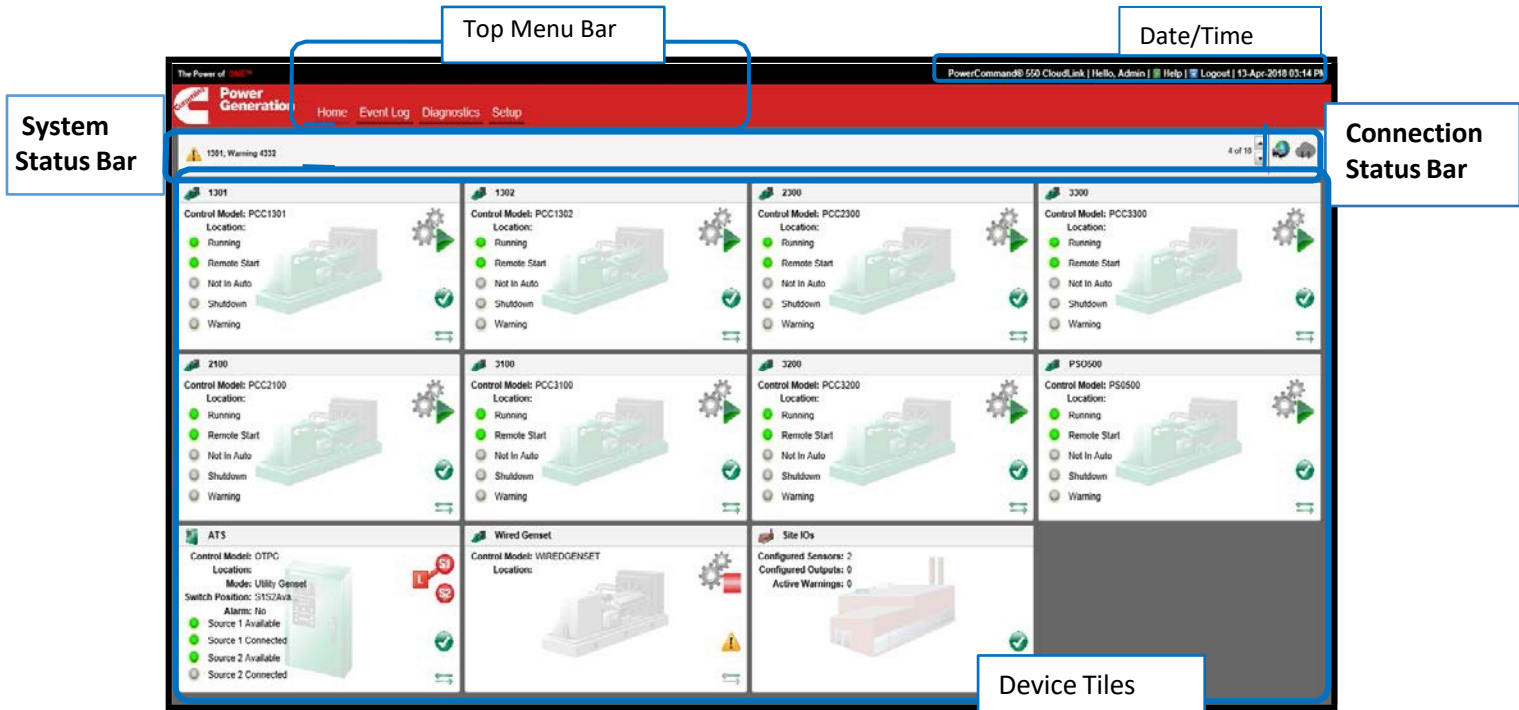


HOME PAGE:

Homepage provides status summary of Power System monitored via PC500/550 CloudLink.



As indicated, the screen is divided in five main sections.

- 1. Menu Bar
- 2. Date/Time
- 3. Device Tiles
- 4. System Status Bar
- 5. Connection Status Bar

TOP MENU BAR

This menu bar with graphical icons offers quick navigation to listed sections. Table 1.1 provides details on available information under each section

Section	Description
	This is the first screen after login. Click on this link anytime to navigate back to home page (Fig.1). As shown in Fig.1, Homepage offers system status summary.

	Provides compiled list of events from all configured devices (including PC500/550 CloudLink). Events are displayed in descending order. Events are displayed here only when cloud connection is not available (Gateway is offline). When connected, events are sent to cloud as soon as they occur.
	Provides information regarding Modbus communication status of configured Devices and PC500/550 CloudLink Nameplate Information (Control Model, Gateway ID, Hardware/Software/OS Version, Modem/Build Number, Modem Type, Software update Date/Time etc.) In addition it also provides access to systems performance parameters, Internet Status and Cloud connection status for troubleshooting purposes.
	Provides access to various System configuration menus such as Network Settings, Modbus Settings, User Profile Settings, Device Configuration, Sensors and Output Controls, Telemetry Settings, Cloud Connectivity, Cellular Preference, System Settings.

TABLE 1.1

Note: Asset monitoring/controlling, Data Logs and Reports are available on PowerCommand Cloud Web and Mobile Application.

DATE/TIME SECTION

PowerCommand® 550 CloudLink | Hello, Admin |  Help |  Logout | 13-Apr-2018 03:52 PM

Device Model: PC500 CloudLink or PC550 CloudLink

Date/Time settings on PC500/PC550 CloudLink

Current Log-in: Username

The top right corner of User Interface displays the current Date and Time from PC500/550 CloudLink Device. The Real Time Clock battery on device maintains date/time while gateway is offline.

Power Command Cloud is used as a time server. Date and Time are updated when CloudLink Device connects with PowerCommand Cloud.

Note: All event logs and telemetry records are time stamped by gateway regardless of cloud connectivity. Gateway clock is automatically synchronized with cloud once every day.

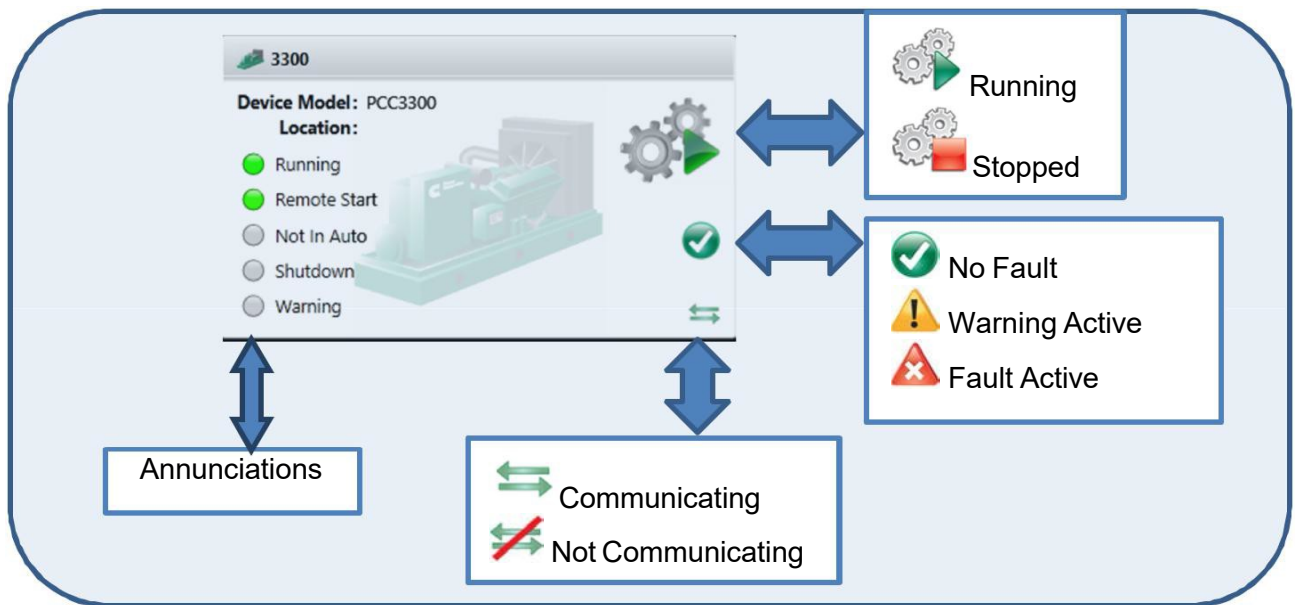
DEVICE TILES

Each Device Tile provides

- Modbus Communication Status
- Operation Mode (Genset Running/Stopped, ATS Source1/Source2 status etc.)
- Fault Status (No Fault, Warning, Shutdown Fault etc.)

Homepage tiles for various device types are as below. Tiles are arranged in same order in which devices are configured. Site IO tile is always the last tile (when applicable)

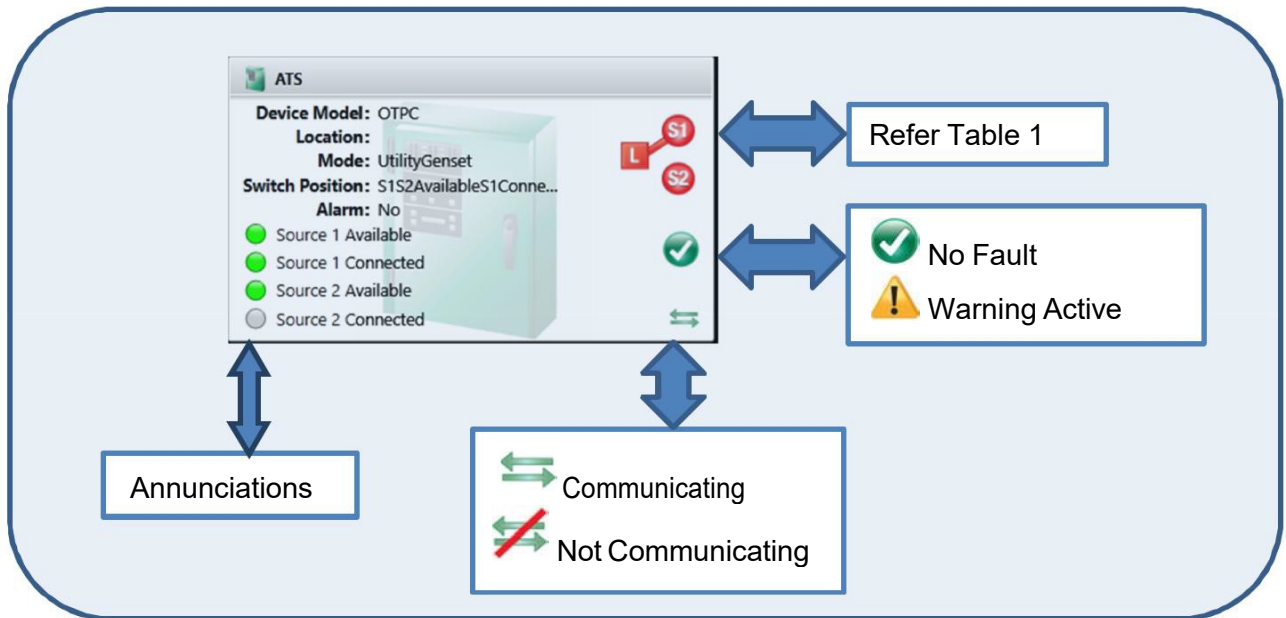
GENSET



- For legacy Genset controls, the communication status is between the PC500/550 CloudLink and the ModLon Gateway or Protonode.
- When Genset is not communicating, the Run/Stop and Fault Statuses are not displayed, indicating those details are not available.
- Wired Generator control provides status through PC500/550 CloudLink's discrete input/output pins and not over Modbus. Communication status in this case always appears as grey lines. Offline status is not applicable in such case.

Note: Like CCM Genset, Wired Generator feature is mostly used with 3rd party generators sets or with older Cummins generators which do not support Modbus Communication. Genset icon will appear in grey on both instead of Cummins green.

ATS



- For legacy ATS controls, the communication status is between the PC500/550 CloudLink and the ModLon Gateway or Protonode.
- When ATS is not communicating (i.e. when there is no communication between PC500/550 CloudLink and ModLon or Protonode), the Switch State and Fault statuses are not displayed, indicating those details are not available.

