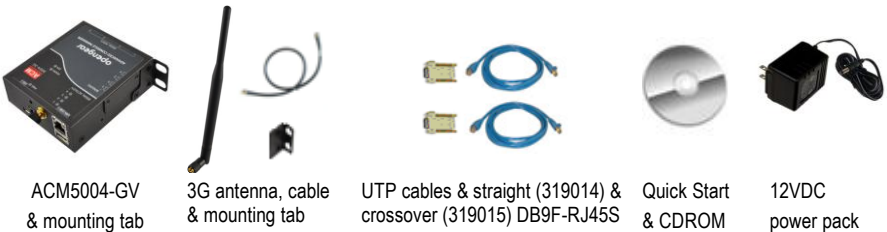


ACM5004-GV

Quick Start Guide

Thank you for purchasing the ACM5004-GV. This Quick Start walks you through both installation and configuration. For more details refer to the *User Manual* on the CDROM.

Step1 Check kit contents

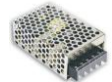


Ensure you have the correct model. The ACM5004-GV works with Verizon.

Step 2 Configure the hardware

- Attach rubber feet to base. Also attach the mounting tab and 3G antenna
- Slide the appropriate AC socket adapter into the power pack and plug it into the AC mains. Connect the DC power cable to the PWR socket. Use the provided DC Power barrel connector lock tab to securely keep the power connector attached

Note: *The -SDC models have an external DC-DC power converter (input voltage +/- 36V DC to 72V DC. The converter power cable/connector plugs into the PWR socket on the ACM5000*



- Connect the Ethernet port (LAN USB1) to your network. Plug your serial console devices in to the Serial Ports. The RJ45 sockets on the ACM5004-GV use the standard Cisco console pin-out
- Screw on the antenna Screw on the antenna

Note: Newer revisions may come with a second AUX antenna connector for receive diversity. Also requires an external antenna Part# 569006 and cable 449041

Step 3 Set up console server/cellular router

The default IP Address is *192.168.0.1* (subnet mask *255.255.255.0*). With a web browser on any computer that is network connected to the ACM5004-GV:

- Enter **https://192.168.0.1** into the address bar

Note: *The LAN connected computer must have an IP address in the same network range (192.168.0.xxx) as the ACM5004-GV. If this is not convenient, you can use the ARP Ping command to set the IP address. Refer to the User Manual or online FAQ for details. The ACM5004-GV also has DHCP enabled by default, so it will automatically accept any network IP address assigned by any DHCP server on your network. It will then respond at both 192.168.0.1 and its DHCP address.*

- Log in using the default system user name, **root**, and the password, **default**. A **Welcome** screen listing the basic configuration steps is displayed

It is recommended that you set up a new Administrator user (in the *admin* group with full access privileges) and login as this new user for all ongoing administration functions (rather than continuing as root).

- Select **System: Administration**. Enter and confirm a new **System Password** and click **Apply**
- To assign your ACM5004-GV a static IP address or to permanently enable DHCP on the primary Ethernet network, select **System: IP** then **Network Interface** and check **DHCP** or **Static** for **Configuration Method**. Leave the **Failover Interface** set to **None**

To configure the ACM5004-GV *console server* features:

- Configure the serial port settings and enable the desired protocols and logging levels via **Serial & Network: Serial Port**.
- You may also enable SSH tunneled access through the ACM5004-GV to locally networked devices (*hosts*) using **Serial & Network: Network Hosts**
- Configure user access to serial ports via **Serial & Network: Users & Groups**

Step 4 Connect the cellular modem

- Select the **Internal Cellular Modem** tab on the **System: Dial** menu
- The ACM5004-GV supports both OTASP (*Over-the-Air Service Provisioning* where modem specific parameters can be retrieved via a call to a special phone number) and a manual process where the phone number and other parameters can be entered manually.

The screenshot shows the 'System: Dial' configuration page. The left sidebar menu includes 'Serial & Network', 'System', and 'Network'. The main content area is titled 'CDMA Modem Activation' and contains the following fields and instructions:

- Activation Phone Number:** A text input field with a note: 'The phone number to dial for OTASP (Over-the-Air Service Provisioning) activation, e.g. *12899 for Verizon. In the case your carrier does not support OTASP activation enter your MSL, MDN & MSID below to manually activate the modem.'
- MSL:** A text input field with a note: 'The MSL for encoding the SIM profile. Advanced'
- MDN:** A text input field with a note: 'The Mobile Directory Number to use. Advanced'
- MSID:** A text input field with a note: 'The SIM profile MSID to use. Advanced'
- Buttons:** 'Activate' and 'Cancel' buttons.

