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QUICK START GUIDE

OPERATIONS MANAGER 2200

Includes: OM2200 Family of Operations Managers, including 10G, DDC, and POTS variants.



REGISTER

This Quick Start Guide covers basic installation and configuration of the OM2200.

Register your product: <https://opengear.com/product-registration>

When you register, you:

- Activate your warranty.
- Get notified when firmware updates are released: <https://opengear.com/support/device-updates/>

WHAT'S IN THE BOX

OM2200 Device

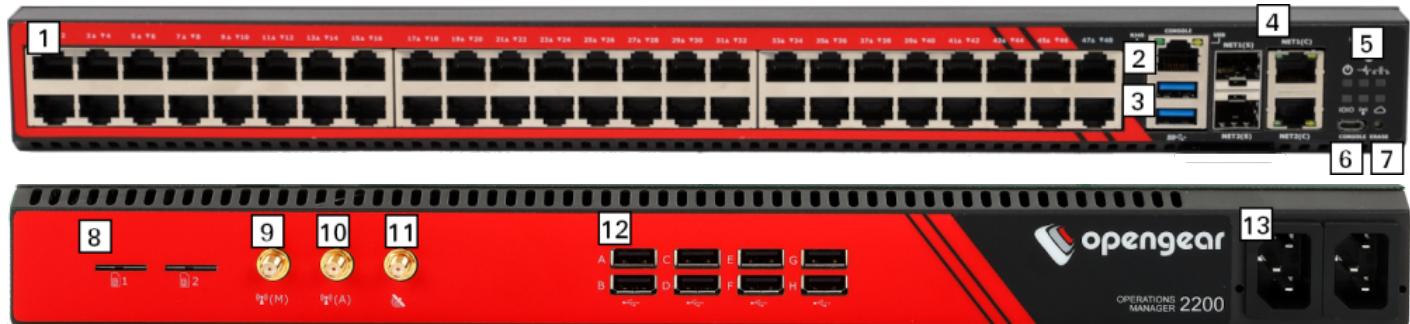


Figure: OM2248-L model

1. Serial ports i
2. RJ45 serial console
3. Front USB ports
4. NET1 and NET2 (1G SFP and Copper) ii
5. LED indicators iii
6. USB serial console
7. Config erase button
8. SIM card slots iv
9. Cell (main) iv
10. Cell (aux) iv
11. GPS iv v
12. USB serial ports
13. Dual AC power supply vi

- i. Number of serial ports varies per model. Integrated switch variation on next page.
- ii. Combination network interfaces allow either SFP or Copper to be used. 10G variation on next page.
- iii. LED definitions available in the Operations Manager User Guide.
- iv. Cellular models only.
- v. Not implemented.
- vi. Dual DC variation on next page.



Device Variations

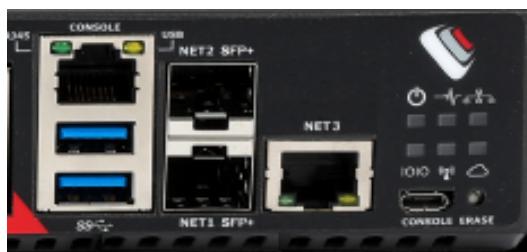
Integrated Switch

OM2224-24E models have 24 serial ports (left) and 24 gigabit ethernet ports (right).



10G Ethernet

10G models have network interfaces NET1 (10G SFP+), NET2 (10G SFP+) and NET3 (1G Copper).