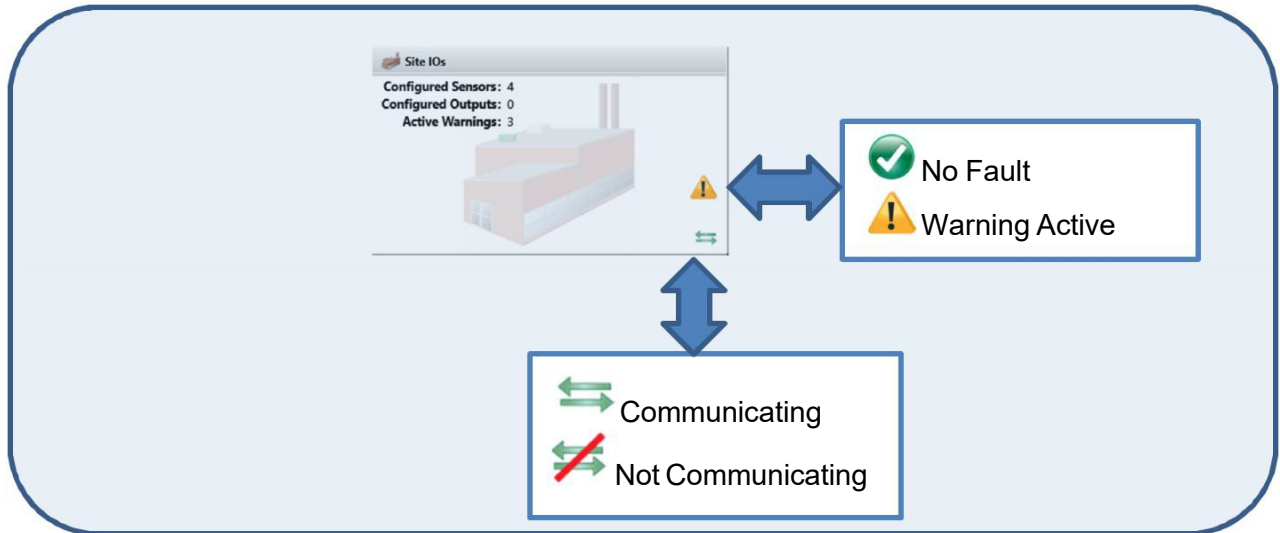
Note: CCM ATS feature is mostly used with non-communicating ATS. ATS icon will appear in grey instead of Cummins green.

ATS Switch State	Description
	Source 1 and Source 2 Not Available, no source is connected
	Source 1 Available, no source is connected
	Source 2 Available, no source is connected
	Source 1 Available and Connected, Source 2 Not Available
	Source 2 Available and Connected, Source 1 Not Available
	Source 1 and Source 2 Available, Source 1 connected
	Source 1 and Source 2 Available, Source 2 connected
	Source 1 and Source 2 Available, no source is connected
	Source 1 and Source 2 Available and Connected
	Both Sources Connected, but only Source 1 Available
	Both Sources Connected, but only Source 2 Available
	Both Sources Connected, no source is Available
	Source 1 Available but Not Connected, Source 2 Connected but Not Available
	Source 2 Available but Not Connected, Source 1 Connected but Not Available
	Source 1 Connected, no source is Available
	Source 2 Connected, no source is Available

Table 1: ATS Switch States

SITE I/OS

All Analog/Discrete Sensors configured from PC500/550 CloudLink are collectively displayed in this section.



- The Communicating Status indicates that at least one sensor has active communication with PC500/550 CloudLink.
- The Not Communicating Status indicates that all Sensor(s) are not communicating. When not communicating, the warning status is not displayed indicating those details are not available.
- Warning Status becomes active when at least 1 sensor has an active warning.

Notes:

1. The PC500/550 CloudLink hardware has two discrete inputs and one analog resistive input on-board. These sensors never lose communication like other Modbus devices. It is also possible to connect Expandable IO module (Aux 101, Aux102) to augment analog/discrete input capacity on PC500/550 CloudLink.
2. Wired Generator utilizes all PC500/550 CloudLink's discrete inputs and outputs on board. It is not possible to configure discrete inputs when Wired Generator is present and vice versa.

SYSTEM STATUS BAR

This System Status Bar always stays on top of the UI. It displays a compiled list of the 10 most recent active events from all configured Devices. This includes events from PC500/550 CloudLink as well. Events scroll at 5 second intervals.

Up/Down arrows allow the user to scroll through the available events (max. 10).

Note: Events are accessible under event log only when cloud connection is unavailable.

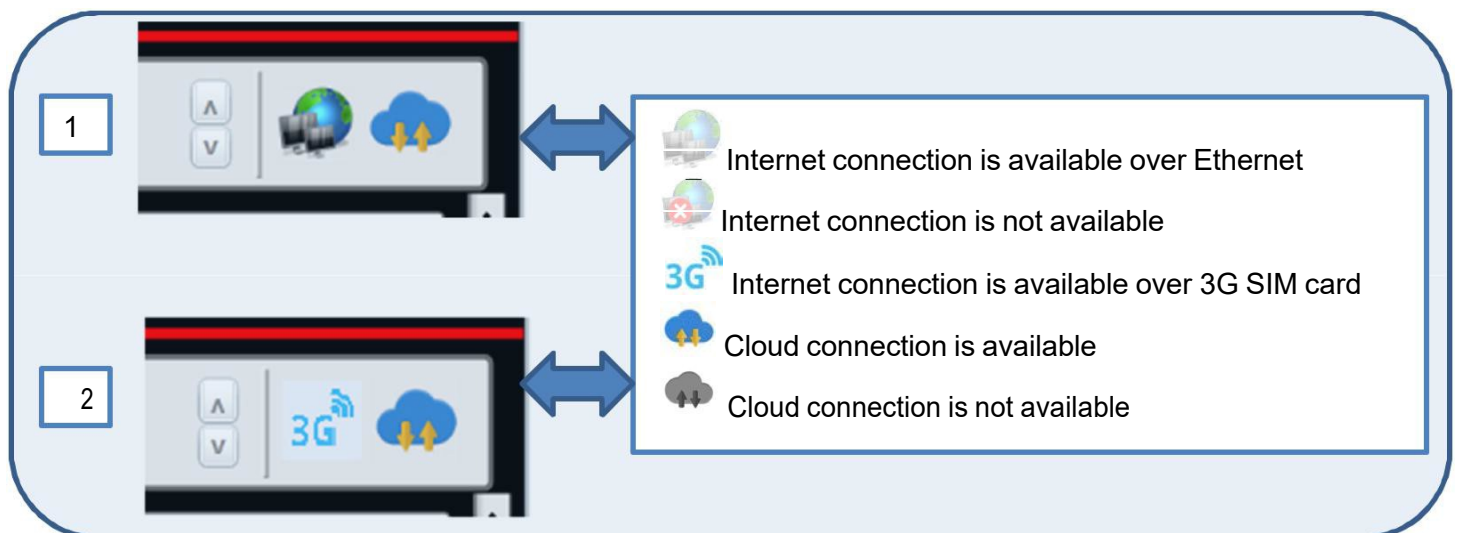


When there are no active events, the system status displayed as OK!



CONNECTION STATUS BAR

This Connection Status Bar always stays on top right corner of the System Status bar. It displays Internet and PowerCommand cloud connectivity status for PC500/550 CloudLink device.



- PC500/550 CloudLink can be connected to Internet using:
 - 1 Ethernet: If user connects active Ethernet network cable to PC500/550 CloudLink, Connection status gets displayed with globe Icons. System confirms the responses To internet pings before populating this icon.
 - 2 3G data enabled SIM card: If user plugs in 3G data enabled SIM card to PC500/550 CloudLink, connection status gets displayed with 3G Icon. System Confirms the Responses to internet pings before populating this icon.

Note: Only internet connection doesn't provide the Cloud connectivity. It is established when correct Gateway access key is entered in cloud connectivity section and "Provisioning" is completed successfully.

Provisioning: The 'Gateway access key' is required for PC500/550 CloudLink device to register its identity in cloud database (process also called as 'Device Provisioning'). PC500/550 CloudLink provisioning to PowerCommand Cloud server is a handshake process which associates PC500/550 CloudLink to the Site in PowerCommand Cloud Web Application. Cloud server validates the Device Access Key and hardware information before any PC500/550 CloudLink device is approved on cloud. Provisioning fails with invalid/incorrect 'Gateway access key'.

SYSTEM EVENT LOG

Active events are listed on this page only when gateway is disconnected from cloud. Details such as Date/Time stamp, Source, Event Type and Event Code are available. Events are sent to cloud immediately when cloud connection is active. Event description is not available in Gateway Event Log. Refer controller service manual for event details.

The screenshot displays the 'Event Log' section of the PowerCommand 550 CloudLink interface. The table lists events with the following columns: Time Stamp, Source, Event Type, and Event Code. The events are sorted by time, showing a sequence of information and warning events. Callouts 1 through 5 highlight key interface elements: 1 points to the 'Event Type' column, 2 points to the page navigation controls at the bottom, 3 points to the page count indicator at the bottom right, 4 points to the 'Export' and 'Refresh' buttons, and 5 points to the 'Refresh' button.

1

Event Type:

Various supported event types are

Genset	 Information  Warning  Fault
ATS	 Information  Warning
Site IOs	 Warning

Note: Informational events are specifically created for PC500/550 CloudLink and not available in Genset or ATS Service Manuals.

2

Page Scroll control: Events are displayed 50 per page. Use page navigation Controls to scroll between pages.

3

Page Count: Section 3 provides details on maximum available page count.

4

Export: User can export events displayed on screen (50max) to csv file.

Note: Export button gets enabled only when cloud connection is Inactive and at least one event is present in event log.

5

Refresh: User clicks on button to refresh the event log view. New events are only displayed by either clicking on the Refresh button or re-entering the Event Log page.

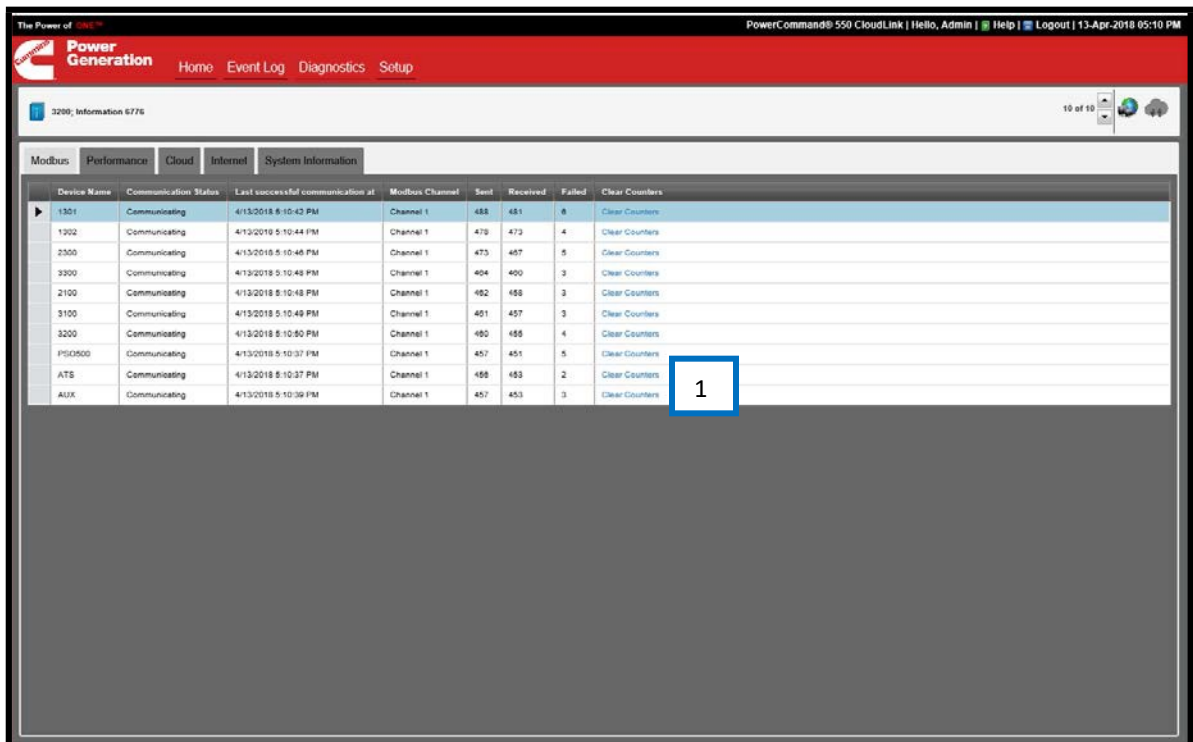
Note: PC500/550 CloudLink can store maximum 5000 active events in cache if cloud connection is inactive.

DIAGNOSTICS

The Diagnostics section provides useful system status information for remote troubleshooting. The section is divided in 5 tabs.

DIAGNOSTICS/MODBUS

Modbus communication status for each configured device {Except Wired generator}, number of Modbus packets sent, received and failed, date/time of last successful communication is listed.



