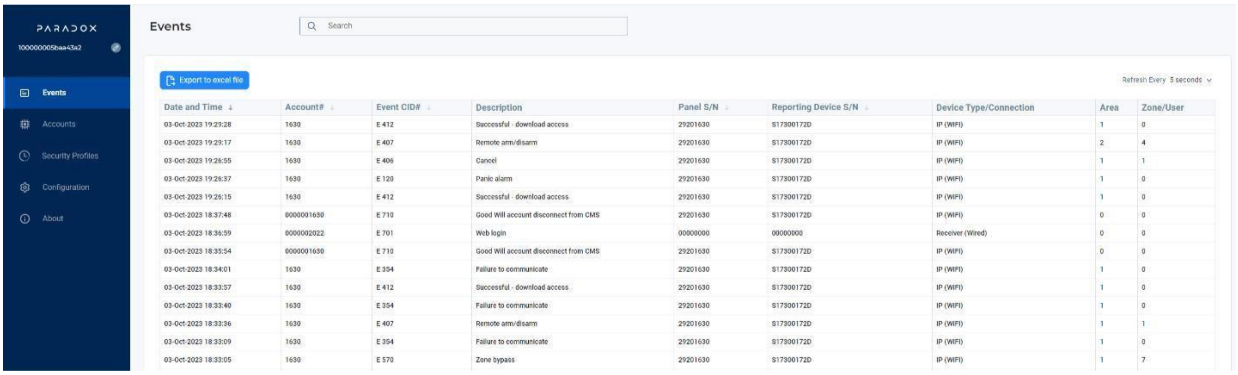
Configuration

1. Search over the local network for the IP address of the IPC10 you are looking for using a standard IP scanner. It will appear as IPC10-SERIALNUMBER. The serial number will be printed also on the label of the IPC10 in the back.
2. Enter the IPC10 IP address you found with the scanner in a web browser, followed by port 8080 to access the web user interface of the IPC10 (e.g., http://192.168.1.110:8080). The USER led on the receiver will light up, and you will access the UI of the IPC10.
3. Enter the IPC10 name. This will be used to identify the converter physically on the rack in case you have more the one converter on the network. We suggest printing the name and sticking it on the front face of the receiver.
4. Enter password of minimum six alphanumeric (case sensitive) characters. Confirm password. ***Keep the password in safe place as If you lose the password, you must reset the receiver and reprogram it, however all logs and events will be lost***. Use pin to press the reset button on front of IPC-10 as in Fig-2. When multiple IPC10 are installed, you can also locate it with the user LED which will be on when logged in.

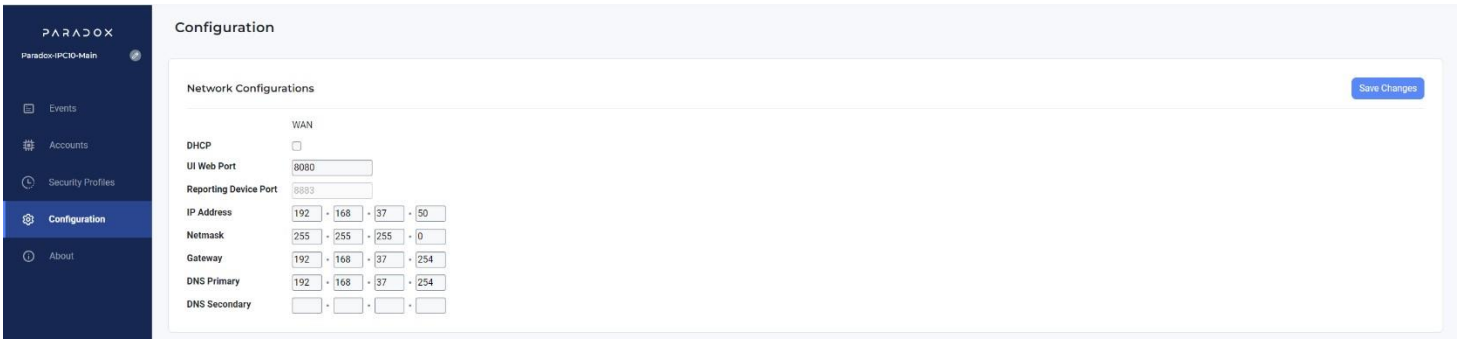


The IPC10 web page provides access to the following five menu options:

Events	Allows you to view account and converter related events, can be useful if CMS is down. Up to 5,000 events will be buffered based on first-in, first-out basis.
Accounts	Allows you to view all system accounts.
Security Profiles	Allows you to view security profiles available for the reporting devices.
Configuration	Allows you to configure the converter to operate (IP, port, time, etc...)
About	Allows you to view the IPC10 system information and upgrade the module.



