



INVERTER.CONNECT

Cloud Communication Option Quick Start Manual

The screenshot displays the MYERS Inverter.Connect web interface. On the left is a sidebar with the MYERS logo and a list of locations: USA, California, Sacramento, 3690 N Freeway Blvd, 1st FI Data Center, 2nd FI Supplies Closet, Pennsylvania, Bethlehem, 44 S Commerce, Lab Series-LV, Prod Floor Series-C3, Prod Floor Series-E, Pittsburg, and Texas. Below the list are buttons for 'Add or Manage Devices' and 'Manage Notifications', and contact information for Myers Emergency Power Systems. The main content area is titled 'Overview >' and 'System Dashboard'. It features a large green box stating 'ALL DEVICES ARE HEALTHY!'. To the right is a map of the United States with numbered green dots indicating inverter locations. Below the map is a table of 'Systemwide Events' with columns for Level, State, Subject, Device, Occurred At, and Last Updated. The table shows three resolved events related to ambient temperature, power outage, and low input voltage for 'Prod Floor Series-C3' devices.

Level	State	Subject	Device	Occurred At	Last Updated
▲	resolved	Ambient Temperature High	Prod Floor Series-C3	May 2, 2020 14:21	May 2, 2020 14:21 Created by Workflow Inverter (automatic)
▲	resolved	Power Outage - No Input Present	Prod Floor Series-C3	Mar 24, 2020 13:43	Mar 24, 2020 13:43 Resolved by Workflow Inverter (automatic)
▲	resolved	Low Input Voltage	Prod Floor Series-C3	Mar 24, 2020 13:43	Mar 24, 2020 13:43 Resolved by Workflow Inverter (automatic)

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Myers Emergency Power Systems – Emergency Lighting Central Inverter IoT Inverter Connect Cloud Communication Option – QuickStart Guide



The IoT Inverter Connect Cloud Communication Option allows you to securely monitor your Myers EPS Emergency Lighting Central Inverter from any web enabled device (smartphone, tablet or PC), regardless of where you are in the world or what type of operating system is running on your device, using a web browser (with no need to download software from an app store nor worry about updates nor connect to your LAN via VPN).

The cloud application:

- Is very user friendly and simple to use and understand, even for non-technical users.
- Proactively notifies you via email and/or text message (SMS) if there is an issue with one of your connected Myers EPS inverters. Notifications can be enabled or disabled, and multiple phone numbers or email addresses can be set up to receive notifications.
- Allows you to view detailed telemetry from your inverter, including battery self-test pass or fail states, voltages, currents, output power, temperature and more. More details below.
- Is 'firewall friendly'. The inverter uses port 443 to communicate over your LAN to a trusted server on the cloud (using MQTT protocol). This is the same port used by secure web traffic (HTTPS) and is therefore almost never blocked on a LAN, meaning you won't have to ask your IT department to open-up 'exceptions' in your firewall. There is no inbound traffic allowed to the inverter, only outbound traffic from the inverter to the cloud.
- Is highly secure. Traffic from inverter to cloud uses TLS 1.2 encryption, and web traffic from your devices to the cloud application web servers happens over HTTPS with latest TLS 1.3 encryption.

For users with multiple Myers EPS inverters connected, the cloud application:

- Features a "one stop" dashboard that summarizes the health of your entire system

- Lets you view your inverters on a map with color codes for the inverter states (green means healthy, orange means there is a warning, red means there is an alarm)
- Lets you organize your inverters in a folder-based hierarchy similar to the file system on a computer
- Lets you grant users in your organization access to different inverters at different levels in the hierarchy you create

There are no limits as to how many of your Myers EPS inverters you can connect to your account (and view on your overview dashboard). There is also no limit on how many users you can create, and they can all use the cloud application simultaneously.

There are three basic steps to setting up your IoT Inverter Connect Cloud Communication Option:

1. **Contact Myers EPS Customer Service to sign the IoT Inverter Connect license agreement on behalf of your organization.** You only have to do this step once, regardless of how many Myers EPS inverters your organization owns and would like to connect to the cloud application. This also grants you the right and ability to create as many users as you would like within your organization (with whom to share access to your inverters).
2. **Set up the network settings on your inverter for compatibility with your LAN, and connect it to your LAN granting access to the Internet.** Note that the inverter doesn't *have* to be on your LAN, it merely needs an Ethernet connection that gives it access to the Internet (it only communicates with the trusted cloud server). For example, you could install a mobile network router that connects the inverter to the Internet through a mobile provider (such as Verizon, AT&T, etc.). If you have multiple Myers EPS inverters, they can be on different LANs with different Internet connections since they will never need to communicate with each other over the network; they will each only communicate with the trusted cloud server.
3. **Go to iot.myerseps.com from a web browser on any web enabled device (smartphone, tablet or PC), and register an account**
4. **Use the cloud application!**