Device Name	Communication Status	Last successful communication at	Modbus Channel	Sent	Received	Failed	Clear Counters
1301	Communicating	4/13/2018 5:10:43 PM	Channel 1	438	431	6	Clear Counters
1302	Communicating	4/13/2018 5:10:44 PM	Channel 1	479	473	4	Clear Counters
2300	Communicating	4/13/2018 5:10:48 PM	Channel 1	473	457	5	Clear Counters
3300	Communicating	4/13/2018 5:10:48 PM	Channel 1	404	400	3	Clear Counters
2100	Communicating	4/13/2018 5:10:48 PM	Channel 1	482	456	3	Clear Counters
3100	Communicating	4/13/2018 5:10:49 PM	Channel 1	461	457	3	Clear Counters
3200	Communicating	4/13/2018 5:10:50 PM	Channel 1	480	456	4	Clear Counters
PG0500	Communicating	4/13/2018 5:10:37 PM	Channel 1	457	451	5	Clear Counters
ATS	Communicating	4/13/2018 5:10:37 PM	Channel 1	458	453	2	Clear Counters
AUX	Communicating	4/13/2018 5:10:39 PM	Channel 1	457	453	3	Clear Counters

Note: Wired Generator does not communicate over Modbus protocol. {Please refer to help section Genset device tiles for more details}

1

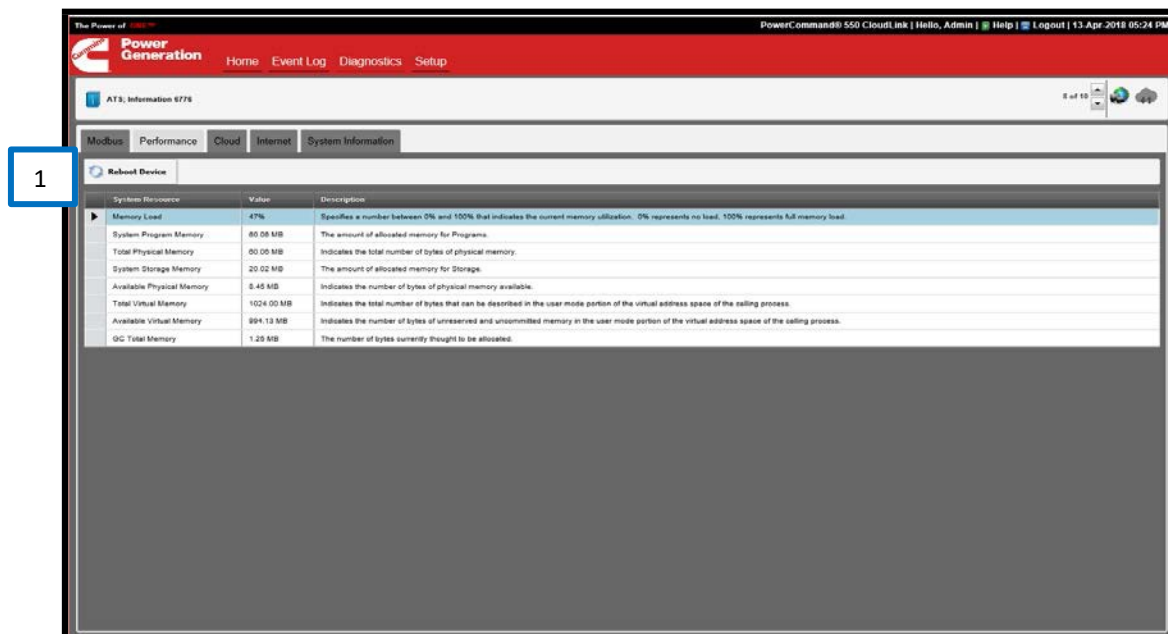
Clear Counters: It's a hyperlink which resets sent, received and failed counters to zero. User has to acknowledge confirmation before counters are set to zero again.

If device is in 'Not Communicating' state after initialization, try below options

- Check if there is a mismatch of Modbus configuration (Modbus Address, Baud Rate, Parity, and Stop Bits) between PC500/550 CloudLink and connected device (Genset, Aux101 etc.). Modbus settings must match to have successful communications.
- Verify the Modbus cable is in good shape (verify continuity)
- Verify the polarity of the Modbus connections.
- Check if RS485 LEDs on PC500/550 CloudLink hardware are blinking. If not, reboot the device.

DIAGNOSTICS/PERFORMANCE

This screen provides all 'Performance Data' related to memory load and utilization. As like other screens above this screen is also intended for Developers in process of debugging software related issues.

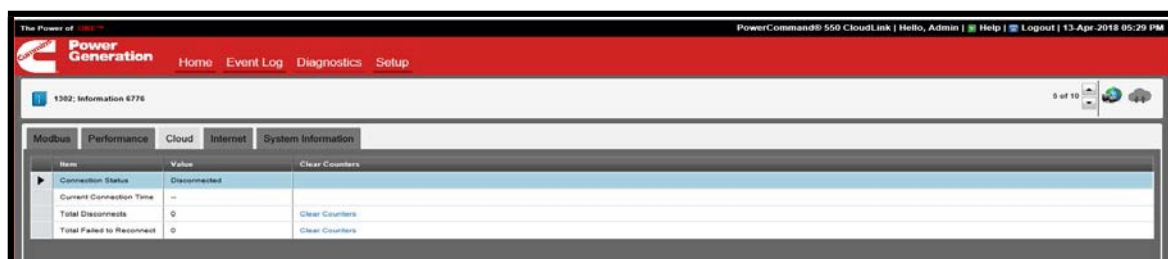


1 Reboot Device: This button provides 'soft reboot' option for PC500/550 CloudLink device. When operated, it resets power supply to the processor pins on motherboard. The device will simply reboot like any Windows PC by retaining all configurations and log files.

Note: Reboot Device operation is NOT a 'factory reset' option.

DIAGNOSTICS/CLOUD

This screen lists details about cloud connectivity status between PC500/550 CloudLink and PowerCommand Cloud.



Connection Status: It displays the cloud connection status- connected/disconnected. If it's disconnected, check internet connection status and confirm that it's "connected"

Current Connection Time: It is the total time duration {Days Hours Minutes} for which PC500/550 CloudLink is connected with PowerCommand Cloud. Counter for the current connection time resets to zero if the device is rebooted or disconnected with PowerCommand Cloud and connected again.

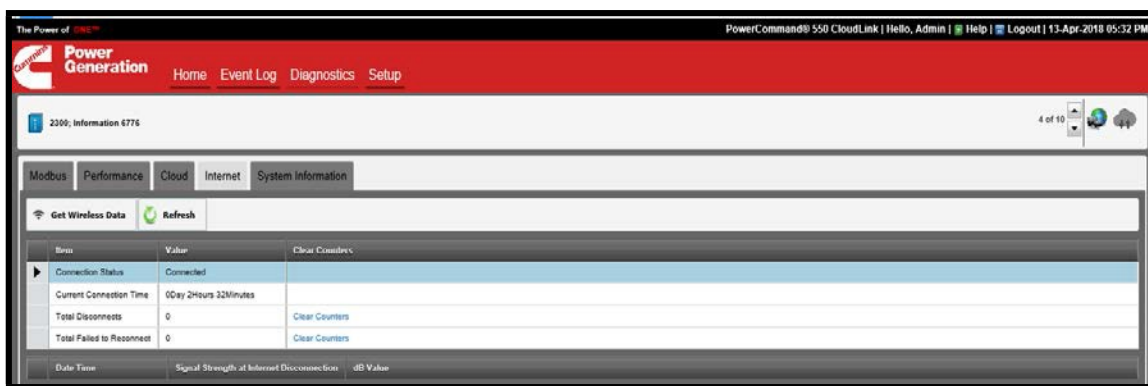
Total Disconnects and Total Failed to Reconnect: As the name implies it shows the total disconnects and total failed attempts to reconnect.

Clear Counters: It's a hyperlink which resets Total Disconnects and Total Failed to reconnect counters to zero. User has to acknowledge the confirmation message before counters are set to zero again.

Note: Provided the gateway access key is correct, poor internet connectivity is the primary driving factor for these error counters.

DIAGNOSTICS/INTERNET

This screen lists details about internet connectivity status for PC500/550 CloudLink.



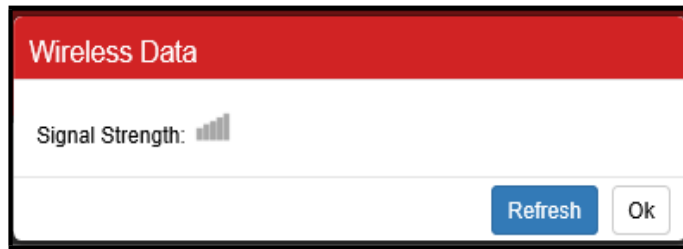
Connection Status: It displays the internet connection status- connected/disconnected. If it's disconnected, for 3G Devices- check cellular preferences from the setup menu and make sure that wireless data is enabled along with correct APN entered. For LAN Devices- Make sure that network cable is plugged in correctly between Ethernet switch and device. Also confirm that internet is active on the switch.

Current Connection Time: It is the total time duration {Days Hours Minutes} for which PC500/550 CloudLink is connected with the Internet. Counter for the current connection time resets to zero if the device is rebooted or disconnected with the internet.

Total Disconnects and Total Failed to Reconnect: These are the counters for the total disconnects and total failed to reconnect with internet. Counters reset to zero if the device is rebooted or disconnected with the internet.

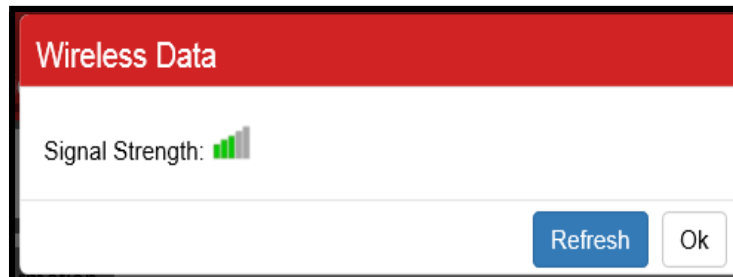
Clear Counters: It's a hyperlink which resets Total Disconnects and Total Failed to reconnect counters to zero. User has to acknowledge the confirmation before counters are reset to zero again.

Get Wireless Data: This button provides 3G GSM wireless strength of the inserted SIM card. When there is no SIM card, a grey bars appears in signal strength field.



If there are all grey bars (), click on the refresh button to get wireless strength OR try changing location of PC500/550 CloudLink device OR use the antenna extension cable (PN# A035C381).

Note: Wireless strength is displayed when the 3G SIM card is activated and properly inserted in the SIM card slot in the hardware. If wireless strength is queried when connected with the internet, the active session gets disconnected to obtain the new signal strength again.



Signal strength at internet disconnection: It displays the signal strength (dB value) logs along with date time stamp at the time of internet disconnection. PC550/500 CloudLink stores maximum 1000 logs which are displayed 50 per page. Use page navigation controls to scroll between pages.

Logs are automatically cleared once maximum capacity is reached and clears 10% of old Logs on FIFO (first in first out) basis and makes room for new records.

DIAGNOSTICS/SYSTEM INFORMATION

PC500/550 CloudLink Hardware details (PC500/550 CloudLink model, hardware version, modem type, Modem IMEI number, Serial Number) and software details (PC500/550 CloudLink software version, Modem software version, gateway ID, OS Version, build number, last software update date/time) are listed. During any service call, user will be asked to provide details from this screen.

Modbus			Performance	Cloud	Internet	System Information
	Item	Value				
▶	Gateway Model	PC500 CloudLink				
	Serial Number	123				
	Gateway Id	990d1ebf-c803-4799-b51d-fad9186144e3				
	Modem Type	GSM3g				
	Modem Software Version	12.00.026				
	Modem IMEI	351579056539842				
	Hardware Version	1				
	OS Version	3.04.0				
	Software Version	2.00				
	Build Number	2.0.0405.2				
	Last Update Date/Time	4/11/2018 12:51:06 PM				

If Software update is required, it can be initiated from gateway UI as well as from PowerCommand Web Portal. The latest update file can be downloaded from Cummins Incal website or from PowerCommand Cloud Portal. Please refer to help section Setup > Systems Setting > Software Update for more details.

SETUP

All PC500/550 CloudLink configuration wizards are accessible under the Setup menu. During initial configuration of device, it is recommended to proceed in a sequence how tiles are arranged (left to right). E.g. Network Settings, Cellular Preference, Cloud Connectivity, Modbus Configuration and so on.

Note: All required fields are marked by asterisk (*)

NETWORK SETTINGS

Used for connecting to PowerCommand Cloud over an LAN/WAN network. Network settings are identical to IPv4 settings of Windows network configuration menu. User can select AUTO or manual configuration mode by selecting radio buttons accordingly. For manual configuration obtain all details listed in image from your IT Administrator.