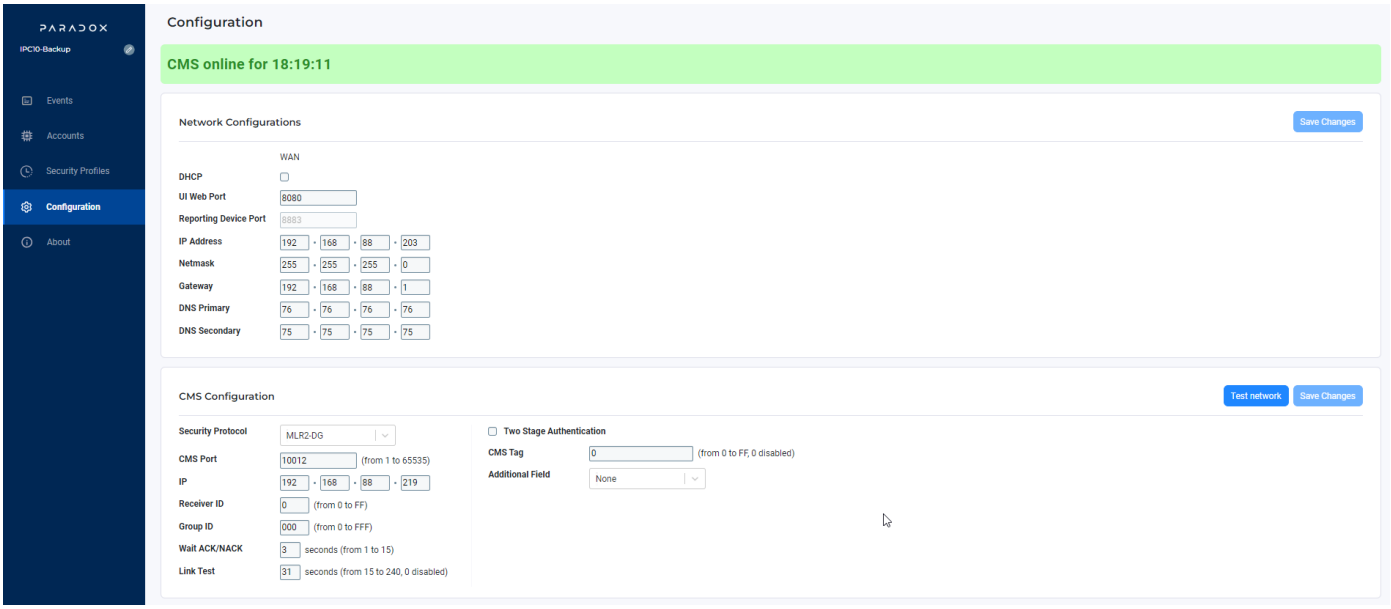
5. Select the **Configuration** tab to program the converter at the central station, refer to the table below.



DHCP	DHCP is selected by default. IP address will be assigned by the router. **STATIC IP ADDRESS must be programmed at the CMS router by the IT manager based on the MAC address of the IPC10 that can be found in the about page. NOTE: If wrong IP address is saved, you can restore DHCP status by pressing momentarily on DHCP/Reset button.**
UI Web Port	Default is set to 8080 and can be changed if needed. Defines the port number assigned for Web User Interface access. Port numbers can be between 1 to 65535.
IP Address	Defines the local converter network address set up by the CMS IT manager. The IP address programmed at the reporting device's end is forwarded internally at the CMS to the local IP address of the receiver. The remaining fields should be assigned by the DHCP (network, gateway, DNS primary and secondary) or programmed manually if the DHCP is off.
Netmask	To be assigned by the CMS IT manager or by the DHCP service.
Gateway	To be assigned by the CMS IT manager or by the DHCP service.
DNS Primary	To be assigned by the CMS IT manager or by the DHCP service.
DNS Secondary	To be assigned by the CMS IT manager or by the DHCP service.
Reporting Devices Port	Default MQTT access is 8883 – needs to be open.

