



# ACM5504-5-GV-I

## Quick Start Guide

Thank you for purchasing the ACM5504-5-GV-I management gateway. This Quick Start walks you through installation and configuration. More details are available in the *User Manual* which can be downloaded from <http://opengear.com/documentation>.

### Step 1 Check kit contents



ACM5504-5-GV-I device. External rack and DIN rail mount tabs. Green connector block and 3G antenna. UTP cables. Straight (319014) & crossover (319015) DB9F-RJ45S. Straight (319016) DB9M-RJ45. Quick Start. 12VDC power pack.

### Step 2 Configure the hardware

- Attach rubber feet to base. Also attach the desired mounting tab and screw the 3G antenna on to the main *Cell (M)* connector. If you have purchased a diversity or GPS antenna, screw it on to Cell A
- Connect the Ethernet *LAN* port to your network. Connect your management LAN devices to the *ETHERNET 1-4* ports
- Plug your serial console devices into *SERIAL 1-4* (all Cisco RJ45 pin-out). Connect your USB devices to the two *USB* ports
- Plug in the green screw terminal block and attach external sensors and DIO

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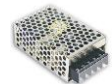
**Note:** Refer to ACM5500-I Addendum for RS422/485 and DIO details

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- Apply power. The ACM5504-5-GV-I can now be powered externally by either:
  - connecting the provided external power pack to the *12VDC* barrel socket or
  - connecting an external 9 to 24 VAC source to the *12VDC* barrel socket or
  - connecting +9V to 30 VDC to *DC PWR* and *GND* on the green terminal block

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**Note:** If you ordered the -SDC option you'll have an external DC-DC power converter (input voltage +/- 36V DC to 72V DC. The converter power cable/ connector plugs into the *12VDC* socket



The ACM5504-5-GV-I is ready for activation when the PWR status LED on the front panel of the unit is lit steady, and the H/B (heartbeat) LED is flashing.

### Step 3 Set up the appliance

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 ACM5504-5-G-I:

- 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 ACM5504-5-GV-I. 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 ACM5504-5-GV-I 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 ACM5504-5-GV-I 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*

Configure the RMM appliance connectivity:

- Configure the serial port settings and enable the desired protocols and logging levels via **Serial & Network: Serial Port**
- Attached USB devices are auto-configured so you can access to USB console ports, modems or external USB flash (the ACM5504-5-GV-I also has an internal 4GB flash)
- You may also enable SSH tunneled access through the ACM5504-5-GV-I 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 ACM5504-GV-I 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 with the 'Internal Cellular Modem' tab selected. The page contains the following sections:

- Serial Console/Port 1** and **External Cellular Modem** tabs.
- COMMA Modem Activation**: A section with instructions to contact the carrier for activation. It includes an 'Activate' button and a note: 'In the case your carrier does not support OTASP activation enter your MBL, MKN & MBD below to manually activate the modem.'
- 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. \*22899 for Verizon'.
- MBL**: A text input field with a note: 'The MBL for providing the user profile. Advanced'.
- MKN**: A text input field with a note: 'The Home Directory Number to use. Advanced'.
- MBD**: A text input field with a note: 'The NNN profile MBD to use. Advanced'.
- An **Activate** button at the bottom.

- 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 ACM5504-GV-I 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

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**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 5 seconds. Once a radio connection has been established with your cellular carrier (ie, after an APN has been properly configured) the WWAN LED will blink rapidly

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## Step 5 OoB access

To directly access the ACM5504-5-GV-I, it needs a public IP address and 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 ACM5504-5-GV-I 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 ACM5504-5-G-I, 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 ACM5504-5-GV-I using the allocated domain name

If your service by default assigns a dynamic Private IP address to your 3G device then this IP address is not visible across the Internet.

- 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

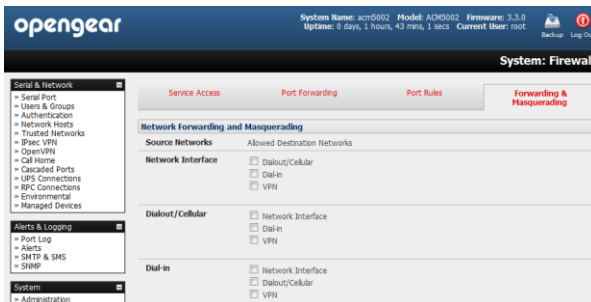
In this default **out of band access mode**, the connection to the carrier cellular network is always on - awaiting any incoming access to the ACM5504-5-GV-I or attached serial consoles/network hosts.

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 ACM5504-5-GV-I can provide cellular routing (although this is disabled by default). In this mode 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 ACM5504-5-GV-I itself
- Configure the devices on the LAN with new *Gateway* and *DNS* settings

## Step 7 Other Functions

The ACM5504-5-GV-I also offers advanced functions including an *Automated Response, 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*.



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