



IM7216-2-24E Quick Start Guide

The IM7216-2-24E Quick Start Guide documents installation, configuration and local operation.

01. Check the kit's contents are complete

#	item	part #	links to Opengear stores				
1	IM7216-2-24E Infrastructure Manager	<i>varies</i>					
1	Rack mount kit (2 ears, 4 rack screws for cage, 4 case nuts, & 6 screws)	590001	US	UK	EU	AU	INT
2	region-specific IEC power cables	<i>n/a</i>	DAC only. Not sold separately				
2	DC screw connector blocks	<i>n/a</i>	DDC only. Not sold separately				
2	UTP RJ-45 patch cables	440016	US	UK	EU	AU	INT
1	DB9F-to-RJ45, Cisco Straight-to-modem/DCE, X2 pinout mode serial adapter	319014	US	UK	EU	AU	INT
1	DB9F-to-RJ45, crossover Cisco Straight-to-PC/DTE X2 pinout mode serial adapter	319015	US	UK	EU	AU	INT
1	DB9M-to-RJ45, Cisco Straight-to-3rd-party-console X2 pinout mode serial adapter	319016	US	UK	EU	AU	INT
1	X2 pinout mode loopback test cable (black)	<i>n/a</i>	Not available separately.				
1	DB9F-to-RJ45, Cisco Rolled-to-modem/DCE, X1 pinout mode serial adapter	319017	US	UK	EU	AU	INT
1	DB9F-to-RJ45, Cisco Rolled-crossover-to-PC/DTE X1 pinout mode serial adapter	319018	US	UK	EU	AU	INT
1	RJ45-to-DB9M, Cisco Rolled-straight-to-3rd-party-console X2 pinout mode serial adapter	319019	US	UK	EU	AU	INT
1	X1 pinout mode loopback test cable (red)	<i>n/a</i>	Not available separately.				
1	2.4 GHz SMA Wi-Fi diversity antenna	569022	US	UK	EU	AU	INT

02. Power up the IM7216-2-24E and connect other hardware

01. Power up the IM7216-2-24E.

DAC models have dual universal AC power supplies with automatic failover. Use the supplied, region-specific power cables to plug these models into mains electricity.

DDC models have dual DC power supplies with automatic failover. Use the included external screw connector blocks to connect these models to DC power sources.

02. Connect the IM7216-2-24E to your primary network via a NET1 port.

03. For Out-of-Band (OoB) Failover management: connect a NET2 port to a management network and activate the NET2 interface (see **step 06** below).

04. Connect ethernet-based devices to any of the IM7216-2-24E's 24 RJ-45 ethernet ports to add said devices to the IM7216-2-24E's own management LAN.

Note: *NET1* and *NET2* constitute four ports logically paired as two. Each pair consists of an RJ45 port for copper (C) and a Small Form-factor Pluggable (S or SFP) connection for fiber-optic. One of each pair can be active at a time. If no SFP module is present, the RJ45 port is active. If an SFP module is plugged in, the SFP port activates and the paired (C) port deactivates.

04. For Out-of-Band (OoB) dial-in access: connect the internal modem to a phone line.
05. Connect other devices to the other ports available on your IM7200: serial; USB; or ethernet.

03. Connect to the IM7216-2-24E

The IM7216-2-24E is addressable at either of two IP addresses:

01. its built-in address of 192.168.0.1/24.
02. the address its on-by-default DHCP client accepts from a DHCP server on your network.

Using a browser on the same network as the IM7216-2-24E's NET1 ports with an IP address in one of the IM7216-2-24E's network ranges (ie 192.168.0.x/24 or the range used by your DHCP server):

03. Enter `https://192.168.0.1/` or `https://[DHCP-supplied address]/` in the address bar and press **Enter**.

Note: the IM7200 has a self-signed SSL certificate. 'Untrusted connection' errors will present.

04. Click through these errors to load the IM7216-2-24E login page.
05. Enter the default system username and passcode:

Username: **root**

Password/Passcode: **default**

and click **Submit** or press **Enter**

05. The Opengear Management Console (OMC) *Welcome* page loads.

Note: the OMC logs you out after 20 inactive minutes. The current page stays loaded, however, and clicking any UI element loads the login page. Log back in and the requested page loads.

04. Set a strong, high-entropy passcode for the root user

01. Click **Serial & Network > Users & Groups**.
02. Click **Edit** for the **Root User**.
03. Enter a strong, high-entropy passcode in the **Password** field.
04. Re-enter the passcode in the **Confirm** field.
05. Click **Apply**.