1 – Signing Up For Access With IoT Inverter Connect

You may only register as a user of the IoT Inverter Connect cloud application after a license agreement has been signed between the organization that owns the inverters (End User), and Myers EPS. If you are the end user, please contact Myers EPS Customer Service and ask to sign up for IoT Inverter Connect. If you are a contractor or someone else working on behalf of the End User but not a member of the End User's organization yourself, please ask someone from the End User's organization to contact Myers EPS Customer Service to sign up.

Myers EPS Customer Service can be reached at (610) 868-3500, during normal business hours (8am to 5pm EST, Monday through Friday excluding national holidays).

Once the license agreement has been signed, the End User's email address will get put on the whitelist, and if the End User requests it, a list of email addresses provided by the End User with the same domain as the End User will also get put on the whitelist. The End User can contact Myers EPS Customer Service at any point in the future to add more colleagues to the whitelist. Alternatively, companies with private domains (for example, @PaolasPizzaPlace.com) may request to have their entire domain put on the whitelist.

Once an email address or its domain is on the whitelist, it can be used to register an account with IoT Inverter Connect (see Section 3).

Example 1: Jenny is the maintenance manager at a regional pizza restaurant chain called Paola's Pizza Place. Myers EPS inverters with the cloud communication option are installed at some Paola's branches. Jenny calls Myers EPS Customer Service, and signs the license agreement for IoT Inverter Connect on behalf of Paola's Pizza Place. She requests that the domain "@PaolasPizzaPlace.com" be added to the IoT Inverter Connect whitelist. She is then able to create an account for herself using her email address (jenny@PaolasPizzaPlace.com). Later that year, her assistant George is able to create an account using his email address (george@PaolasPizzaPlace.com) without contacting Myers EPS Customer Service. In future years, the franchise grows and more restaurants are built and more Myers EPS inverters are purchased. Since franchise owners nationwide are all given email address on the same domain (@PaolasPizzaPlace.com), they are each able to create IoT Inverter Connect accounts for themselves and add whatever subset of inverters they desire to their dashboard.

Example 2: Rob is an electrical contractor who installs a Myers EPS inverter (with the cloud communication option) on behalf of his customer, Billy Smith, the owner of a small barber's shop called Billy's. Rob asks Billy to contact Myers EPS Customer Service to proceed with signing the IoT Inverter Connect legal agreement. Billy does so, and asks for his specific email address (BillyBarber@gmail.com) to be added to the whitelist, since he is on a public domain (gmail.com). This gets done, and Billy is now able to create an account on IoT Inverter Connect.

2 - Basic Network Configuration

The IoT Inverter Connect Cloud Communication Option simply requires an Internet connection provided to it over a wired Ethernet (standard RJ-45) connection. It uses this connection to connect to the IoT Inverter Connect cloud servers. This connection can be via the building's LAN (as long as web traffic is permitted on the LAN, which is almost always the case), or via a mobile network router providing a wired Internet connection over a wireless network (such as Verizon, AT&T, etc.), or even via a dial-up internet connection - the option does not require much bandwidth at all.