6. **Configure CMS output fields:**
   Output Protocol: Default set to Sur-Gard MLR2-DG
   CMS Port: Enter CMS port.
   Enter Receiver and Group ID.

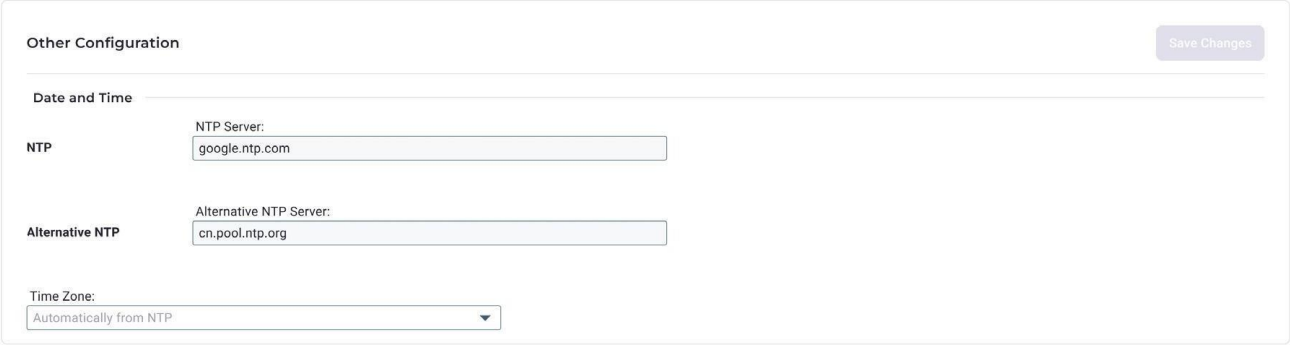
CMS Output Configuration



CMS Output Protocol	Allows you to configure the output protocol used by the IPC10 Converter to the CMS software. Supported protocols are Sur-Gard MLR2-DG (default), Ademco CID-TCP, and Ademco 685.
IP	Defines the IP address assigned to the CMS.
Port	Defines the port number assigned. Port numbers can be between 1 to 65535.
Receiver ID	Defines the unique ID assigned to the IPC10. The Receiver ID can be between 0 and FF Sur-Gard MLR2 and 0 to F for Ademco 685 and Ademco CID-TCP.
Group ID	Allows to assign the converter to a group ID in the central station setup. Can be between 0 to FFF Sur-Gard MLR2 and 0 to F for Ademco 685 and Ademco CID-TCP.
Wait ACK/NACK	Defines the interval in seconds (1 to 15 seconds, default 3 seconds) which the IPC10 will wait for an acknowledge from the CMS software, before sending the next event. If no ACK/NACK is received the IPC10 will retry sending same event.
Link Test	Defines the interval in seconds (15 to 240 seconds, default is 30 seconds) at which the link test is sent to the CMS software (0= disable).
Test Network	Allows you to test the communication between the IPC10 receiver and the CMS software. Once the test is complete, a Testing CMS Network window will be displayed indicating the results of the test.

Two Stage Authentication	Defines if two stage authentication is Enabled or Disabled.
CMS Tag	Default is set to 0. Add custom CMS tag if needed (1 or 2 Hex characters).
Additional Field	Additional information can be added to the event transmitted to the CMS like panel SN, device SN or MAC address (default is set to none).