05. Set NET1's network configuration method

01. Click **System > IP**.
02. Click **Network Interface** if it is not the front-most tab.
03. For **Configuration Method** click either the **DHCP** or **Static** radio button.
04. If **Static**, enter an **IP Address** and **Subnet Mask** for the NET1 interface.
05. Click **Apply**.

06. Set NET2's network configuration method

The ethernet ports which make up NET2 are set to inactive by default. To activate them:

01. Click **System** > **IP**.
02. Click **Out-of-Band/Failover Interface** to make it the front-most tab.
03. Click the **Deactivate this network interface** checkbox to de-select this option and activate NET2.
04. For **Configuration Method** click either the **DHCP** or **Static** radio button.
05. If **Static** enter an **IP Address** and **Subnet Mask** for the NET2 interface. For OoB, set these for your management network.
06. Click **Apply**.

07. Set NET3's network configuration method

The IM7216-2-24E's 24 ethernet ports — NET3 — are set to inactive by default. To activate them:

01. Click **System** > **IP**.
02. Click **Management LAN Interface** to make it the front-most tab.
03. Click the **Deactivate this network interface** checkbox to de-select this option and activate the IM7216-2-24E's 24 ethernet ports.
04. For **Configuration Method** click either the **DHCP** or **Static** radio button.
05. If **Static** enter an **IP Address** and **Subnet Mask** for the ports.
06. Click **Apply**.

Note: HTTPS and SSH are enabled to the IM7216-2-24E by default. To change this for the IM7216-2-24E, and for connected ports, click **System** > **Services** > **Service Access** and adjust as required.

08. Configure serial devices

01. Select **Serial & Networks** > **Serial Port** to display the labels, modes and protocol options for each serial port. By default all serial ports are in disabled mode.
02. Click **Edit** to configure a given serial port.
03. Change the **Common Settings** (*Baud Rate, Parity, Data Bits, Stop Bits, and Flow Control*) to match those of the device being controlled.
04. Select the Console Server Settings protocols (*SSH, Telnet, Web Terminal, and RFC2217*) to be used for the network connection to that port.
05. Set a **Logging Level**.

Note: The five logging levels **do not** represent a progression from no logging to logging everything. Take note of what each logging level records and choose a given port's logging level accordingly.

06. Click **Apply**.

Note: A serial port's pinout can be set to Cisco Straight (X2: the default) or Cisco Rolled (X1) using **Port Pinout**. In X2 mode, most serial devices connect via a UTP RJ45 patch cable. DTE DB9M and DCE DB9M devices connect using the included serial adapters (part #s 319015 and 319014). See **Cabling & Accessories** in the Opengear Knowledge Base FAQ for notes re other devices.

09. Attach USB devices

IM7200-series models have two front-facing USB ports. Supported chipsets include *FTDI*, *CP210X*, *CP2303*, *CDC ACM*, *MCT U232*, *Exar*, and more. Front-facing ports have two common uses: connecting to UPS supplies or Cisco devices; and drive attachment to load firmware updates or configuration files.

10. Create required local users and groups

Note: don't rely on the *root* user. Create at least one extra user with full administrative access

For each required user:

01. Select **Serial & Network > Users & Groups**.
02. Click **Add User**
03. Enter a **Username**.
04. Enter a strong, high-entropy passcode in the **Password** field.
05. Re-enter the passcode in the **Confirm** field.
06. Nominate the **Accessible Ports** available to this user.
07. Choose the user's **Group**.

For limited access to the IM7216-2-24E's GUI and CLI interfaces, check the *user* group.

For full access to the IM7216-2-24E's GUI and CLI interfaces, check the *admin* group.

Note: new users must be in a group to get access to the *Infrastructure manager's* GUI and CLI.

08. Click **Apply**.

11. Access device consoles

Choose a protocol for accessing device consoles.

To connect to the *pmshell chooser* menu via SSH:

01. SSH in to the IM7200's IP address.
02. add `:serial` to the username. (eg: `admin_user:serial`.)

To connect to a given console directly via SSH:

01. SSH in to the IM7200's IP address.
02. add the port number or label to the username. (eg: `admin_user:port02` or `admin_user:routerName`.)

To connect to a given serial port directly via SSH:

01. SSH in to TCP port 3000 plus the serial port number at the *Infrastructure manager's* IP address.
02. To connect to serial port 2, for example, SSH in to `3002`.

To connect via Telnet:

01. Telnet in to the IM7200's IP address at port 2000 plus the port number.

To connect to a particular console using a web-browser:

01. login to the Opengear Management Console (see **step 03** above).
02. select **Manage > Devices > Serial** and click the port's *Web Terminal* link.