



# PV Powered Inverter Network Connectivity Requirements FOR NETWORK ADMINISTRATOR

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## 1 Objective

Often times connecting an Internet appliance to a corporate network can pose challenges due to various types and levels of security policies that corporate IT Administrators implement on their networks. The PV Powered Commercial inverter operates as an Internet Appliance and requires a dedicated broadband connection to post data to the PV Powered Data Center. This document is intended to provide an overview of how the inverter communicates on the network, and what the network requirements are to enable inverter communication with the PV Powered Data Center.

## 2 Intended Audience

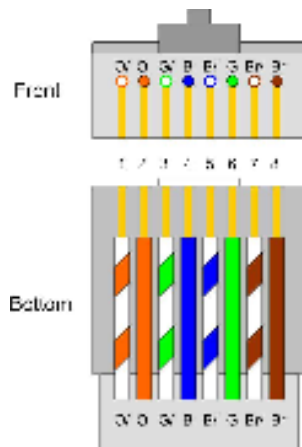
The primary audience for this document is the IT Administrator for the network that the PV Powered inverter is intended to be connected to.

## 3 Inverter Internet Device Overview

All PV Powered commercial inverters come standard with an Ethernet port that is intended to be connected to the Internet. The inverter communicates with the PV Powered Data Center using https (Port 443). Communications is one-way: The inverter only communicates out to the PV Powered Data Center. Typically the inverter will post 1-2 kb of data via web service call to the PV Powered Data Center every 15 minutes. On occasion, the inverter will post data more frequently if the inverter experiences a fault condition.

Below is a list of requirements to establish inverter communications with the PV Powered data center. Connectivity must be established *before* the registration on [www.mypvpower.com](http://www.mypvpower.com) is attempted.

- Connect Inverter to hub or router. Ethernet cable must meet T-568B wiring standard and must be less than 300 ft in length.



**IMPORTANT:** This wiring configuration complies with T-568B standards. It's the only one that the PVM1010 Module supports.

**OTHER WIRING CONFIGURATIONS WILL NOT WORK.**

- Provide DHCP server access to the inverter. The inverter *requires* DHCP to establish its IP address.
- Provide a path to the Internet for https (Port 443) from the inverter. The MAC address for the inverter can be found on the Ethernet port of the PVP30kW (upper right circuit board in upper right of cabinet), and can be found on the COM card circuit board on the PVP75/100kW inverters.
- Verify connectivity by 1) checking status light (should be on solid); 2) verifying that an IP address was assigned to the inverter on your network; 3) registering inverter at [www.mypvpower.com](http://www.mypvpower.com).

## **4 Troubleshooting**

The most common connectivity problems are related to one of 1) wiring, or 2) corporate security settings blocking the inverter from accessing the Internet. Most PV Powered inverters are equipped with a Status light that flashes network status codes to aide in troubleshooting. Refer to the inverter manual for additional status and troubleshooting information.

### **4.1 Wiring**

Wiring problems usually are the result of a bad crimp, wire that is too long, or pinched wires somewhere between the inverter and the hub or router that it is connected to. PV Powered recommends use of a pre-made cable wherever possible. If a cable must be hand-crimped, we recommend testing the cable with a cable tester such as a Fluke LinkRunner™ Pro Network Multimeter (LPRO1000). Verify cable integrity by connecting a laptop to the cable at the inverter and verifying that access to the Internet can be achieved.

### **4.2 Network**

Network problems will always require support from the corporate IT department where the inverter is installed. IT Administrators: Provide a DHCP access for the inverter with Port 443 access to the Internet.