- Click Edit Button to make changes

Network Settings

Enter host name: Host Name : * PC5xxGateway

Select preferred method to obtain DHCP settings:

1 ☐ Obtain an IP address automatically IP Address : * 10.0.1.17

2 ☐ Use the following IP addresses Subnet Mask : * 255.255.255.0

Default gateway : * 10.0.1.1

Select preferred method to obtain DNS settings:

3 ☐ Obtain DNS server address automatically Preferred DNS server : * 4.2.2.2

4 ☐ Use the following DNS server addresses Alternate DNS server : * 8.8.8.8

* - Required Fields

DHCP Settings

Hostname: It serves as a PC500/550 CloudLink's name tag for its identification over network. Hostname can be used for accessing device over web and instead of IP address it can be used directly to access UI from within the network.

IP address: It is the numerical label assigned to device for its identification over network. It can be used to access PC500/550 CloudLink's UI from within the network.

Subnet Mask: A subnet mask separates the IP address into two parts- the network address and the host addresses (<network><host>).

Default Gateway: It is the node on the computer network which PC500/550 CloudLink UI uses when an IP address does not match any other routes in the routing table.

DNS Server (Domain Name System): It is a network system used to translate names into IP addresses.

User can select to configure network settings automatically or manually.

For Auto configuration,

- Connect Ethernet network cable to PC500/550 CloudLink
- Select auto detect option for IP 1
- Select auto detect option for DNS configuration 3
- Save settings

For manual configuration,

- Select 'Use the following...' radio button for IP 2 and enter details
Provided by your IT administrator
- Select 'Use the following...' radio button for DNS 4 and enter details
Provided by your IT administrator
- Save Setting

As an alternative, user can select to detect IP address automatically but configure DNS server settings manually.

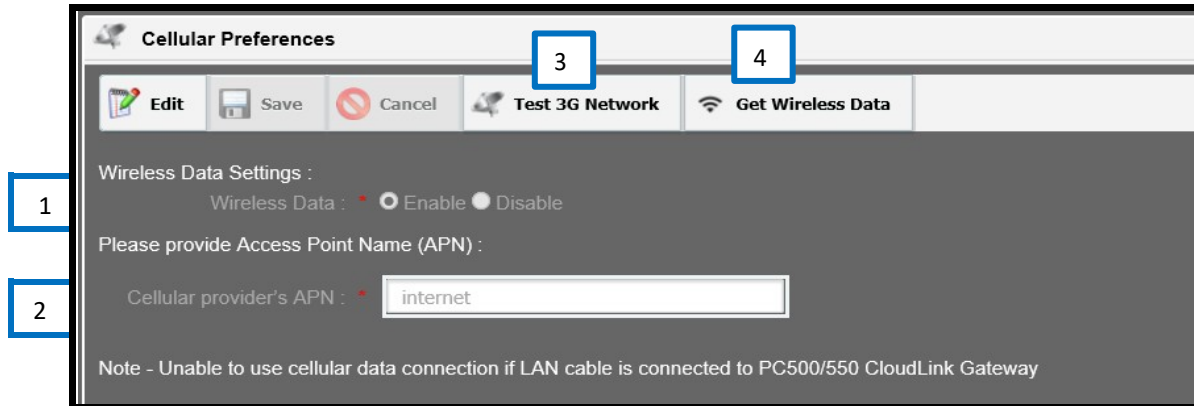
SSL (Secure Sockets Layer) is a standard security protocol that provides communication security over the Internet. SSL provides a secure connection between two machines operating over the Internet or an internal network. SSL protects confidential data by creating a uniquely encrypted channel for private communication. It helps preventing hackers from tapping into client-Server communication and misusing confidential data. Refer PC500/550 CloudLink Owner's manual for details.

Gateway (PC500/550 CloudLink device) User Interface is accessible with SSL by default.

Note: Any change made in the Network Settings requires a logout from current session. This is done automatically when settings are saved.

CELLULAR PREFERENCES:

PC500/550 CloudLink 3G GSM units can connect to internet using cellular network. To establish the network, insert 3G data enabled SIM card in the SIM card slot of the device, enable Wireless Data from UI and enter valid APN (Access Point Name). User cannot use Cellular and Ethernet connection at the same time. Ethernet cable must be unplugged if using cellular connection.

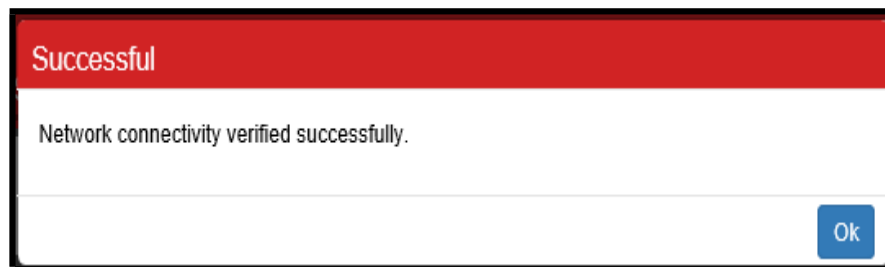


1 **Wireless Data Setting:** Enabling the wireless data settings unlocks the APN Settings. User must enable this to use cellular data.

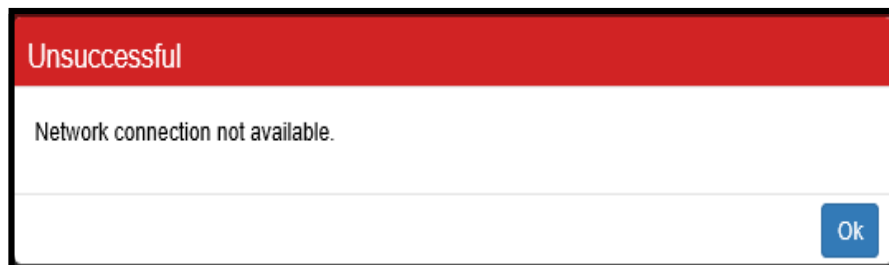
2 **Please Provide Access Point Name (APN):** User must enter APN name which is a Gateway between 3G network and PC500 CloudLink/550 CloudLink device. These details Can be obtained online from service provider.

3 **Test 3G Network:**

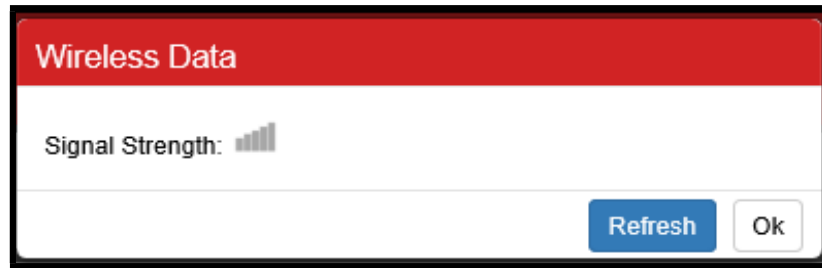
It tests if PC500/550 CloudLink device is connected to internet with 3G network. A Confirmation message will appear as below if connected.



If not connected, a confirmation message will appear as



4 **Get Wireless Data:** This button provides 3Gsm wireless strength of the inserted SIM card. When there is no SIM card, a cross shall appear in signal strength field.



If there are all grey bars (: ), click on the refresh button to get wireless strength OR try changing location of PC500/550 CloudLink device OR use the antenna extension cable (PN# A035C381).

Notes:

- Wireless strength is displayed when the 3G SIM card is activated and properly inserted in the SIM card slot of the device.
- Click refresh if the device location is changed; the wireless strength doesn't refresh automatically if the wizard is kept open.
- If Refresh wireless strength is operated while connected to the internet, the active session gets disconnected to obtain the new signal strength again.



CLOUD CONNECTIVITY:

As part of security measure, all the CloudLink devices are registered to Power Command cloud before telemetry transactions take place.

Correct gateway access key and cloud address provide connectivity to CloudLink device with a customer site in PowerCommand cloud web application. Gateway access key can be found under Account Management tab in PowerCommand cloud web application which is accessible at <https://portal.powercommandcloud.com>

Check your user invitation from PowerCommand cloud for further details.

Cloud Connectivity

Edit Save Cancel Test Connection

Enter Cloud Connectivity Configuration Settings :

1 Gateway Name : * Test_Device

2 Gateway Access Key : * Mljhst6yahst228sodndfsdsssszmskchdoiidssjclddjcj

3 Cloud Address : * gateway-qa.powercommandcloud.com

4

1 **Gateway Name:** The name by which PC500/550 CloudLink device can be identified on PowerCommand Cloud under available CloudLink devices. This can be set to anything.

2 **Gateway Access Key:** The 'Gateway access key' is required for PC500/550 CloudLink device to register its identity in cloud database (process called as 'Device Provisioning'). PC500/550 CloudLink provisioning to PowerCommand cloud is a handshake process which associates PC500/550 CloudLink device to the Site in Power Command cloud. Cloud server validates the Gateway Access Key before any CloudLink device is approved.

3 **Cloud Address:** PowerCommand Cloud address is set as default cloud web address for accurate provisioning and it cannot be changed.

Account creation on PowerCommand Cloud:

The three step account registration process works as below:

1. Create Customer Account and Invite Owner:

Primary Account Owner (Dealer/Distributor) initiates the process by creating a customer account in the PowerCommand cloud and a new user invitation is sent to the Customer Account Owner who needs to complete legal procedures to get authenticated to the PowerCommand cloud.

2. Complete legal procedures:

Customer Account Owner uses registration link received in email, accepts Terms and Conditions and creates user account for the PowerCommand cloud.

3. Create Site and Get gateway access key:

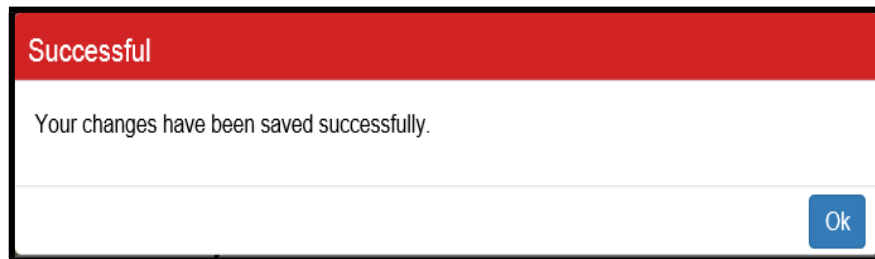
Once account is created, authorized Dealer/Distributor create site(s) and generates gateway access key. The 'gateway access key' must be entered in Setup> Cloud Connectivity section of PC500/550 CloudLink device to register with PowerCommand Cloud (process also called as 'Gateway Provisioning').

Notes:

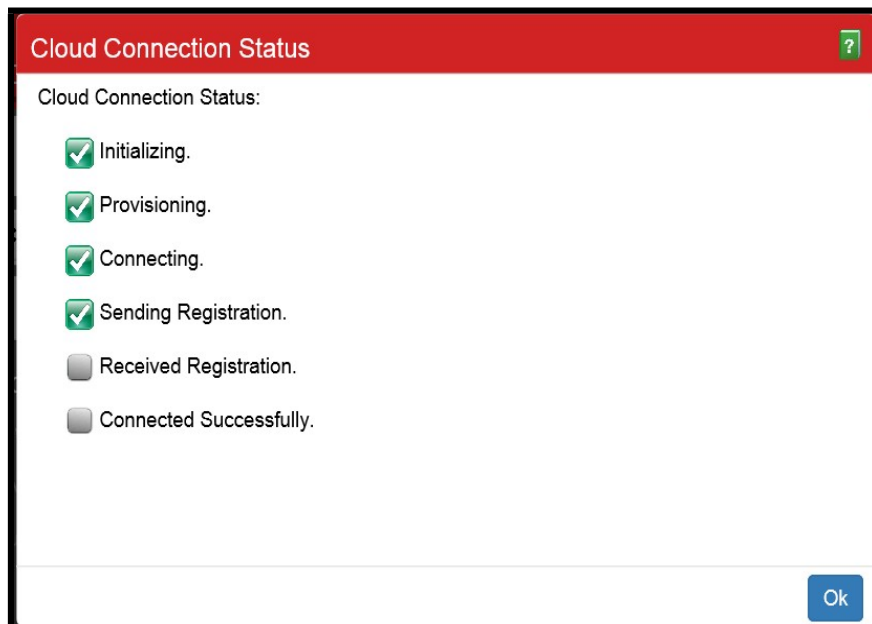
- Refer PowerCommand Cloud Web application help manual for more details on Account Creation.
- Same gateway access key can be used to provision Multiple PC500/550 CloudLink device under one site.