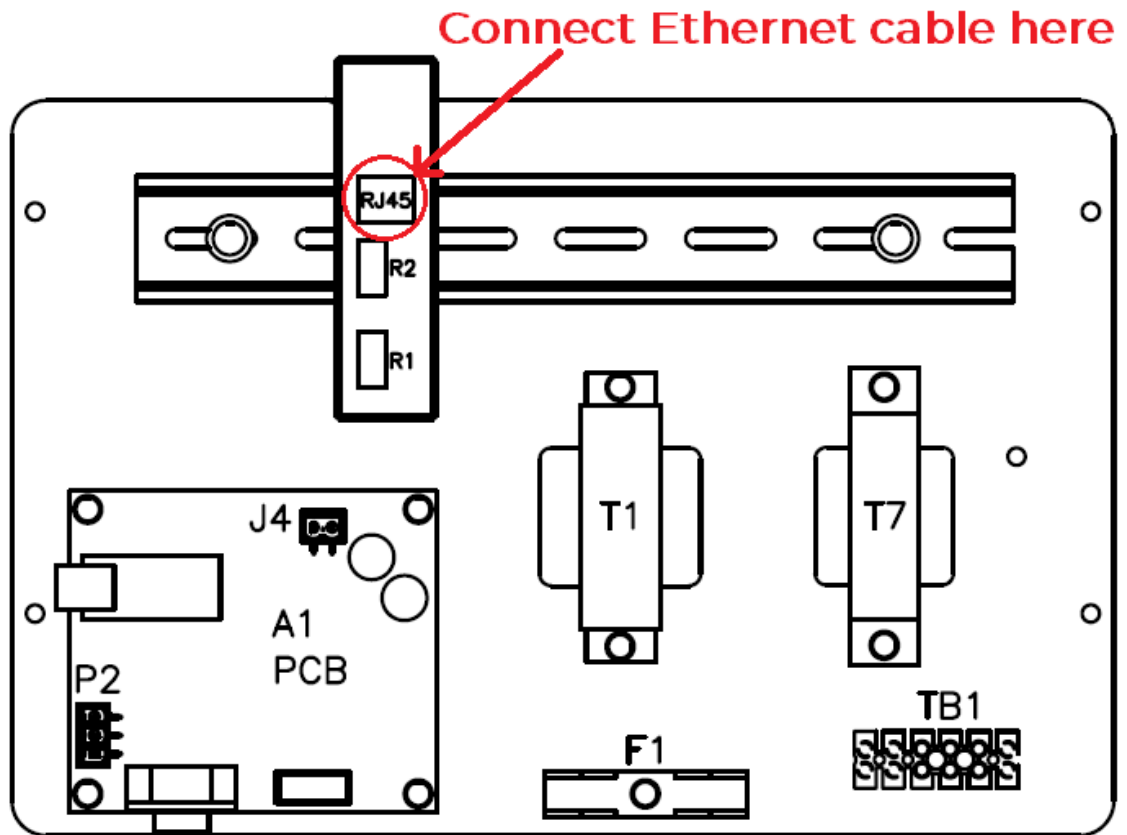
In addition to a physical wired Ethernet (LAN) connection, you must also program the following parameters (Network Settings) into the device for it to be able to operate properly and connect to the Internet on the provided LAN:

- **IP address** – The address you wish your inverter to have on the network (Note: IP v4 is supported, IP v6 is not supported)
- **Subnet mask** – This specifies the range of IP addresses on the network (subnet) that the inverter is to be connected to
- **Default Gateway** – This specifies the IP address of the gateway device (whether it is a router, a modem or a server) that connects the network that you will be putting the inverter on to the Internet.
- **Domain Name Server (DNS); Primary and Secondary** – This specifies the IP address (and backup IP address) of the DNS server that you use. DNS servers are servers that convert text based URLs (such as iot.myerseps.com) into numeric IP addresses.

Please note the following:

- If connecting through a LAN and your LAN has a DHCP server (DHCP servers are servers that automatically provide IP addresses, subnet masks and default gateway information to any device that connects to the LAN), DHCP is fully supported by the IoT Inverter Connect Cloud Communication Option. In this case, you will not have to specify the IP address, Subnet Mask, or Default Gateway parameters.
- If connecting through a LAN and you don't know what IP Address to provide your IoT Inverter Connect Cloud Communication Option, please ask your IT department, or person in charge of maintaining your LAN.
- If you are connecting your inverter to the Internet through its own dedicated connection (such as a mobile access point), please refer to the corresponding documentation (of the device that provides the dedicated Internet connection) for the network settings that you must use.

The RJ-45 Ethernet port to connect to is mounted on the Cloud Communication Option plate. For most types of Myers EPS inverters, the Cloud Communication Option plate is mounted on the inside of the door of the inverter cabinet. Here is a diagram of how the Cloud Communication Option plate looks like in such inverters:



For smaller types of Myers EPS inverters where the Cloud Communication Option cannot fit inside the inverter cabinet, it is mounted in an external enclosure adjacent to the inverter cabinet.