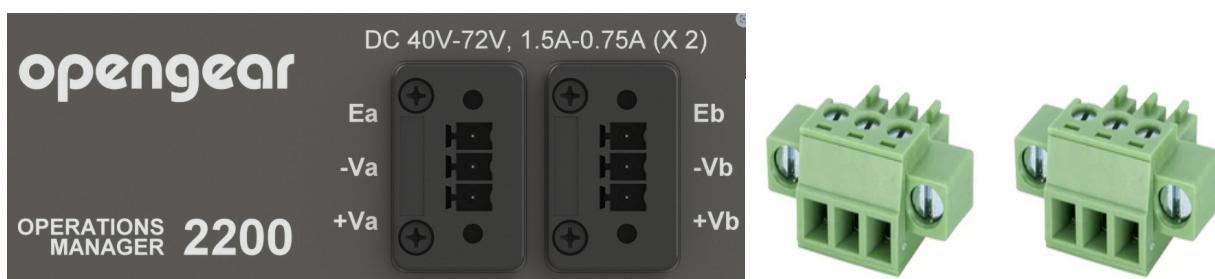
OM2200-10G-M-DDC-L 10G Modem (POTS)

The OM2200-10G-M-DDC-L is fitted with an internal modem.



Dual DC Power Supply

DDC models have a dual DC power supply.



Kit Contents



Note: Contents may be different from those pictured due to region or supplier.

Label	Item	Quantity	Notes
	OM2200 device	1	
1	IEC power cables	2	Region-specific
2	Rack mount screw kit	1	
3	OM2200 rack ears	2	
4	Cisco straight pinout RJ45 to DB9F crossover serial adapter	1	Part number 319015
5	CAT5e RJ45 UTP straight cable - 5ft/1.5m	1	Part number 440016
6	4G Blade Antennas	4/2	Part number 569042, Cellular models only

Table: List of contents

HARDWARE INSTALLATION

Step 1. Connect Network Interfaces

Connect the device to a local network using any of the available physical network interfaces. All interfaces will receive a dynamic address via DHCP and DHCPv6.

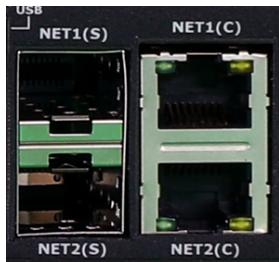


Figure: Network interfaces for 1Gb Ethernet models

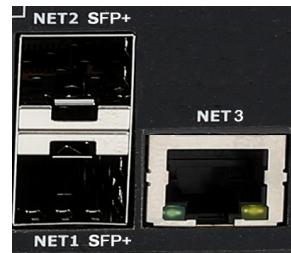


Figure: Network interfaces for 10Gb Ethernet models

Additionally, the device can be accessed from a computer or local network via a static IPv4 address as shown in [Table: Default static interface connection](#).

Model	Interface	Static Address
1Gb Ethernet	NET1	192.168.0.1/24
10Gb Ethernet	NET3	192.168.0.1/24

Table: Default static interface connection

Firewall Zone	Network Interfaces
WAN	NET3
LAN	NET2

Table: Default firewall zones for interfaces

Firewall Zone	Network Interfaces
WAN	
LAN	NET2

Table: Default firewall zones for interfaces

Step 2. Connect Cellular Antennas

For **-L** models, attach the included antennas or external mount to the CELL (MAIN) and CELL (AUX) connectors.

If you have a data plan, insert a carrier-provided mini-SIM into the first SIM card slot (slot 1) with contacts facing upward.

Step 2a. Connect Internal Modem

OM2200-10G-M-DDC-L 10G internal Modem (POTS) only

The OM2200-10G-M-DDC-L is fitted with an internal modem. Connect the RJ11 cable at the RJ11 port at the rear, you will hear or feel a click when it is correctly inserted. The modem is configured at the WebUI (see the OM2200 User Guide).

Step 3. Connect Serial Devices

Connect managed devices to the serial interfaces on the front of the unit.

Step 4. Connect USB Devices

USB serial devices can be connected to the USB slots at the front and rear of the unit if required.

Note: The front USB slots are USB 3.0 and the rear USB slots are USB 2.0.

Step 5. Connect The Power

Connect the power cable to the rear of the unit.

A second power cable can be connected if redundancy is required. The power cables can be connected in any order.