Provisioning:

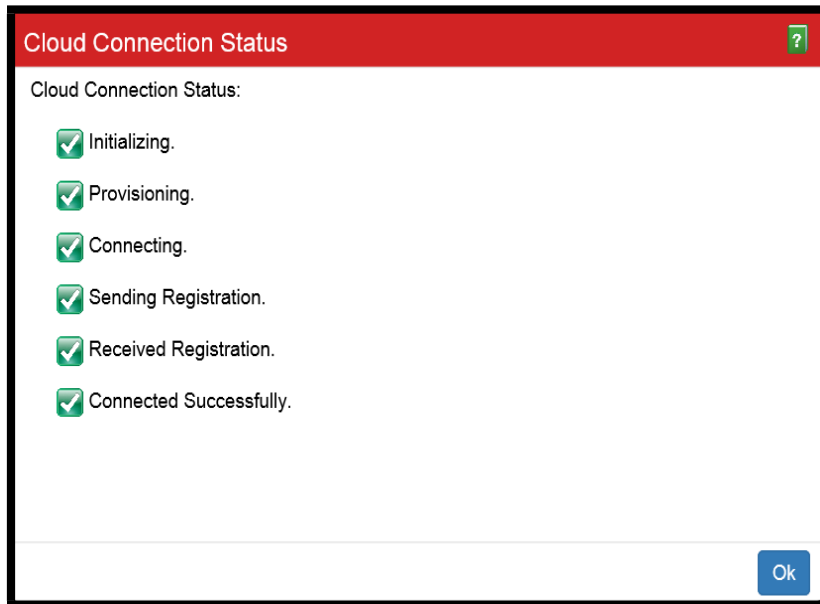
1. Assign a Gateway Name, enter the gateway access key obtained from PowerCommand cloud and save the data. A confirmation message will get displayed.



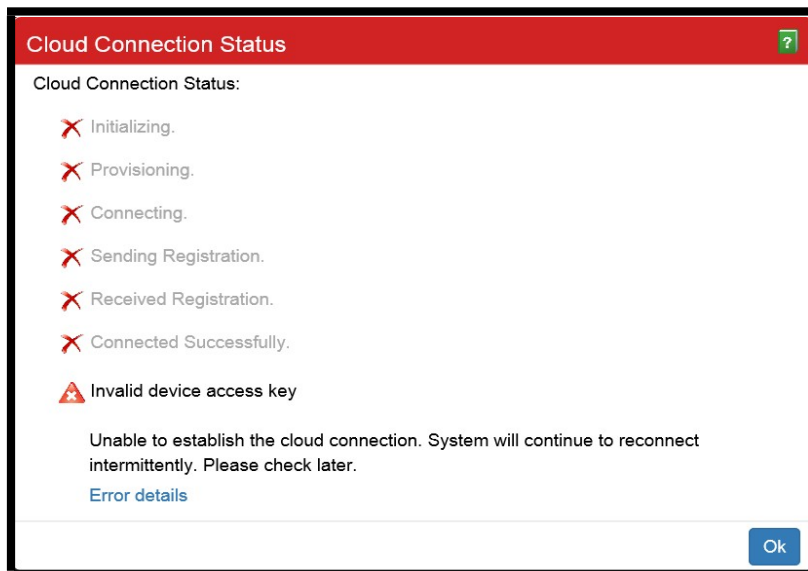
Press the OK Button to see the current provisioning status in a new wizard.



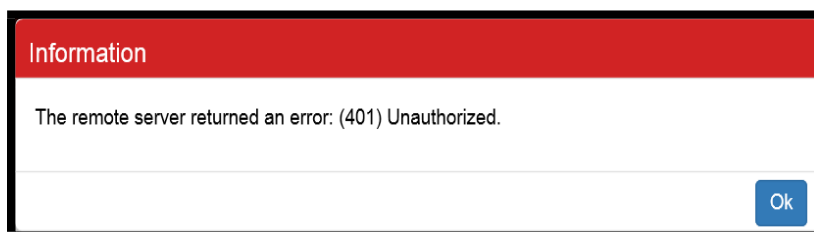
After successful provisioning all fields shall appear in green and cloud connection status will appear as enabled on the connection status bar.



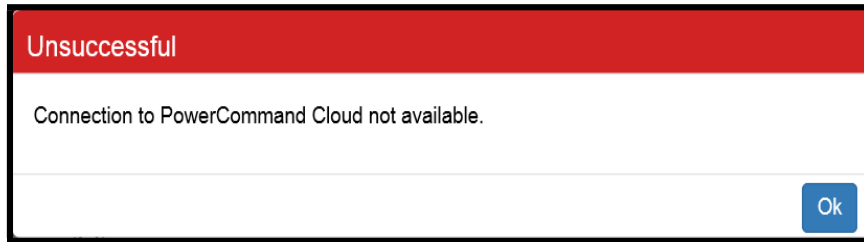
2. If provisioning fails for any reason (e.g. incorrect gateway access key), an error message with details will be displayed



3. Click on Error details for more information about failed provisioning

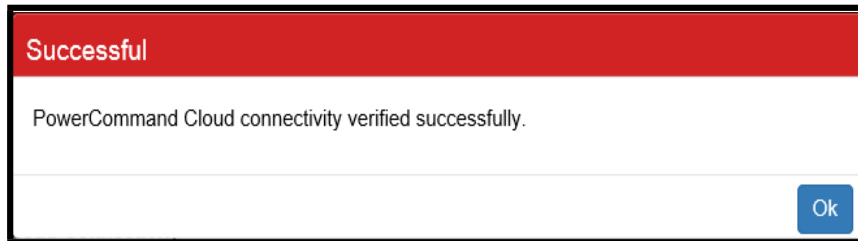


4. If internet connection is not available following error message is displayed.

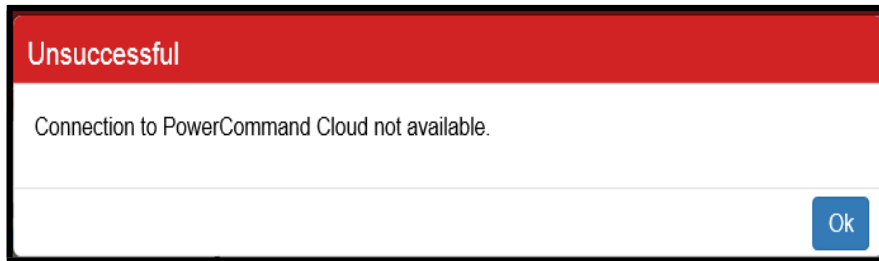


4 **Test connection:**

Test the connection of PC500/550 CloudLink device with PowerCommand Cloud. Once connection is established, confirmation message will be displayed.



If cloud connection is not available, an unsuccessful message will be displayed



MODBUS SETTINGS

Modbus is a serial communication protocol used to communicate Generator Sets, ATS and Aux control models. PC500/550 CloudLink has two RS-485 channels on TB2 for Modbus communications. As indicated both channels can be independently configured as required. Device supports various configuration options as pointed out. Refer Modbus Protocol Specifications from <http://www.modbus.org/> for more details.

Modbus Settings

Modbus RTU Settings for Channel 1 and Channel 2 :

	Modbus Channel 1	Modbus Channel 2
Baud :	19200 bps	19200 bps
Parity :	None	None
Stop Bits :	1	1
Data Bits :	8	8
Timeout (ms) : *	250	250

* - Required Fields

Callout for Baud Rate: 2400 bps, 4800 bps, 9600 bps, 19200 bps (selected), 38400 bps

Callout for Parity: None (selected), Odd, Even

Callout for Stop Bits: 1 (selected), 2

Note: Make sure that ALL Modbus control models wired to these channels have identical Modbus configuration. Seamless Communication will not be possible if there is any mismatch.

Click Edit to begin.

Baud Rate: It specifies number of bits to be transmitted per second.

- Device supports all standard baud Rates from 2400 to 38400. Select suitable baud rate from drop down list. 19200 is default on many Cummins devices including PC500/550 CloudLink.

Parity: Parity is a method of detecting errors in transmission. When parity is used with a serial port, an extra data bit is sent with each data character, arranged so that the number of '1' bits in character including parity bit is always Odd or always Even.

'None' parity is the default selection. Even and Odd parity can be selected if required. Note that PC500/550 CloudLink uses 11 bit pattern for data formatting

Stop Bits: Stop bits are sent at end of every character to allow receiving signal hardware to detect the end of a character. Select 1 or 2 stop bits to suit parity selection.

Note: 2 Stop bits cannot be selected with Even/Odd parity. As an exception, all Cummins devices support 'None' parity and 1 stop bit selection (10 bit pattern)

Data Bits: Considering the bit pattern of Modbus parameters in Cummins controls, Data Bits are defaulted to 8 and cannot be changed.

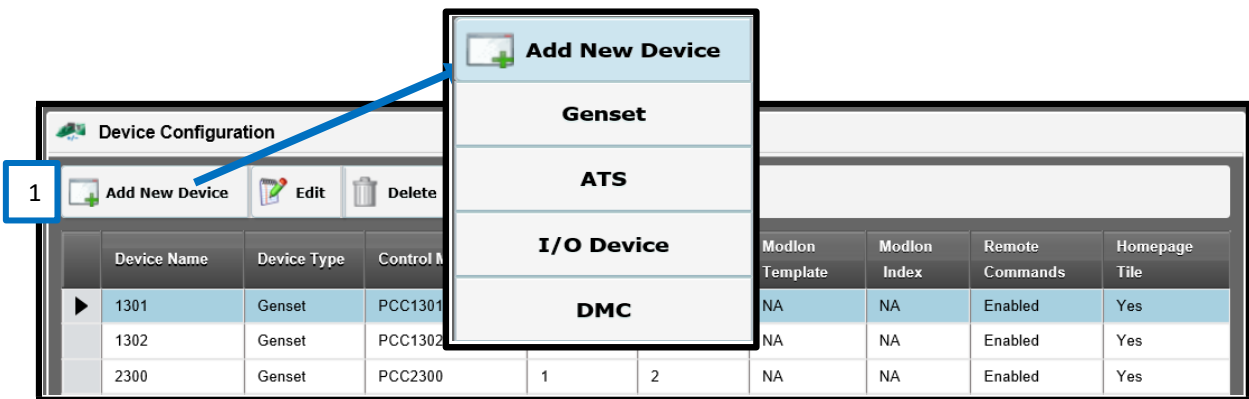
Timeout: It is the duration for which PC500/550 CloudLink waits before sending another request. A default setting is 250ms and can be configured to suit performance of other connected devices in network.

DEVICE CONFIGURATION

PC500 CloudLink supports up to 2 devices while PC550 CloudLink supports 12 Devices (any combination of Genset, ATS and Aux101) excluding Wired Generator.

All configured devices are displayed in the Devices grid along with some configuration details (Device Name, Device Type, Control Model, Modbus Channel, Modbus Address, etc.)

Note: All devices except for I/O devices are displayed on the homepage. Sensors configured using Aux101 inputs appear under tile Site IOs on Homepage.



1 Add New Device: Select which type of device from drop down menu. After selection, the user is then navigated to the selected device's setup wizard.

GENSET WIZARD

PC500/550 CloudLink has preconfigured register maps of all Cummins commercial Genset controls. If your Genset control is not in the list, it's not supported. If there is a third party

or older Cummins Genset which does support Modbus Communication which user want to monitor, consider wiring it through PC500/550 CloudLink's Discrete Input/Outputs as wired generator or through CCM (Custom Communication Module) or Auxiliary IO device like Aux101. If using CCM, select CCM-G from 'Control Model' dropdown list

Add New Modbus Device

Device Name : * Wired Genset

Control Model : * Wired Generator

Start/Stop : * PC550 CloudLink Discrete Output Pin A

Fault Reset : * PC550 CloudLink Discrete Output Pin B

Run Status : * PC550 CloudLink Discrete Input Pin A

Common Alarm : * PC550 CloudLink Discrete Input Pin B

Remote Commands : Enable

Device Location :

Description :

Fault Holding Duration : * 50 Seconds

Failed to start event activation delay : * 180 Seconds

* - Required Fields

Save Cancel

--Select--
PCC3300
PCC2300
PCC1301
PCC1302
PCC2100
PCC3100
PCC3200
PCC3201
PS0500
PS0600
CCM-G
Wired Generator

All Required Fields must be filled in to complete device configuration. Some field details are provided below.

1 Control Model: All supported Genset controls are listed in the dropdown menu.

- All new controls (PCC1301, PCC1302, PCC2300, PS0500, PS0600 and PCC3300) communicate directly to the PC500/550 CloudLink over Modbus.
- Legacy controls (PCC2100, PCC3100, PCC3200, PCC3201 and CCM-G) communicates over LON protocol which requires ModLon or Protonode Gateway to convert to Modbus protocol. Then it further communicates to the CloudLink device. ModLon information (ModLon Template and Index) must be filled in to complete setup.
- Wired Generator Control communicates directly over PC500/550 CloudLink Discrete Input/output Pins.

Add New Modbus Device
?

Device Name : *

Control Model : *

▼

Start/Stop : *

Fault Reset : *

Run Status : *

Common Alarm : *

Remote Commands :

▼

Device Location :

Description :

Fault Holding Duration : *

Seconds

Failed to start event activation delay : *

Seconds

* - Required Fields

Save
Cancel

2

Modbus Address: The Modbus address entered MUST match the Modbus address from the genset control in order to communicate. For legacy controls, the Modbus address represents the address for the ModLon or Protonode Gateway.