The default static IP address of the IoT Inverter Connect Cloud Communication Option is **10.16.0.67** (Subnet Mask **255.240.0.0**). To set it to the correct network settings for your LAN:

1. Connect a direct Ethernet cable connection between a PC and the IoT Inverter Connect Cloud Communication Option. It doesn't matter if the Ethernet cable is a straight-through or crossover cable. It doesn't matter what type of OS the PC is running, but you must have administrator rights on it, and it must have a web browser.
2. Set the wired LAN interface of the connected PC to a static IP address in the 10.16.0.XXX range (where XXX is any number from 1 to 254, *except* 67. For example, 10.16.0.66).
3. Set the subnet mask of the PC to 255.240.0.0. It doesn't matter what you set the Default Gateway or DNS Server settings to. Note that you should save your previous settings for the PC so that you can remember how to restore them when you're done. Note also that the instructions to change the IP address, subnet, etc. will vary depending on which version of which Operating System is on your PC. If you are not aware of how to do so, please do a web search (e.g. Google) on how to do so for your particular Operating System and version. Note also that if your PC has multiple network interfaces (for example, a Wired LAN

Interface, and a Wireless (WiFi) LAN Interface), be sure to only change these settings on the correct Wired LAN Interface.

4. Open a web browser window on your PC, and enter “10.16.0.67” in the “Address” (URL) bar.
5. The login page of the IoT Inverter Connect Cloud Communication Option will load. Click the “Login” button. Enter “**admin**” as the Username, and “**MyersEpsIotInverterConnect%44**” as the Password.
6. On the navigation frame (left column), click the word “Settings” (with an icon of a spanner/wrench to the left of it, and click on “Network Settings”
7. Select the “DHCP Client State” checkbox if your LAN has (and will always have) a DHCP server on it. Otherwise, enter the desired IP Address, Netmask, Default Gateway, and Domain Name Server (DNS) settings you wish your inverter to have and that will work on your LAN.
8. Click on the “Save” button. Click the “Confirm” button on the confirmation dialog.
9. Click the “Restart” link on the small dialog box that appears on the top-right of the web page (circled in red in the picture below).

Note: if you miss the opportunity to click the “Restart” link, there are two other ways to reboot the device:

- a) Cycle power to the device via pulling out fully and then reinserting the connector labeled 12-24 VDC (near the RJ-45 Ethernet jack on the device)

OR

- b) Click the “Diagnostics” link in the bottom-middle of the web page. When the Diagnostics page loads, click the blue “System Restart” button on the bottom-middle of that page, and then click “OK” to confirm.

Note: Please do not change any other settings on the web pages of your IoT Inverter Connect Cloud Communication Option, as they might prevent the device from functioning correctly. Once your network settings are set up correctly, you will not need to visit this webpage again.

10. Close your web browser window

11. Disconnect the Ethernet cable between your PC and the IoT Inverter Connect Cloud Communication Option
12. Restore the previous IP settings for the wired LAN interface on your PC
13. Connect the IoT Inverter Connect Cloud Communication Option RJ-45 Ethernet port to your LAN. It will now be able to connect with the IoT Inverter Connect cloud servers on the Internet.
14. We recommend you stick a label on the outside of your inverter cabinet – listing the IP address and subnet mask you set the device up with. This may prove useful to you or someone else in future.

3 – Create a User Account on the IoT Inverter Connect Cloud Application

1. On a web browser on any web enabled device, go to **iot.myerseps.com**. You will be presented with a login page.
2. Click on the “New User Register” button.
3. Enter the email address you wish to be your username (and to which you wish notifications to be sent in the rare event that there is a problem with your inverter(s)). Note, that if you have not completed the steps in Chapter 1 above (contacting Myers EPS Customer Service to request access to IoT Inverter Connect), your email address will not be accepted.
4. Wait a minute or so and check your email. You will receive a confirmation email with a button in it that says “New User Register Here”. Click the button.
5. This will take you to the new user registration page. Fill out all details carefully (such as desired password, company name and address, phone number on which to receive text message notifications, etc.), and submit.

Congratulations, you now have an account with the IoT Inverter Connect cloud application. Feel free to repeat the steps above for any users within your organization that you wish to add that you added to the whitelist in Chapter 1 above (via Myers EPS Customer Service).

4 – Using the IoT Inverter Connect Cloud Application

On a web browser on any web enabled device, go to **iot.myerseps.com**. You will be presented with a login page.

Login using the credentials (email address and password) that you used to register in Chapter 3 above.