Other Configuration



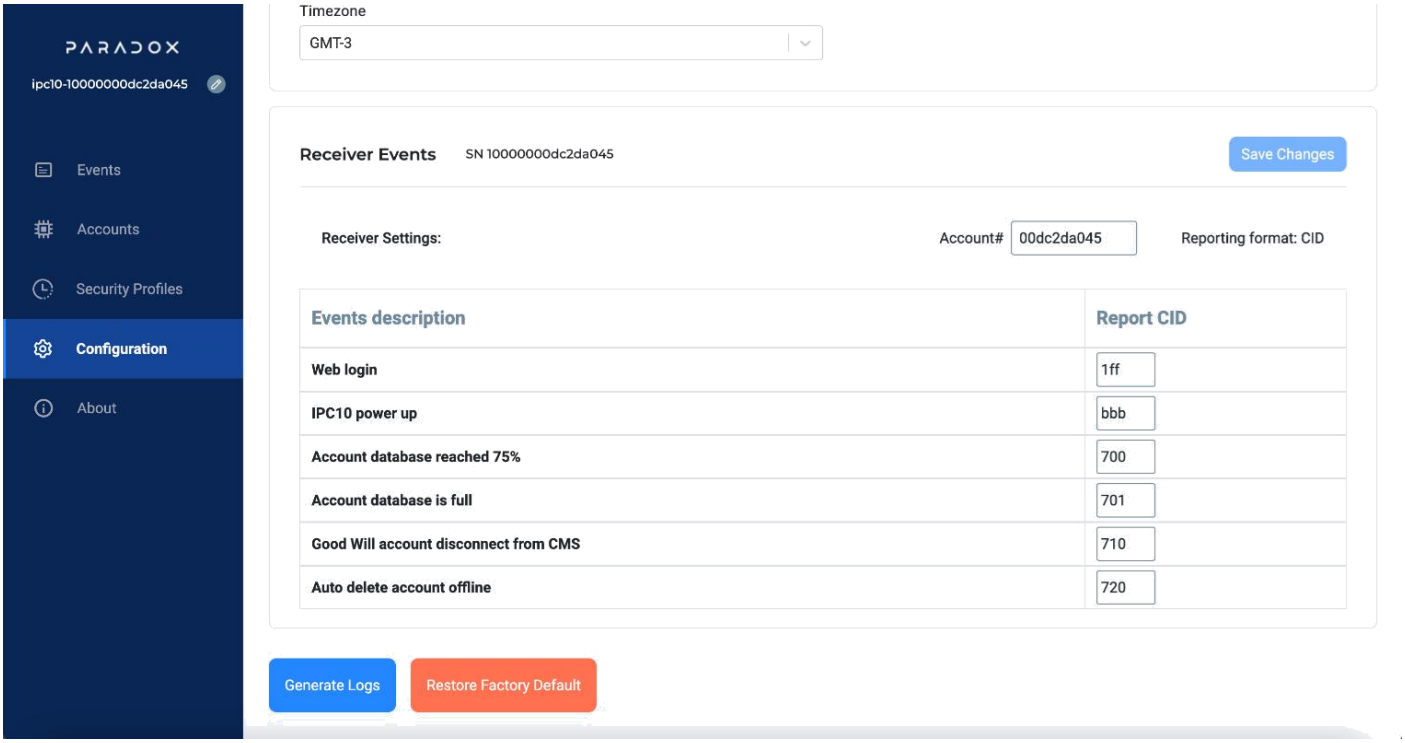
NTP	Allows you to configure the NTP server to use for the IPC10 data base and time. For use in Paradox debugging tools only.
Alternate NTP	Allows you to configure an alternative NTP as a backup of the primary NTP server to use for the IPC10 date and time. For use in Paradox debugging tools only.
Time Zone	Select the appropriate time zone to match the location installation. For use in Paradox debugging tools only.

NOTE: The above time configuration is being used for Paradox debugging tools only and has no effect on event time stamps. Event time stamps will be displayed according to the internal time of the PC connected to the IPC10 UI.

Converter Events

The following converter account events report the status of the converter. They are configurable and are added to the code list in the CMS software.

Generate Logs button	Is used to generate logs for R&D analysis and diagnosis. It will generate a file called **IPC10mainlogs(ser#)(Date).zip** that is saved on the PC in the downloads folder. Please email the file to support@paradox.com upon request.
Restore to Factory Default button	**This will reset all settings to factory default, including list of events.** Pressing this button and confirming with receiver master code will reset receiver to factory default, all data will be erased, and receiver has to be reconfigured. This can be performed also by pressing with a pin on front of receiver for 10 second and depress in this case master code is not needed.