3

Remote Commands: Set default as enabled indicates that Start/Stop operation on PowerCommand Cloud application is allowed for this generator. Disable only to eliminate start/stop operation capability on configured generator.

4

Fault Holding Duration: It is the duration for which PC500/550 CloudLink ignores Common alarm encountered during Generator Start. After a start command issued, once this timer get elapsed then common alarm goes active and it will trigger an event.

5

Fail to start event activation delay: This timer gets initialize when a remote start command provided to generator. Once a start command issued and running status is as “stopped” even after this timer has expired, Failed to start event shall be activated.

Notes: “Fault Holding Duration” and “Fail to start event activation delay” Fields are applicable for Wired Generator only.

Click Save to complete configuration.

ATS WIZARD

PC500/550 CloudLink has preconfigured register maps of all Cummins ATS controls. If your ATS control is not in the list, it's not supported. If there is a third party ATS which you want to monitor, consider wiring it through CCM (Custom Communication Module) or Auxiliary IO device like Aux101. If using CCM, select CCM-T from 'Control Model' dropdown list.

The screenshot shows the 'Add New Modbus Device' form. It includes fields for Device Name, Control Model, Modbus Address, Modbus Channel, Modlon Template, Modlon Index, Source 1 Name, Source 2 Name, Remote Commands, Device Location, and Description. A callout box labeled '1' points to the Control Model dropdown menu, which is open and shows options: OTHC, OHPC, CHPC, BTPC, CCM-T, and PLT. A callout box labeled '2' points to the Modbus Address field, which contains the value '21'. A callout box labeled '3' points to the Remote Commands dropdown menu, which is set to 'Enable'. A text box on the left indicates 'Range: 1-247' for the Modbus Address. The form has 'Save' and 'Cancel' buttons at the bottom right.

Enter all required details marked with asterisk. Details regarding ModLon Template and ModLon Index are also required. Enter these details based on configuration of ModLon or Protonode gateway. For ATS controls, Modbus Address is the address for ModLon.

1 **Control Model:** All supported ATS controls are listed in the dropdown menu. All communicate to a ModLon or Protonode Gateway which then communicates to the ATS controls over LON network. ModLon information (ModLon Template and Index) must be filled in to complete setup.

2 **Modbus Address:** The Modbus address entered MUST match the Modbus address for the ModLon or Protonode Gateway.

3 **Remote Commands:** Set default as enabled indicates that Start/Stop test operation on PowerCommand Cloud application is allowed for this ATS. Disable only to eliminate start/stop test operation capability on configured ATS.

Click Save to complete configuration.

IO DEVICE (AUX101-102) WIZARD

Currently Aux101-102 is the only IO device supported from PC500/550 CloudLink. Sensors that use the AUX inputs are configured in Setup->Sensors and Output Controls page.

Each Aux101 has

- 8 Analog/Discrete Inputs (Analog/Discrete selection is configurable; All 8 Inputs can be selected as Discrete or Analog or in combination of both. Discrete Inputs can be configured as Discrete Active High/Low)
- 8 Discrete Outputs

Each Aux102 has

- 4 Discrete Inputs (Discrete Active Low – Not configurable)
- 8 Discrete Outputs

To add Aux101-102, select IO device from 'Add New Device' menu. Make sure that Aux101 is in Modbus Mode (7 segment display on Aux101 board must read 'H').

Note: Output Controls are disabled for PC500/550 CloudLink User Interface. Therefore no outputs can be configured on PC500/500 CloudLink device.

Add New Modbus Device

Device Name : *

Control Model : * AUX101

1 Modbus Address : * Range: 1-247

Modbus Channel : * --Select--

Device Location :

Description :

* - Required Fields

Next Cancel

Enter all required details marked with asterisk.

1

Modbus Address: The Modbus address entered MUST match the Modbus address for the AUX101.

Note: Must use Service tool to gather AUX101 Modbus settings.

Click Next to continue.

On next screen, Aux101 inputs can be configured as Analog or Discrete (Active High/Low). Default configuration checkbox automatically selects below configuration. Note that Current Source1 through 4 are used with Inputs 3 to 6. Refer Aux101/102 Owner's manual for details. User can select Input types in any combination as required. Current Source settings are enabled only if the corresponding Input (3-6) is configured as an Analog input.

Default Selection:

Add New Modbus Device ?

☒ Select default configuration for Aux101's Inputs and Current Sources

Input 1 : *	Discrete (Active Low) ▼	
Input 2 : *	Discrete (Active Low) ▼	
Input 3 : *	Analog ▼	Current Source 1 : 2 (2 - 20mA)
Input 4 : *	Analog ▼	Current Source 2 : 2 (2 - 20mA)
Input 5 : *	Analog ▼	Current Source 3 : 2 (2 - 20mA)
Input 6 : *	Analog ▼	Current Source 4 : 2 (2 - 20mA)
Input 7 : *	Discrete (Active High) ▼	
Input 8 : *	Discrete (Active High) ▼	

Check Aux102 available checkbox if Aux102 is available and connected to Aux101.

Add New Modbus Device

☒ Select default configuration for Aux101's Inputs and Current Sources

Input 1 : * Discrete (Active Low) ▼

Input 2 : * Discrete (Active Low) ▼

Input 3 : * Analog ▼

Input 4 : * Analog ▼

Input 5 : * Analog ▼

Input 6 : * Analog ▼

Input 7 : * Discrete (Active High) ▼

Input 8 : * Discrete (Active High) ▼

Current Source 1 : 2 (2 - 20mA)

Current Source 2 : 2 (2 - 20mA)

Current Source 3 : 2 (2 - 20mA)

Current Source 4 : 2 (2 - 20mA)

☐ Aux102 Available

Input 9 : Discrete (Active Low)

Input 10 : Discrete (Active Low)

Input 11 : Discrete (Active Low)

Input 12 : Discrete (Active Low)

* - Required Fields

Back Finish Cancel

Unconfigured
Analog
Discrete (Active High)
Discrete (Active Low)

Note: The PC500/550 CloudLink system cannot detect Aux101 configuration if it was carried out using other tools. Existing configuration is overwritten.

- Click Finish to save and complete configuration.

SENSORS AND OUTPUT CONTROLS

Sensors and Output Controls are added to the system using this setup. Sensors can be configured to use Inputs from PC500/550 CloudLink or Aux101-102.

The PC500/550 CloudLink hardware I/O:

- 1 Resistive Analog Input (600-2500 Ohm)
- 2 Discrete Inputs
- 2 Discrete Outputs

When required, IO expansion modules Aux101/102 can be connected to augment input capacity of the PC500/550 CloudLink.

Aux101 I/O:

- 8 Analog/Discrete Inputs (Analog/Discrete selection is configurable; All 8 Inputs can be selected as Discrete or Analog or in combination of both. Discrete Inputs can be configured as Discrete Active High/Low)
- 8 Discrete Outputs

AUX 102 I/O:

- 4 Discrete Inputs (Discrete Active Low; Not configurable)
- 8 Discrete Outputs

Analog (e.g. Fuel, Temperature, etc.) or Discrete (e.g. Fault Condition Active/Inactive, Switch On/Off sensing etc.) entities can be monitored through Sensors.

Note: Output Controls are disabled for PC500/550 CloudLink User Interface. Therefore no outputs can be configured on PC500/550 CloudLink device.

PC500/550 CloudLink Analog Input: This input shall be used primarily for measuring fuel level using a sensor with a 600Ω – 2500Ω range (0.29V to 1.21V). Resistance is sensed by directing a 485uA constant current source through the sensor. The voltage is captured by the analog to digital convert (A/D).

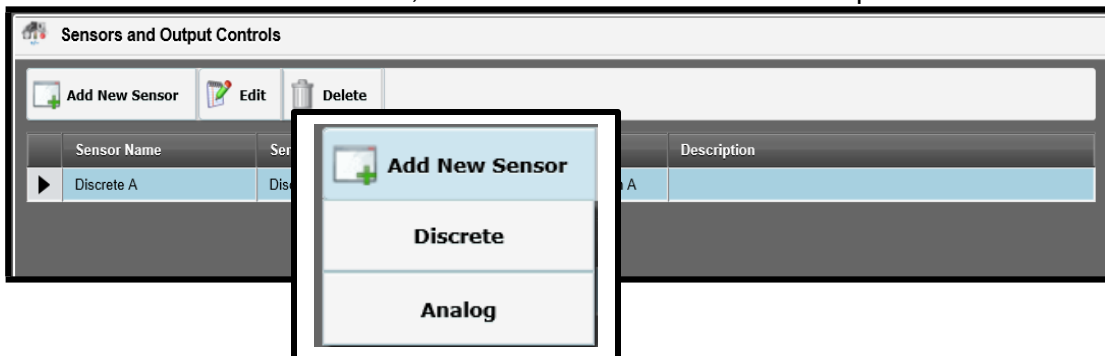
PC550 CloudLink Discrete Inputs: There are two discrete opto-isolated inputs to the PC500/550 CloudLink base board. Grounding of the input provides an active LOW logic level and letting the input float produces an active HIGH logic level. Both inputs include ESD and overvoltage protection by way of a capacitor and TVS.

Note: Wired Generator utilizes all PC500/550 CloudLink’s discrete inputs and outputs on board. It is not possible to configure discrete inputs when Wired Generator is present and vice versa.

Refer Aux101 Owner’s Manual for details on Aux101/102 Inputs/Outputs

DISCRETE SENSOR WIZARD

Select ‘Add New Sensor’ button, then select ‘Discrete’ from the dropdown menu.



Enter all required details marked by asterisk. Source field displays compiled list of all unused discrete inputs (Active High and Active Low) available for selection.

1 **Source:** Contains a dropdown list of all the available Discrete inputs (includes Pc500/550 inputs and AUX101 inputs, if configured).

2 **Warning State:** This field defines event activation rule.

- None: No Event will be logged for any sensor state
- Active: Event will be logged when Sensor state changes from Inactive to Active
- Inactive: Event will be logged when Sensor state changes from Active to Inactive

The screenshot shows the 'Add New Discrete Sensor' form. It has a red header bar with a question mark icon. The form contains the following fields:

- Sensor Name :** A text input field with an asterisk (*) indicating it is required.
- Source :** A dropdown menu with '--Select--' as the current selection. A blue callout box labeled '1' points to this field.
- Warning State :** A dropdown menu with '--Select--' as the current selection. A blue callout box labeled '2' points to this field.
- Description :** A text input field.

Below the fields, there is a section labeled '* - Required Fields'. To the left of the form, a separate dropdown menu is shown with the following options: '--Select--', 'None', 'Active', and 'Inactive'. A blue arrow points from the 'Warning State' field to this menu. To the right of the main form, a smaller version of the 'Add New Discrete Sensor' form is shown, with a blue arrow pointing from the 'Source' field of the main form to its dropdown menu.

Once Sensor is created, it shows up as Configured Sensors at home page under Site IOs. Please refer to PowerCommand Cloud Application for monitoring.

Note: Discrete Sensor's Warning state is set to "None" as default after a successful import configuration.

ANALOG SENSOR WIZARD

Select 'Add New Sensor' button, then select 'Analog' from the dropdown menu.

The screenshot shows the 'Sensors and Output Controls' page. It has a header bar with a house icon and the text 'Sensors and Output Controls'. Below the header, there is a toolbar with three buttons: 'Add New Sensor' (with a green plus icon), 'Edit' (with a pencil icon), and 'Delete' (with a trash icon). Below the toolbar, there is a table with the following columns: 'Sensor Name', 'Se...', and 'Description'. The first row of the table has the following values: 'Discrete A', 'Discre...', and 'A...'. A blue callout box labeled '1' points to the 'Add New Sensor' button. A blue callout box labeled '2' points to the 'Se...' column header. A blue callout box labeled '3' points to the 'Analog' option in the dropdown menu of the 'Se...' column. The dropdown menu is open, showing two options: 'Discrete' and 'Analog'.

Enter all required details marked by asterisk.

1

Type: Select closest match to analog entity being measured; Temperature, Pressure, Volume, or Battery.

2

Unit: This is Imperial and Metric Units selection as per Sensor type (e.g. Temperature: DegF and DegC). These units are intended only for conveniently providing data to PowerCommand Cloud.

3

Source: Contains a dropdown list of all the available analog inputs (includes PC500/550 CloudLink input and AUX101 inputs, if configured).