The Four Main Pages

The cloud application is very simple and intuitive to use. There are four main pages:

1. The **Overview Dashboard**. This is the first page to load when you sign in. This gives you a quick summary of what is going on with your inverters, shows a map view of your inverters (where each inverter gets a color coded pin: green = all OK with that inverter, orange = one or more warnings are asserted, red = one or more alarms are asserted), and shows a list of any non-resolved events with your fleet of inverters.
2. The **Device Details Dashboard**. For each Myers EPS inverter you have paired to your IoT Inverter Connect cloud account, you will get a detailed 'Device Details' page for that inverter that displays telemetry (voltages, currents, temperatures, power, alarm states, etc.) for that specific inverter. You will only need to visit an inverter's Device Details page if there is a problem with that inverter that you wish to investigate.
3. The **Add or Manage Devices** page. This is where you go to pair a new Myers EPS inverter to your IoT Inverter Connect cloud account, or to edit the details of an inverter you have already added (such as renaming it – an inverter's name is initially just its serial number but you can change this to something more meaningful to you such as "3rd Floor Office" or "Bldg A Stairwells", or changing its latitude and longitude which affects where it appears on the map view in your Overview Dashboard).
4. The **Manage Notifications** page. This is where you globally enable or disable push notifications for all inverters linked to your IoT Inverter Connect cloud account, as well as add or remove phone numbers or email addresses for the recipients of those notifications. By default, push notifications are enabled and will go to the email address and phone number (SMS) that you specified when registering your account. Push notifications are highly recommended, so you don't have to monitor your inverters yourself. You will receive a text (SMS) and email notification if there is an issue, and the notification will include a link to the IoT Inverter Connect cloud application that will take you straight to the problem (that generated the notification).

The Device Navigation Frame

No matter which page you are on, the left part of your screen will always show the "Device Navigation" frame.

- This frame has an Overview button on the top (that links to the Overview Dashboard – see above)
- Next is a list of your inverters. Each inverter has a color stripe on the left of it, indicating the inverter's current status (green, orange or red, as described above). If you click on an inverter, it takes you to the Device Details page (see above) for that specific inverter.
- Next is the "Add or Manage Devices" button (see above)
- Next is the "Manage Notifications" button (see above)

5 – (ADVANCED) – Creating Area Hierarchies and Sharing Inverters Across Users

Just like you can organize your files on your PC file system (such as Windows Explorer) using folders, if your organization owns a large fleet of Myers EPS inverters, you can create 'Area' folders to house your inverters in a hierarchy of areas, and then collapse and expand those areas just like the files and folders on your PC file system. You can then share any of your Areas with any other user that is registered to the IoT Inverter Connect cloud application, to divide responsibility across your organization. The following screenshot illustrates a fictitious organization with a lot of inverters organized into areas.

Overview > Hi Yolanda! Log Out

'Areas' Edit Button

System Dashboard

Overview

Edit

USA

California

Sacramento

3690 N Freeway Blvd

1st FI Data Center

2nd FI Supplies Closet

Pennsylvania

Bethlehem

44 S Commerce

Lab Series-LV

Prod Floor Series-C3

Prod Floor Series-E

Pittsburg

Texas

Add or Manage Devices

Manage Notifications

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Overall System Status

INVERTER IN ALARM

Inverter Locations

United States

Systemwide Events

Level	State	Subject	Device	Occurred At	Last Updated
new	new	Ambient Temperature High	Prod Floor Series-C3	May 2, 2020 14:21	May 2, 2020 14:21 Created by Workflow Inverter (automatic)
resolved	resolved	Power Outage - No Input Present	Prod Floor Series-C3	Mar 24, 2020 13:43	Mar 24, 2020 13:43 Resolved by Workflow Inverter (automatic)
resolved	resolved	Low Input Voltage	Prod Floor Series-C3	Mar 24, 2020 13:43	Mar 24, 2020 13:43 Resolved by Workflow Inverter (automatic)

When you click the 'Edit' button (circled in the screenshot above), you are able to:

- Create new areas via the **New Area** button
- Rename existing areas via the rename button ()
- Delete existing areas (that have no inverters under them) via the delete button ()
- Hold the left mouse button and drag to drag and drop your inverters between existing areas
- Hold the left mouse button and drag to drag and drop your areas into each other (just as you can with folders in a PC file system)
- Share existing areas with other users via a Share button (). This shares all inverters and sub-areas that are under the shared area. When you share an area, you can either share it as Read Only (the user you share it with can now see the area and everything under it but cannot make changes), or Read and Write (the user you share it with can both see the area and everything under it, as well as make the 'Edit Mode' changes to rename, move, delete, etc. the areas and inverters under it).

Please contact Myers Service at (610) 868-5400 if you have questions or concerns.