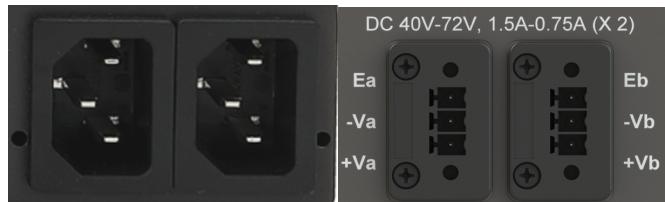


Figure: Dual power supply connectors for OM2200

LED Power Status Indicator

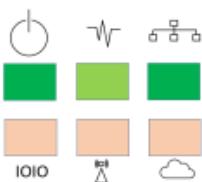


Figure: Power supply has redundancy

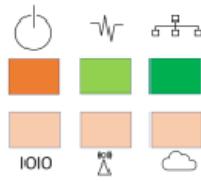


Figure: Power supply does not have redundancy



ACCESS THE DEVICE

Step 1. Log in via the Web UI

Using a computer on the same subnet as the static network interface shown in "Hardware Installation" on [page 5](#), access the web UI with your web browser at <https://192.168.0.1/>.

Note: The device has a self-signed SSL certificate. Your browser will display an "Untrusted connection" warning. Click through the warning to access the login page.

To log in for the first time, enter the username **root** and password **default** and click **Submit**.

Step 2. Change the Root Password

When logging in to the device for the first time you will be prompted to change the root password immediately.

Note: Users are prevented from reusing the word "default" as their password. The factory default password automatically expires after a factory reset and users must choose a new password. This policy is applied through the WebUI, Config Shell and CLI.

Enter the current password followed by the new password and click **Log in**.

The **ACCESS > Serial Ports** page appears displaying a list of connected serial devices and links to a Web Terminal or SSH connection for each.



CONFIGURE SERIAL PORTS

To change settings for individual serial ports:

1. Navigate to **CONFIGURE > Serial Ports**.
2. Click the **Edit** button next to the port you wish to modify.
3. Change port settings, logging settings or configure IP aliases.
4. Click **Apply** to save changes.

Field	Value
Mode	ConsoleServer
Pinout	X2
Baud Rate	115200
Data Bits	8
Parity	None
Stop Bits	1

Table: Default configuration for serial ports



CONFIGURE LOCAL CONSOLE

CONFIGURE > Local Management Consoles

Operations Manager OM2200 units contain one RJ45 serial console and one micro-USB serial console.

LOCAL MANAGEMENT CONSOLES		
Management Console	Parameters	Actions
RJ45 Serial Console	115200-8N1 VT102	
USB Serial Console	115200-8N1 VT102	

To configure local console ports:

1. Navigate to **CONFIGURE > Local Management Consoles**.
2. Click the **Edit** button next to the local console you wish to modify.
3. Change port settings.
4. Click **Apply** to save changes.

Field	Value
Baud Rate	115200
Data Bits	8
Parity	None
Stop Bits	1
Emulation	VT102

Table: Default serial port configuration for local console access

CONFIGURE NETWORK

CONFIGURE > Network Connections > Network Interfaces

Click to expand any row to display status information about the interface and its connections.

1G Devices

NETWORK INTERFACES			
 NET1 - 1G Copper/SFP	2 IPv4 connections 1 Automatic 1 Static	1 IPv6 connections 1 Automatic 0 Static	  
 NET2 - 1G Copper/SFP	1 IPv4 connections 1 Automatic 0 Static	1 IPv6 connections 1 Automatic 0 Static	 
 Cellular Interface (LTE)			

10G Devices

NETWORK INTERFACES			
 NET1 - 10G SFP+	1 IPv4 connections 1 Automatic 0 Static	1 IPv6 connections 1 Automatic 0 Static	  
 NET2 - 10G SFP+	1 IPv4 connections 1 Automatic 0 Static	1 IPv6 connections 1 Automatic 0 Static	
 NET3 - 1G Copper	2 IPv4 connections 1 Automatic 1 Static	1 IPv6 connections 1 Automatic 0 Static	
 Switch (24 Bridged Interfaces)	0 IPv4 connections 0 Automatic 0 Static	0 IPv6 connections 0 Automatic 0 Static	
 Cellular Interface (LTE)			
 Switch Port 1			