Converter settings	Recommended to use the receiver serial number, this is the Account number that will identify the receiver to the CMS for Web login, Powerup and database status.
Web login	Sends a message to the CMS when a web login is attempted.
IPC10 power up	Sends to CMS when the IPC10 powers up.
Account database reached 75% (4000 accounts), (700 default code)	Sends a message to the monitoring station's automation software when the account database account capacity has reached 75%. Default 700, can be modified by CMS.
Database is full	Sends message to CMS when database is full (5000 accounts) when an attempt is made to register a new account.
Good Will account disconnect from CMS (710)	This code will be sent indicating that reporting to this receiver was terminated at the panel programming meaning dealer choose not to report to this receiver. Account will also show as offline. reported with default code 710, code can be modified by CMS.
Auto delete account offline (720)	Offline account for more than 30 days will be deleted and reported with default code 720, code can be modified by CMS. If account resumes online, it will be restored.
Lost panel (E552) / Restore panel (R552)	If the panel is not communicating with the IP device, it will be displayed as Panel Lost in the Suspend column and code E552 will be reported to the CMS. When restored, code R552 will be reported.
IP unit lost (E551) / IP unit online restore (R551)	If the IP Communicator is not polling to the IPC10, it will be displayed as OFFLINE in the Status column and code E551 will be reported to CMS. When restored, code R551 will be reported.

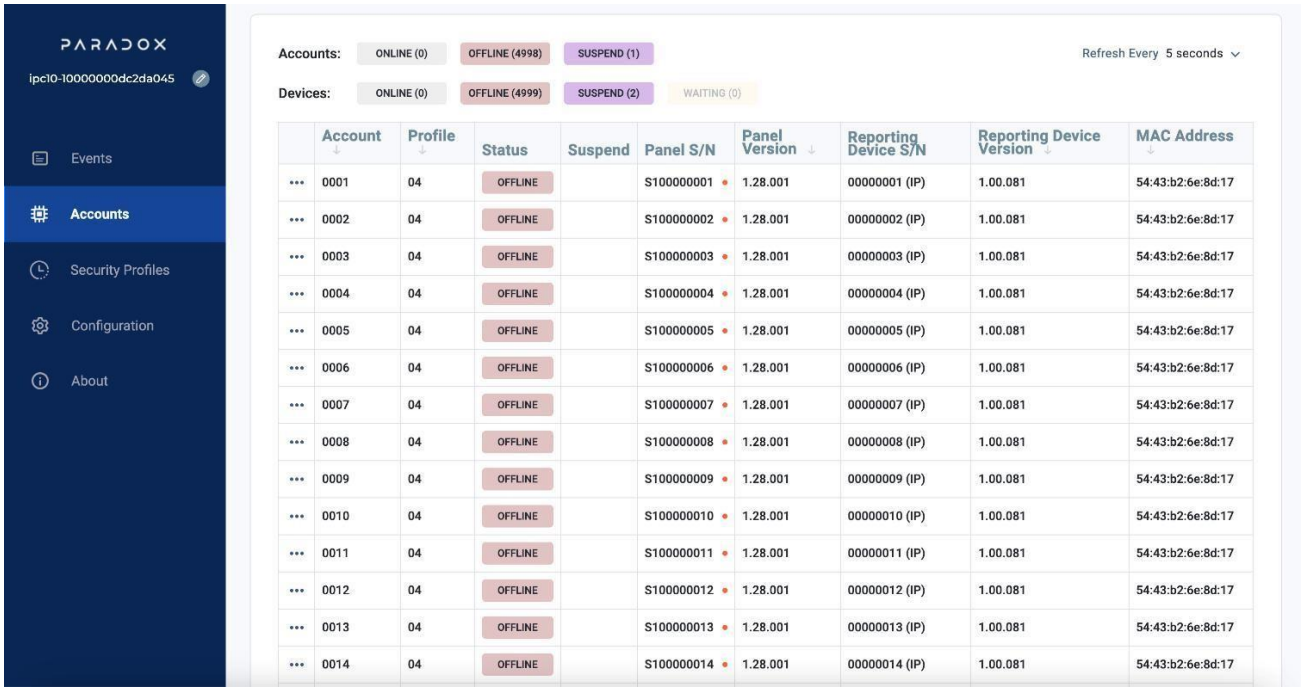
7. Click **Save** changes. The IPC10 is ready for use at this stage.