The screenshot shows a web form titled "Add New Analog Sensor" with a red header bar. The form contains the following fields:

- Sensor Name :** A text input field with an asterisk indicating it is required.
- Type :** A dropdown menu with "--Select--" as the current selection. A blue arrow points to a callout box showing the available options: Temperature, Pressure, Volume, and Battery.
- Unit :** A dropdown menu with "--Select--" as the current selection. A blue arrow points to a callout box showing the available options: degF and degC.
- Source :** A dropdown menu with "--Select--" as the current selection. A blue arrow points to a callout box showing the available options: fghg Aux101 Input 3, fghg Aux101 Input 4, fghg Aux101 Input 5, fghg Aux101 Input 6, and PCS00 CloudLink Analog Input Pin.
- on :** A text input field.

At the bottom of the form, there is a legend: "* - Required Fields". Below the legend are two buttons: "Next" and "Cancel".

- Click Next to continue.

On next page, data is collected for evaluating 'liner scaling' for conversion of voltage/resistance values to actual measured analog entity (Gallons, Degree F etc.)

Add New Analog Sensor

1 Sensor Voltage Limits

* 5 V

↑

Range

↓

* 0 V

2 Corresponding Min/Max Limits and Warning Thresholds

Max: * degF

High Warning: degF

Low Warning: degF

Min: * degF

☐ Enable 3% Hysteresis (for High Warning)

☐ Enable 3% Hysteresis (for Low Warning)

Note: Sensor Voltage limits must be within fgbg Aux101 Input 3 Voltage limits : 0 V - 5 V

* - Required Fields

Back Save Cancel

1 Sensor Voltage Limits: Enter min/max voltage limits for Sensor. Since this sensor gets connected to PC500/550 CloudLink or Aux101, make sure that Sensor voltage limits fall within range of PC500/550 CloudLink resistive input limit or Aux101 voltage limits. Refer to table below for details on min and max voltage limits on each analog input.

	Min	Max
Aux101 Input1	-5V	5V
Aux101 Input2	-5V	5V
Aux101 Input3	0V	5V
Aux101 Input4	0V	5V
Aux101 Input5	0V	5V
Aux101 Input6	0V	5V
Aux101 Input7	0V	38V
Aux101 Input8	0V	38V
PC500/550CloudLink Analog Input	600 Ohm	2500 Ohm

As a guideline, the note at the bottom of wizard dictates voltage/resistance limits for each selected input.

2 Corresponding Min/Max limits: This section provides the sensor scaling. Enter corresponding limits for measured entity, i.e. Max or Min Voltage/Resistance values and their linkage to sensed entity (Gallons, Degree F etc.) e.g. Fuel Sensor where 600 Ohm corresponding to 0 Gallons 2500 Ohm corresponding to 250 Gallons shall be entered as shown below. The linear scale is based on the entered values. The sensor value is displayed on Site IO Details page. E.g. Fuel Sensor: 100 Gallons

Add New Analog Sensor ?

Sensor Voltage Limits

* V

↑
Range

↓

* V

Corresponding Min/Max Limits and Warning Thresholds

Max: * degC

High Warning: degC
☒ Enable 3% Hysteresis (for High Warning)

Low Warning: degC
☒ Enable 3% Hysteresis (for Low Warning)

Min: * degC

Note: Sensor Voltage limits must be within fgbg Aux101 Input 3 Voltage limits : 0 V - 5 V

* - Required Fields

Back
Save
Cancel

Similar to discrete sensors, trigger mode can be selected as High Warning, Low Warning OR both. Enter Warning thresholds in actual units. E.g. for Fuel sensor shown above with tank capacity 0-250 Gallons, user needs Low warning threshold as 40 Gallon and High Warning Threshold as blank. Blank field means 'None' or No warning is needed. Make sure that High/Low warning limits fall within Min/Max values of selected sensor (0-250 in this example). Every time Fuel level goes below 40 Gallons, it will trigger an event.

Use Hysteresis checkboxes on right side to avoid nuisance triggering.



E.g. If above Fuel tank for some reason fluctuates around 40 Gallons, the system could potentially log multiple Low Warning events. If Hysteresis box is checked, it prevents these nuisance warnings. For 40 Gallons with 3% Hysteresis, the Low fuel level event will become

active when Fuel level falls below 40 Gallons and inactive when fuel level rises above 41.2 Gallons. Similarly if High Warning was set at 100 Gallons and Hysteresis checkbox is checked, the High Warning will become active when Fuel level rises above 100 Gallons and inactive when it falls below 97 Gallons.

Note: With Hysteresis enabled, Event Activation conditions do not change (40 Gallons and 100 Gallons). The Inactive condition changes so that noise does not deactivate an active sensor warning.

Once Sensor is created, it shows up on Details page under Site IOs. There is no Data log displayed on the UI for Sensors but Report can be generated for retrieving historical data.

Click Finish to save and complete configuration.

OUTPUT CONTROLS WIZARD

Note: Output Controls are disabled for PC500/550 CloudLink User Interface. Therefore no outputs can be configured on PC500/550 CloudLink device.

TELEMETRY SETTINGS

Telemetry is the “wireless transmission and reception of measured quantities for the purpose of remotely monitoring environmental conditions or equipment parameters”

User can configure the frequency at which new records are added to the Data log. The resolution can be in Minutes, Hours or Days. Different log intervals can be specified for a Genset when it's running OR stopped, for an ATS when Source 1 OR Source 2 is connected.

Telemetry Settings

Edit Save Cancel

Set time intervals for sending telemetry data to PowerCommand Cloud :

Running Genset : *	5	Minute
Stopped Genset : *	1	Hour
ATS Source-1 Connected : *	1	Hour
ATS Source-2 Connected : *	5	Minute
Sensors : *	1	Hour

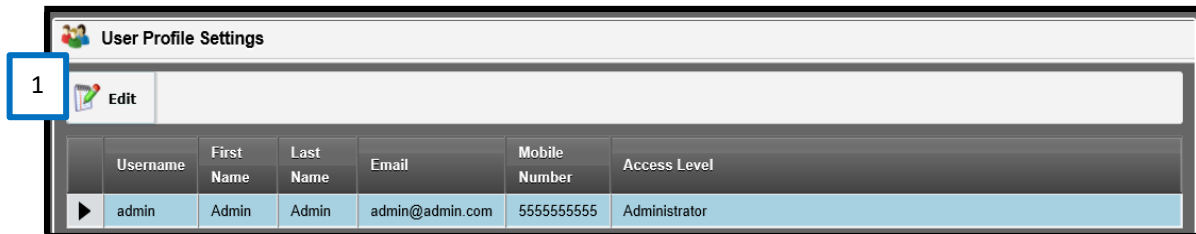
Note – Events are immediately sent to PowerCommand Cloud

* - Required Fields

1 Enter time interval for Telemetry data: User can select different telemetry data intervals specific to device types. Also, the user can select a different time interval for a Running Genset and a Stopped Genset. Time intervals are in minutes, Hours and Days. This setup is required to set time intervals for sending telemetry data to PowerCommand Cloud.

USER PROFILE SETTINGS

For PC500/550 CloudLink application only admin user is applicable. Therefore user cannot add any user and cannot delete admin user's details, however Edit button provides provision to change few details of the admin.



1 Edit: Navigates the user to User Setup Wizard for editing existing user information.

Edit the user details by using wizard to enter in User required information. The fields are self-explanatory. A screen shot and details provided below.

Edit ?

Enter user profile information below :

1 Username : admin

2 First Name : * Admin

3 Last Name : * Admin

4 Access Level : Administrator ▼

Email : admin@admin.com

Mobile Number : 5555555555

* - Required Fields

Save Cancel

1 Username: The Username is used to log into the system.

2 Access Level: Assign access level to the User. Only one user is applicable for PC500/550 CloudLink User Interface which is admin and has all access to configure system, control devices and export events.

Note: Username and Access level is set to admin as default and it cannot be changed.

3

Email: User must fill in a valid email address.

4

Mobile Number: User must fill in a valid mobile number.

Note: Email and Mobile number details are optional for user and it is not used anywhere else.

Change Password: There are two recommended ways to change password.

- 1) Use the Change Password option at login screen. It requires to enter old password in order to set a new one.

The image shows two screenshots of the PC500/550 CloudLink interface. The left screenshot is the 'Login' screen, which has a grey background and contains two input fields labeled 'Username' and 'Password', and three red buttons: 'Login', 'Change Password', and 'Restore to Factory Settings'. The right screenshot is the 'Change Password' screen, which has a white background with a red header. It contains four input fields: 'Username', 'Old Password', 'New Password', and 'Confirm Password', each followed by a red asterisk indicating it is a required field. At the bottom right of this screen are 'Save' and 'Cancel' buttons. A blue arrow points from the 'Change Password' button on the Login screen to the 'Change Password' screen.

- 2) Gateway password can be reset to default from PowerCommand Cloud application under gateways tab. Please refer to PowerCommand Cloud help manual for more details.

If user is unable to use the change password option and does not have PowerCommand Cloud Web application access. Then user can use login page's 'Restore to Factory Settings' option, this allows user to login back as a default User. Please refer to Help Section 'Restore to Factory Settings' for more details.

SYSTEM SETTINGS

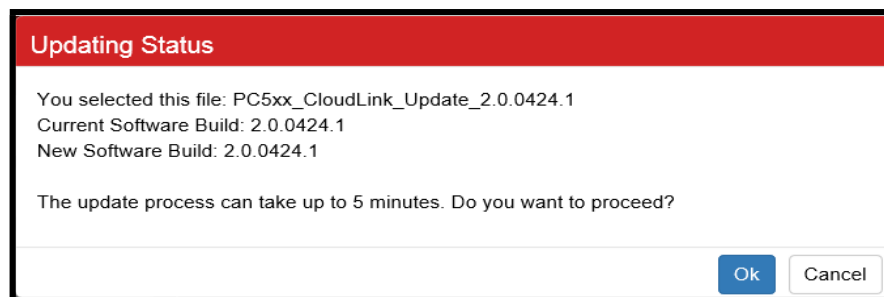
System settings page is used for setting system preferences, updating software, exporting and importing system configurations.



1 Inactive Session Timeout: Three options are available; 10 minutes, 30 minutes and 60 minutes. If user remains inactive on UI for the selected time duration, session ends automatically and user is taken back to login page.

2 Software Update: If a new software update is released, follow these instructions for updating your PC500/550 CloudLink.

- Update zip file can be downloaded from Incal website as well as from PowerCommand Cloud portal under gateway > software update tab. Refer PowerCommand Cloud Help manual for more details.
- Navigate to Diagnostics>System Information and confirm that current software is older than what's latest available. Then download update zip file and save on personal computer.
- Click 'Software update' button to open a browse window. Select the saved PC5xx_CloudLink_Update_2.0.0424.1. Zip file and Click OK on confirmation message.



After software update has completed, the system reboots and navigates the user to the Login page and with default password it is able to login on application.

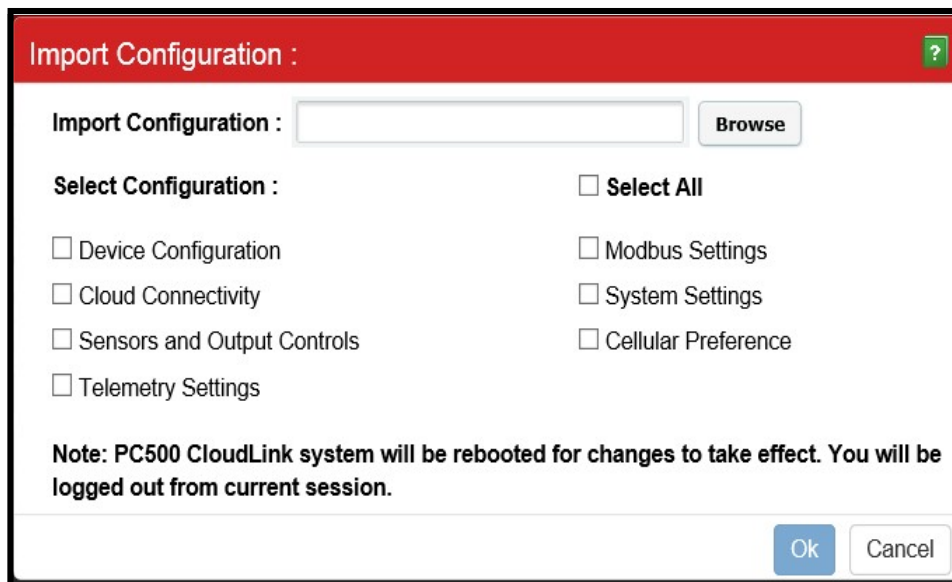
Post update, check Diagnostics>System Information screen again to confirm the Software version has updated successfully. The system logs an informational event when software update has completed successfully.

3 **Export Configuration:** This feature is used to save the PC500/550 CloudLink configuration. User can save configuration file on personal computer for later access.

4 **Import Configuration:** This feature is used to import saved system configurations.

1. Press the 'Import Configuration' button and select the 'browse' button to navigate to the location where the Export Configuration settings were saved.
2. Select the check boxes for the desired configuration settings for importing.
3. Select 'OK' to begin.