10G Devices with internal modem (POTS)

NETWORK INTERFACES

		IPv4	IPv6	
		connections	connections	
	net1 description	2 connections 1 Automatic 1 Static	1 connections 1 Automatic 0 Static	
	net2 description	1 connections 1 Automatic 0 Static	1 connections 1 Automatic 0 Static	
	wwan0 description			Configured for OOB Failover
	Internal Dial-up Modem			
Dial-in				
<input checked="" type="button"/> Enabled		<input type="button"/> Disabled	Edit	

Configure Physical Interfaces

On the Network Interfaces page, click the drop-down arrow on the right side of the target network interface then, click the **Edit** button to configure media and MTU for any of the physical interfaces, including the Internal Modem interface for modem enabled devices.

NET1 - 1G Copper/SFP

<input checked="" type="button"/> Enabled	<input type="button"/> Disabled	Enabled Automatic
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EDIT NET1 - 10G SFP+

Enabled **Disabled**

Media (Copper only)

Automatic

Internal Dial-up Modem

Dial-in

Enabled **Disabled**

OM2200-10G POTS

Modify Default IPv4 Static Interface

1. Click the "**IPv4 Static**" label under NET1 or NET3 or to open the edit connection page.
2. Enter the IPv4 address.
3. Enter the network mask.
4. Click **Apply** to save changes.

Configure Cellular Interface

If your unit has a cellular modem it will appear in the list of Network Interfaces. It is disabled by default and requires configuration.

Cellular Interface (LTE)

Enabled **Disabled**

Step 1. Enable Cellular Interface

Click the **Enabled** button to enable the cellular interface.



Tip: Before enabling the modem please follow the steps under "Hardware Installation" on page 5 to ensure good signal strength.

Step 2. Enter Carrier APN Settings

If your carrier requires an APN it must be entered before a successful cellular connection can be established.

1. Click the **Edit** button to open the Manage Cellular Interface page.
2. Expand the **SIM Settings** section under **SIM CARD 1**.

SIM CARD 1

 Telstra Corp. Ltd.

ICCID: 89610180002889669763

[SIM Settings](#) ▾

3. Enter the APN settings for your carrier.
4. Click **Confirm** to save the changes.



View Switch Port Interfaces

OM2224-24E models have an integrated Ethernet switch. The switch ports are bridged together by default in the interface called "Switch".

Switch	8 Bridged Interfaces	0 IPv4 connections 0 Automatic 0 Static	0 IPv6 connections 0 Automatic 0 Static	^
<input checked="" type="checkbox"/> Enabled	<input type="checkbox"/> Disabled	Edit Delete		
Bridged Interfaces	Switch Port 1			
	Switch Port 2			
	Switch Port 3			
	Switch Port 4			
	Switch Port 5			
	Switch Port 6			
	Switch Port 7			
	Switch Port 8			

There are currently no connections. [Add a new connection](#)

This default bridge can be modified or deleted to configure custom bridges or bonds between any interface.

For more details, consult the Operations Manager User Guide:

<https://opengear.com/support/documentation/>.



CREATE NEW ADMINISTRATIVE USER

Note: You should create a new administrative user rather than continuing as the root user.

1. Navigate to **CONFIGURE > User Management > Local Users**.
2. Click the **Add User** button  at the top-right of the page.
3. Click the **User Enabled** checkbox.
4. Enter **Username** and **Password**.
5. Assign the **admin** group to the user to provide full access privileges.
6. Click **Save User** to create the new user account.
7. Log out and log back in as this user for all administrative functions.

