



ACM5504-5-G-W-I

Quick Start Guide

Thank you for purchasing the ACM5504-5-G-W-I appliance. . 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>.

Step1 Check kit contents



ACM5504-5-G-W-I device. One wireless & 3G antenna. UTP cables. Straight (319014) & crossover (319015) DB9F-RJ45s. Rack & DIN rail mount tabs. DIO connector block. 12V DC power pack. Quick Start.

Step 2 Configure the hardware

- Attach rubber feet to base and connect any desired mounting tabs
- Screw the 3G antenna on to the main *CELL (M)* connector and screw the wireless antenna on to the main *WIFI (M)* connector. If you have purchased a 3G diversity/GPS antenna (or Wi-Fi antenna), screw it on to *CELL A (or WIFI A)*
- The ACM5504-5-G-W-I works with GSM carriers globally. Your carrier will provide a SIM card for activating you data plan. Unscrew the SIM card access panel and **insert the SIM card in the bottom SIM slot with contacts facing downward** and the notch to RHS. Then replace the SIM card access panel. Refer User Manual for multiple SIM installation
- Connect the *LAN* Ethernet port on the rear to your network or directly to a computer for initial setup. Connect any management LAN devices to the *ETHERNET 1-4* ports
- Plug your serial console devices into *SERIAL 1-4* (all Cisco-straight compatible 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

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

- Apply power. The ACM5504-5-G-W-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

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-G-W-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 Connect to the smart appliance

The default LAN 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-W-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.x) as the ACM5504-5-G-W-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-G-W-I also has DHCP client 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

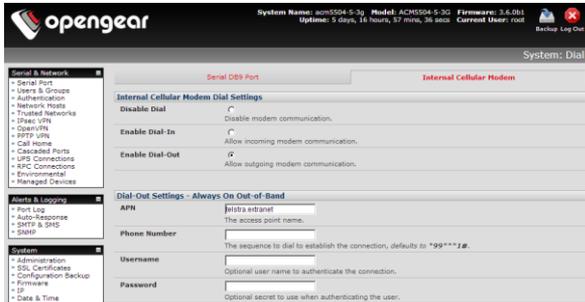
- Log in using the default system user name *root* and the password *default*. A **Welcome** screen listing the basic configuration steps is displayed

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**

Step 4 Set up the cellular connection

- Select the **Internal Cellular Modem** tab on the **System: Dial** menu
- Check **Enable** for **Dial-Out Settings** and enter the carrier's **APN** e.g. for AT&T (USA) simply enter *i2gold*, for Telstra (Aust) enter *telstra.internet*



Note: Your GSM carrier may have provided you with connection details. However, you generally will only need to enter the supplied APN and leave the other fields blank. If provided a PIN code you may need to use it to unlock the SIM card

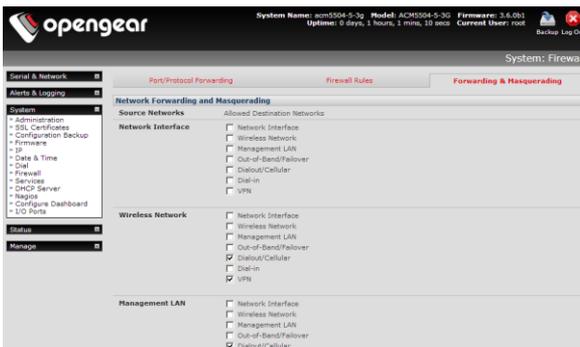
- If you need to use alternate DNS servers from those provided by your carrier, check **Override returned DNS Servers** and enter the IP of the DNS servers
- Check **Apply** and a radio connection will be established with your cellular carrier. Verify the cellular connection status:
 - The *Connection Status* shows *Connected* in the **Failover & Out-of-Band** tab on the **Status: Statistics** page. You can also check your allocated *IP Address*

- You can measure the received signal strength *RSSI* from the **Cellular Statistics** tab on the **Status: Statistics** screen. -99 dbm to -90 dbm is Weak, -89 dbm to -70 dbm is Medium, -69 dbm or greater is Strong

Note: You can also see the connection status from the CELLULAR 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 (i.e. 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 Default cellular router mode

The default setup is *cellular router* mode with IP traffic being routed from the appliance's Management LAN (ETHERNET) and Wireless Network (WIFI) interfaces, to the Internal Cellular Modem (CELL). By default, the primary Network Interface (LAN) is not routed.



Routing behavior is controlled by the *Network Forwarding* settings on **System: Firewall**. *IP Masquerading* settings allow the forwarded networks to hide behind and share the cellular IP address when routing to external networks.

To directly access the ACM5504-5-G-W-I, it needs a Public IP address. Many carriers offer corporate mobile data plans with a Public (static or dynamic) IP address directly for an additional fee, otherwise this service is available through a cellular airtime reseller (MVNO) and often called an *M2M data SIM*.

- If you have a static Public IP address plan, you can now access the ACM5504-5-G-W-I using the Public IP Address provided by the carrier. This address is also displayed on the **Failover & Out-of-Band** tab on the **Status: Statistics** page
- If you have a dynamic Public IP address plan, then a dynamic DNS (DDNS) can be configured, refer to the User Manual or online FAQ for setup steps. Once this is done, you can access the ACM5504-5-G-W-I using the allocated domain name

By default, most carriers offer a consumer grade service that assigns a dynamic Private IP address to cellular devices. This IP address is masqueraded by the carrier and inbound connections are blocked.

- With such a plan, the **Failover & Out-of-Band** tab on the **Status: Statistics** page, will show your carrier has allocated a Private *IP Address* (i.e. in the range 10.x.x.x, 172.x.x.x or 192.168.x.x)
- To enable inbound access with such a plan, use Call Home with OpenGear VCMS or set up an outbound VPN connection. Refer to the User Manual or online FAQ for details

Step 6 Device connectivity

- To configure the Wi-Fi AP or Wi-Fi client functionality is configured with the **Wireless Network Interface** tab on the **System: IP** page
- To configure serial consoles, the serial port settings, desired protocols and logging levels need to be set 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-G-W-I also has an internal 4GB flash)
- You may also enable SSH tunneled access through the ACM5504-5-G-W-I to locally networked devices (*Hosts*) using **Serial & Network: Network Hosts**
- Configure user access to these devices via **Serial & Network: Users & Groups**

Step 7 Alternate modes and other functions

There are a number of alternate access modes for the ACM5504-5-G-W-I.

One is **failover mode**. Here the **System: IP** menu sets the *LAN Ethernet Network Interface* (or the *Wireless Network* client connection) as the main network connection and *Internal Cellular modem* is set as the *Failover Interface*, activated when a network fault is detected. The cellular connection remains idle in a low power state, and only connecting to the cellular carrier when primary and secondary *ping* probes are not successful,

Another alternative is **out-of-band (OOB) access mode**. Here the cellular connection is always on, awaiting any incoming access from a remote site wanting to access the appliance itself or attached managed devices. External access to serial devices and local services is configured in the **Service Access** tab on the **System: Services** page. For managed network devices, forwarded access is configured by adding **Port/Protocol Forwards** on the **System: Firewall** page, and SDT or SSH tunneled access is configured by adding **Serial & Network: Network Hosts** and permitted **Users & Groups**.

The ACM5504-5-G-W-I offers many more advanced functions including an *Automated Response, Alerts & Logging* facility, management of third party power devices with *UPS & RPC Connections, Serial Port Cascading*, external *Authentication, VPN, Distributed Monitoring, Custom Scripting* and a *Command Line Interface*.

Refer to the *User Manual* for details.



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