- For OTASP, enter *22899 as the number to be dialed (for Verizon)
- For manual activation enter the **MSL**, **MDN** and **MSID** values. Verizon have been known to use an **MSL** of **000000** and the phone number assigned to the ACM5004-GV as both the **MDN** and **MSID**

- Click **Activate**. If no errors occur you will see a valid phone number being placed in the **NAM Profile Account MDN** field (**Cellular** page on **Status: Statistics**)
- Enable the **Internal Cellular Modem** by entering the carriers phone number (which defaults to **#777**)

You may also need to use alternate DNS servers from those provided by your carrier:

- Enable **Override DNS**. Then check the **Override returned DNS Servers** box and enter the IP of the DNS servers into the spaces provided.
- Check **Apply** and a radio connection will be established with your cellular carrier. *Out-of-band access* is enabled, so the cellular modem connection is always ON.
- Verify the *Connection Status* in the **Statistics - Failover& Out-of-Band** tab is shown as *Connected*. You can also check your allocated *IP address*
- You can measure the received signal strength *RSSI* from the **Cellular Statistics** page on the **Status: Statistics** screen. -99 dbm to -90 dbm = Weak Coverage, -89 dbm to -70 dbm = Medium, -69 dbm or greater = Strong

Note: You can also see the connection status from the WWAN LED. OFF is shown when in reset mode or not powered. When powered, it will go ON and while searching for service it will flash off briefly every 5sec. Once a radio connection has been established with your cellular carrier (ie, after an APN has been properly configured) the WWAN LED will blink at a rate proportional to traffic signal strength detected i.e. OFF =Low, Blinking Slow = Low to Medium Blinking Fast = Medium to High and ON=Strong

Step 5 OoB access

To directly access the ACM5004-GV, it needs to have a Public IP address and it must not have SSH access firewalled. Almost all carriers offer corporate mobile data service/plans with a Public (static or dynamic) IP address. These plans often have a service fee attached.

- If you have such a static Public IP address plan, you can now try accessing the ACM5004-GV using the Public IP Address provided by the carrier. However, by default, only HTTPS and SSH access is enabled on the OoB connection. So you can browse to the ACM5004-GV, but you cannot *ping* it
- If you have a dynamic Public IP address plan, then a DDNS service will need to be configured. Once this is done, you can then also try accessing the ACM5004-GV using the allocated domain name

By default, most providers offer a consumer grade service which only provide dynamic Private IP address assignments to 3G devices. This IP address is not visible across the Internet but generally it is adequate for home and general business use.

- With such a plan, the **Failover & Out-of-Band** tab on the **Status: Statistics** page, will show your carrier allocated a Private *IP Address* (i.e. in the range 10.0.x.x, 172.16.x.x or 192.168.x.x)
- For an inbound OoB connection with such a plan, you will need to use Call Home with a VCMS/CMS6110 or set up a VPN connection

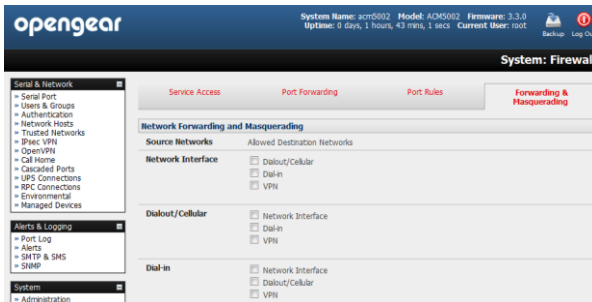
In this default **out of band access mode**, the connection to the carrier cellular network is always on - awaiting any incoming access to the ACM5004-GV or attached serial consoles/network hosts.

An alternative is **failover mode**. This will tell the internal cellular connection to remain idle in a low power state. Only when primary and secondary probes are not successful will it connect to the cellular carrier (refer to the User Manual)

Step 6 Enable cellular router features

The ACM5004-GV can provide cellular routing (although this is disabled by default). In this mode the connection to the carrier cellular network is always on, but IP traffic is selectively routed between the cellular connected network and the local Ethernet network (LAN):

- Select the **Forwarding & Masquerading** tab on **System: Firewall**
- *Network Forwarding* allows devices on the local private LAN to IP connect through to the public network. To enable, check **Dialout/Cellular** to be enabled as the *Destination Network* for the **Network Interface Source Network**



- *IP Masquerading* allows devices on the LAN to hide behind and share the one public IP address when cellular connecting to the public network. To enable check **Enable IP Masquerading (SNAT)** on **Dialout/Cellular**
- Configure **Port Forwarding** and set **Port Rules** so external users can selectively initiate connections to the masqueraded devices on the LAN
- Set the **Service Access** rules for routed connections to the ACM5004-GV itself
- Configure the devices on the LAN with new *Gateway* and *DNS* settings

Step 7 Other Functions

The ACM5004-GV also offers many more advanced functions including an *Alerts & Logging* facility, management of third party UPSs with *Manage: Power, Serial Port Cascading, Authentication, Trusted Networks, Secure Tunneling, Distributed Monitoring, Custom Scripting* and a *Command Line* interface. Refer to the *User Manual* on the CDROM.

Note: *On the CDROM, you will find the PortShare and SDT Connector software tools. SDT Connector provides you with secure, point and click access to the console server and all the attached devices. PortShare connects the COM/tty port applications on your Windows PC, Linux server or virtual machine to the serial devices attached to the ACM5000. Refer to the provided Quick Starts*



Please register your product to activate the warranty and to automatically receive advice of future firmware updates. Go to: <http://opengear.com/product-registration.html>