Security Profiles

The **Security Profiles** tab provides the security profiles that are used by the IP device to report presence messages to the IPC10 Converter at a preset Module Polling Time. If the IPC10 does not receive a presence message within the configured supervision time, the converter will report a supervision loss of the monitoring station's automation software. The IPC10 can handle up to 5,000 accounts using profile 01, and up 3500 accounts using profile 04.

Accounts

The **Accounts** tab allows you to view the status of the system's accounts. From this tab, you will be able to suspend accounts e.g., unpaid accounts will not occupy the CMS with unnecessary events. Accounts that are offline for over 30 days will be deleted from the account list by the converter. The IPC10 supports up to 10-digit accounts in combination with future EVOHD+ and MGSP+ versions.



Suspend Account: Click on the 3-dot menu option (left of account) and select suspend account if desired. Suspended accounts will no longer send events to CMS, to unsuspend. Click again on the 3-dots and select unsuspend.

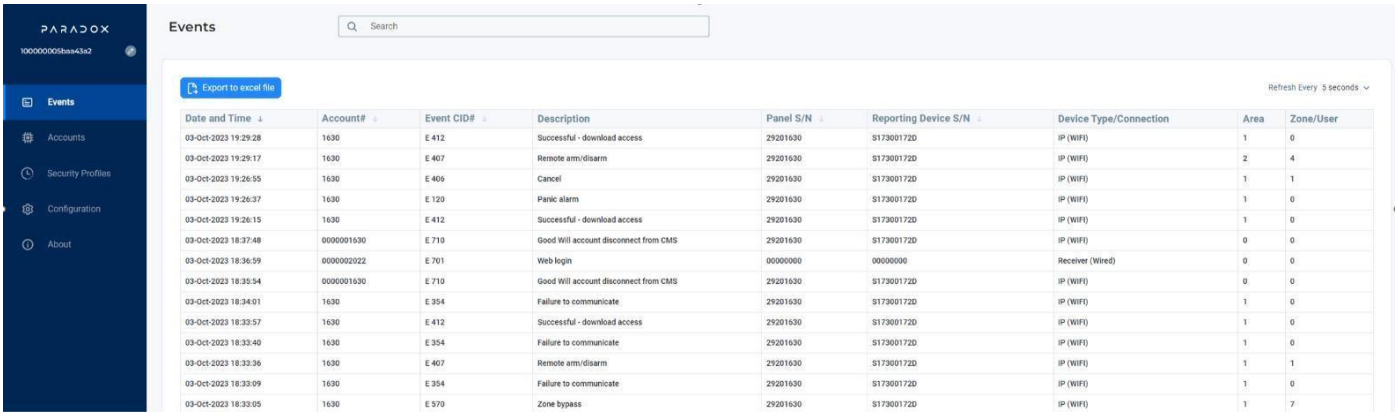
Online	Number of accounts or devices online.
Offline	Number of accounts or devices offline.
Suspend	Number of accounts or devices suspended. Press on the 3 dots on the left of the account to suspend, repeat to restore.
Waiting	This status will be displayed within five minutes after a reboot of the receiver displaying the accounts/devices waiting for restore connection. After five minutes, all should be ONLINE and all devices/accounts that have not been restored will have an OFFLINE status and reported to CMS as OFFLINE and button will be grayed out.

Events

The **Events** tab displays the information related to events received from the accounts, such as date and time, account number, event CID number, description, panel serial numbers, reporting device, device type/connection and zone/user. This page includes an option to export the events data to an Excel file.