Note: Import configuration completely erases all configuration tables and replaces it with settings selected from imported (*.cpgc) file.



After Import Configuration has completed, the system reboots for changes to take effect. The user is then navigated to the Login page. The Import configuration process takes up to 5 minutes to complete.

This is useful when multiple PC500/550 CloudLink devices at site need to be configured. In such a scenario, most of the configuration data like Modbus settings, Telemetry settings, Cellular preference, System Settings etc. remain same. Configuration time can be reduced by exporting configuration from one device and then selectively importing to other PC500/550 CloudLink devices.

Click Export Config. And save configuration file (*.cpgc)

PC500/550 CloudLink – Help

Access UI from PC500/550 CloudLink Device where above settings are to be imported. Click Import Config. And select file saved from parent device.

Do not use 'Select All' preference unless you are importing from backup configuration file of same device.

Select only tables which you want to import. For convenience and preciseness, some interdependencies are created as below

- Selecting 'Sensors and Outputs' automatically selects 'Device Configuration'
- Selecting 'Modbus Settings' automatically selects 'Device Configuration'

Once import configuration is done successfully, User can login with set default password.

Device Identifiers role in import configuration: PC500/550 CloudLink Device is a gateway device. All PC500/550 CloudLink devices are intended to be a part of centralized cloud database. All gateway entities (PC500/550 CloudLink Devices and connected controls) must have a unique device identifier in the cloud database. When the configuration is exchanged between two PC500/550 CloudLink devices (using export/import configuration), same device identifiers cannot be reassigned.

There are two use cases of device identifiers for PC500/550 CloudLink Device which are listed below:

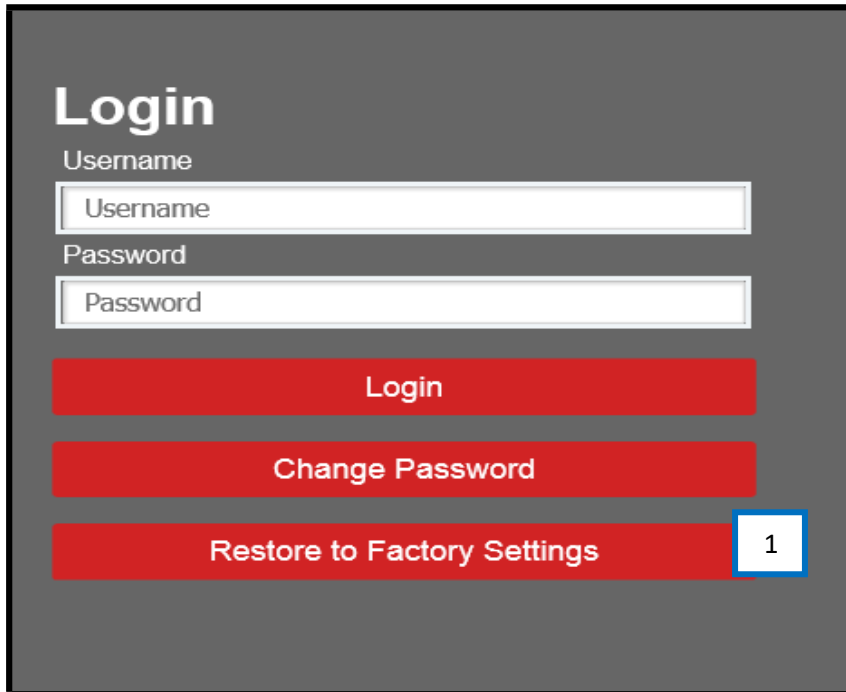
- Reference Device and Target Device are same:** This is likely when PC500/550 CloudLink Device is restored to factory conditions and configuration needs to be restored using a backup copy. As reference device and target device is same, all device identifiers are retained after the import. Previous data logs and events get seamlessly associated with the devices.
- Reference Device and Target Device are different:** This is likely when existing PC500/550 CloudLink Device hardware fails and needs to be swapped. As reference device (existing broken hardware) and target device (replacement hardware) are different, all control IDs get reassigned after import. PowerCommand Cloud Web Application must have a provision to map new control ids to its predecessors in order to re-associate historical data and events.

RESTORE TO FACTORY SETTINGS

As it implies, all settings (Modbus Devices, Telemetry etc.) are erased and need to be recreated after restore is complete. User can recreate setup manually or import using saved configuration backup.

Restore to factory setting is available at login page as well as in system settings tab.

Restore To Factory Setting From Login Page:

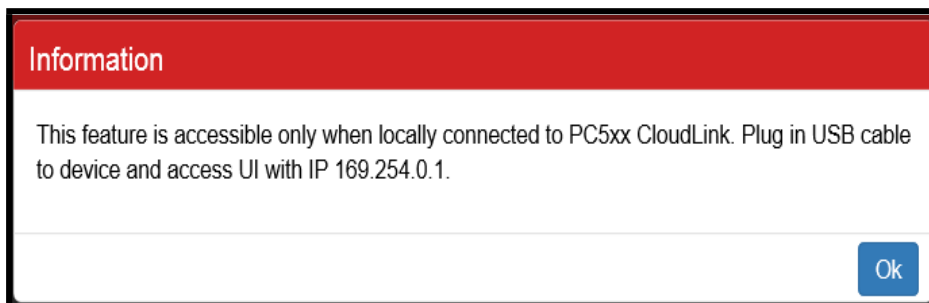


The screenshot shows a login interface with a dark gray background. At the top, the word "Login" is displayed in white. Below it are two input fields: "Username" and "Password", each with a white border and placeholder text. Under the input fields are three red buttons with white text: "Login", "Change Password", and "Restore to Factory Settings". A blue box with the number "1" is positioned to the right of the "Restore to Factory Settings" button.

1

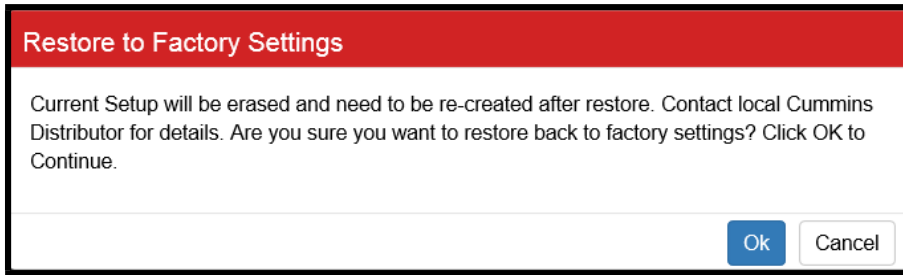
This feature is accessible only when locally connected to PC500/550 CloudLink device over RNDIS cable and accessed UI with IP 169.254.0.1

If Restore to factory settings is accessed from login page when using network IP then it will return an error.

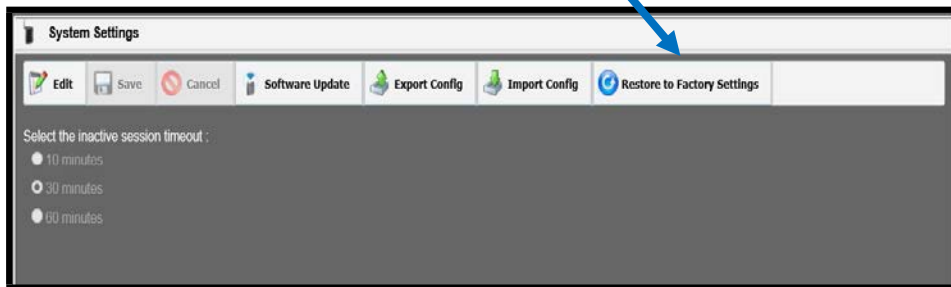


The screenshot shows an "Information" dialog box with a red header. The text inside states: "This feature is accessible only when locally connected to PC5xx CloudLink. Plug in USB cable to device and access UI with IP 169.254.0.1." At the bottom right of the dialog is a blue "Ok" button.

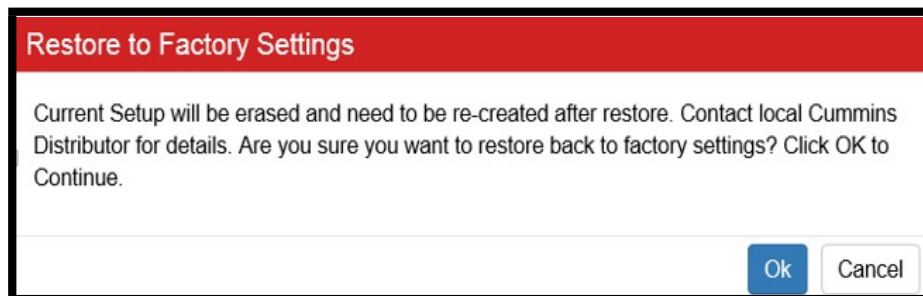
Click on the Restore to factory settings when connected over RNDIS to get confirmation message.



Restore to Factory Settings from System Settings Page:

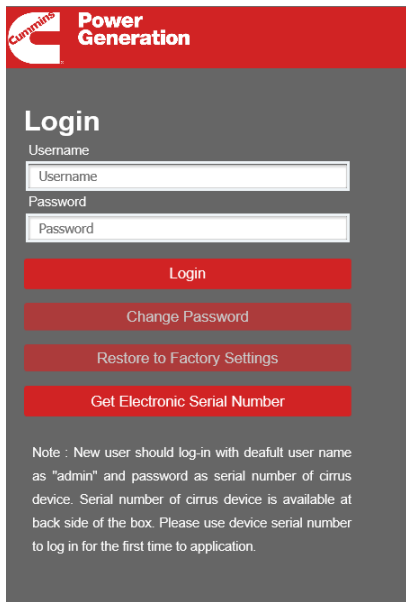


Click on the Restore to factory settings from system settings when connected over network IP page to get confirmation message.



On successfully restored to the factory settings, successful message will get displayed and the system reboots and navigates the user to the Login page and with serial number password it is able to login on device. User can check the event log for the restore to factory successful event.

PC500/550 CloudLink – Help



The screenshot shows the login interface for Cummins Power Generation. At the top is a red header with the Cummins logo and 'Power Generation' text. Below this, the word 'Login' is displayed in a large font. Underneath are two input fields labeled 'Username' and 'Password'. Below the fields are four red buttons: 'Login', 'Change Password', 'Restore to Factory Settings', and 'Get Electronic Serial Number'. At the bottom, a note states: 'Note : New user should log-in with default user name as "admin" and password as serial number of cirrus device. Serial number of cirrus device is available at back side of the box. Please use device serial number to log in for the first time to application.'

Note: There is no need to access the application over RNDIS. if user has valid login credentials and can login to Gateway UI over network IP

LOGIN PAGE



This screenshot is identical to the one above, showing the login page with the 'Login' button highlighted in a darker red shade. A small green question mark icon is visible in the top right corner of the page area.

At first time login on new device user must access device through RNDIS cable with default IP: <http://169.254.0.1> to know the serial number by that user can use it as a password to login on application otherwise user need to find out serial number by click on “Get Electronic serial number” button on login page during that Change password, forgot password and restore to factory setting got disabled.

After click on “Get electronic serial number” button, it will open Device serial number pop-up window with PCxx device serial key.

PC500/550 CloudLink – Help

The screenshot shows the 'Power Generation' login interface. On the left, there is a 'Login' section with fields for 'Username' (containing 'admin') and 'Password' (masked with dots). Below these are buttons for 'Login', 'Change Password', 'Forgot Password', 'Return to Factory Settings', and 'Get Electronic Serial Number'. A 'Note' at the bottom explains that new users should log in with 'admin' and a serial number. A red pop-up window titled 'Device Serial Number' is open, displaying 'Serial number of PCSix device : 123456' and a 'OK' button.

Copy serial key from Device serial number pop-up window and paste it on password field and hit on login button. It will navigate on home page, for first user it will give an option to select one language among multiple languages.

After selection of language, it's a mandatory for first login user to update user configuration, in which included username, first name, last name, password, confirm password and email. Once user configuration is updated, next time user can login with given updated password.

The screenshot shows the 'Update User Configuration' dialog box. It has a red header with the title and a green question mark icon. The text 'Enter user profile information below :' is displayed. The form contains the following fields: 'Username' (pre-filled with 'admin'), 'First Name' (with a red asterisk and a red error message 'Please enter first name'), 'Last Name' (with a red asterisk), 'Access Level' (a dropdown menu set to 'Administrator'), 'Password' (with a red asterisk), 'Confirm Password' (with a red asterisk), 'Email', and 'Mobile Number'. A 'Note' at the bottom states: 'Password should contain at least one upper case and lower case alphabet, one number and Special character ex: @ ! ~ & * % () ^ \$ and #'. Below the note is a legend: '* - Required Fields'. A 'Save' button is located at the bottom right.