Group Memberships

<input type="checkbox"/>	Group Name	Description
<input checked="" type="checkbox"/>	admin	Provides users with unlimited configuration and management privileges
<input type="checkbox"/>	netgrp	Group for users created automatically via network authentication

1 / 2 Groups Selected

For more details about Users and Groups configuration, consult the Operations Manager User Guide:
<https://opengear.com/support/documentation/>.

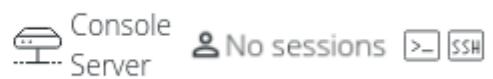


ACCESS DEVICE CONSOLES

After you have attached managed devices and configured serial ports by following ["Configure Serial Ports" on page 8](#), you can now access the console of your managed devices on your network.

Web UI

1. Navigate to **ACCESS > Serial Ports** to view the list of serial ports on the device.
2. Click the **Web Terminal** button  to the right of any serial port in Console Server mode to access it via the web terminal.



Console

For administrator users logged in to the device via console or SSH:

1. Type `pmshell` to view the list of available managed devices.
2. Enter the **port number** to access the desired device and press **Enter**.

SSH

The managed devices connected to the Operations Manager can be accessed directly with an SSH command to connect to the device.

- To view the list of managed devices: `ssh <username>+serial@<device address>`
- To connect to a specific device by port: `ssh <username>+port<number>@<device address>`
- To connect to a specific device by name: `ssh <username>+<port label>@<device address>`

Note: The SSH delimiter can be modified via the Web UI at **CONFIGURE > Services > SSH**.

Telnet

Telnet access to managed devices is not supported at this time.



LIGHTHOUSE CENTRALIZED MANAGEMENT

Note: Lighthouse is a powerful tool that simplifies the way you manage your out-of-band network through a single pane of glass. Better control and visibility provides 24/7 resilient access to your connected IT infrastructure. For more information, visit <https://opengear.com/products/lighthouse/>.

To enroll your device:

1. Navigate to **CONFIGURE > Lighthouse Enrollment**.
2. Click the **Add Lighthouse Enrollment** button at the top-right of the page.
3. Enter the Lighthouse Address, Enrollment Token, optional port and optional Enrollment Bundle.
4. Click **Apply** to begin the enrollment process.

Note: Enrollment of an Opengear device can also be performed from Lighthouse using **Add Node** functionality.

Automatic Enrollment By Lighthouse Service Portal (LSP)

Lighthouse Service Portal (LSP) is an Opengear solution that enables Operations Manager nodes (OM1200 and OM2200) to perform a zero touch call home and automatic enrollment into a customers Lighthouse instance of choice.

Note: LSP is not configurable and cannot be added in-field.

No User setup is required for LSP. LSP should begin working upon boot or factory reset.

LSP Service Initialisation

When the node is initially powered-up or rebooted, ZTP begins to run and sees that device is LSP enabled and ZTP exits before applying any configuration. `Systemd` triggers the LSP.

The node connects to internet and adds an NTP server to ensure crypto is working. It then pulls an updated docker container which it runs, and waits while the docker container writes out the appropriate lighthouse bundle associated with the serial number, then exits.

Identity is verified by a TPM attestation key with the serial number encoded and signed by the attestation key and a CA running in AWS. An accompanying certificate is stored the secure Trusted Platform Module (TPM).

If there are no connectivity issues the LSP status LED (cloud on OM2200) state changes progressively from amber flashing (LSP is running), green flashing (Lighthouse is connecting) and green solid (lighthouse connected successfully).

OM Devices Cloud / Internet 	LSP is disabled and there are no existing Lighthouse enrollments.	LSP is currently running on the device.	An error occurred while running LSP.	The device can reach the lighthouse instance and is attempting to enroll. If a lighthouse is unreachable the LED will not start.	The device is enrolled and connected to a lighthouse. There will be a short delay between the UI status reported and the LED changing to solid green.
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Note: OM1200 series devices do not have a cloud LED, therefore, no LED indication is available for LSP or Lighthouse.