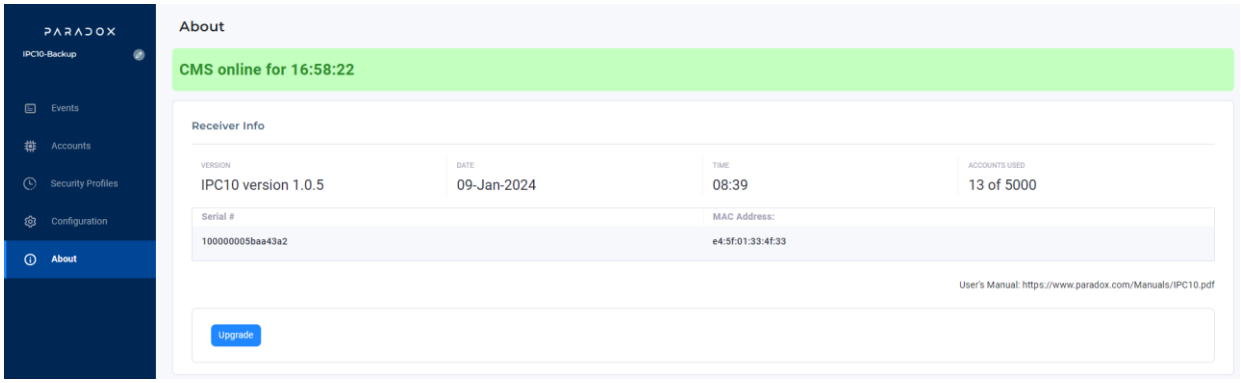
Note1: Events in Green are already sent to the CMS. Events in black are buffered, in case the CMS does not provide ACK. If no ACK, a message in red will appear in the UI.

Note 2: Events are kept in memory only on firmware upgrade, not on power cycle.



About

The About tab allows you to view the IPC10 converter system information including firmware versions. From this tab, you will be able to upgrade the IPC10's firmware.



Note: The total number of accounts depends on the profile used in the registration process. A maximum of 5,000 is supported.

To Upgrade the IPC10

1. Click on the **Upgrade** icon.
2. Browse for the upgrade firmware file that was downloaded from the Paradox website and saved to your PC/Network location.
3. Click **Upgrade**. The upgrade process will then begin.

IPC10 Reset

The IPC10 can be reset using the Reset switch located at the front of the device, see Figure 1 on page 1.

To reset DHCP (and reboot device)

1. Insert a pin in the Reset switch.
2. Press the reset button momentarily (up to 3 sec.). It will ignore the IP address and will switch to DHCP and restore factory network settings. DHCP status will be indicated by three flashes of LEDs.
3. Release the switch.

To reset the converter to factory defaults:

1. Insert a pin in the Reset switch.
2. Press and hold the reset switch until LEDs start flashing and depress. LEDs will shut down and the IPC10 will restart.
3. Connect the IPC10 web page and configure the converter.

IPC10 Replacement

If an IPC10 module may need to be replaced, the following steps should be followed:

1. Remove the existing IPC10 from the rack it is installed on, replace it with the new IPC10 unit, and connect the IPC10 to a POE switch.
2. Configure the new IPC10 by following steps 1-6 (pages 2-6).

Note: The network configuration of the replacement IPC10 SHALL be the same as the IPC10 that was removed.
The output protocol configuration of the replacement IPC10 SHALL be the same as the IPC10 that was removed.

At this point all the accounts will appear in the replacement IPC10 and reporting to the CMS will be resumed.

Specifications

Compatibility	IP180 (Ethernet + Wi-Fi), PCS265V8 (LTE), IP150+ FW 6.0 or higher, and Paradox panels with IP or cellular on-board
Input Voltage	Power over Ethernet: 44-57 VDC, 15W, max, Class 2 device
Account Capacity	5,000 normal or long supervision, 3,000 for high supervision
Supervision	Long: 20 minutes, 10 minutes Normal (default): 5 minutes High: 90 seconds
Supervision Message	Offline (E551) and online (R551) despite new events
Power Input	12.5W
Operating Temperature	0°C to +40°C (+32°F to +104°F)
Replacement Recovery	Auto recovery in case of replacement within 5 minutes
Encryption Type	AES 128-bit
Communication Protocol	CID via Sur-Gard MLR2-DG or Ademco
Certifications	CE
Dimensions	Fits 19” rack 1U 48.26 x 20.3 x 4.2 cm (19 x 8 x 1.65 in)