

# NETGEAR ProSAFE® M4200 Intelligent Edge Series

## Frequently Asked Questions

### 1. What is Multi-Gigabit?

Multi-Gigabit switching uses NBASE-T™ technology to boost the speed of installed based twisted-pair Cat5e and Cat6 cabling well beyond the cable's designed limit of 1 Gigabit per second (Gbps) for distances up to 100 meters. Capable of reaching 2.5 and 5 Gbps, Multi-Gigabit RJ45 ports are backward compatible with standard Gigabit and Fast Ethernet speeds.

### 2. Why is Multi-Gigabit needed?

As 802.11ac Wave 2 products enter the market capable of wireless speeds to 2.34 Gbps (up from 1.3 Gbps with Wave 1) in the 5 GHz band, the limitation will be the majority of Cat5e and Cat6 Ethernet cables deployed, which currently support a maximum speed of 1 Gbps over a distance of 100 meters. Customers therefore cannot take full advantage of 802.11ac Wave 2 deployments without first upgrading their switch infrastructure. Multi-Gigabit switching allows existing cables to be used and eliminates the need for entire wired and wireless rip and replace investment.

### 3. How to deploy Wave 2 access points?

3x3 and 4x4 radio solutions will swamp a Gigabit LAN; Old access points required two 1G connections to address this problem. Wave 2 solves this by the use of 2.5G Multi-Gigabit (NBASE-T) LAN ports. The NETGEAR M4200 is designed to aggregate up to 8 11ac access points and mount in your plenum; near your APs. And with dual 10G uplinks (fiber SFP+) the backhaul is convenient, fully non-blocking and cost effective. Finally its slim design, quiet fans, mounting accessories and thoughtful cable routing make it unparalleled in mount ability.

### 4. What is the NBASE-T™ alliance?

The NBASE-T Alliance focuses on building the ecosystem and consensus required to enable a new 2.5GBASE-T/5GBASE-T Ethernet standard. It has more than 35 member organizations, including NETGEAR. Although not a ratified technology, in time this will become an IEEE 802.3bz standard with a unified implementation approach for all vendors. Members can be found at:

<http://www.nbase-t.org/alliance/participant-companies/>

### 5. Why would I invest in the M4200 instead of installing a more powerful, faster 10G switch?

10GbE switches do not support increments above 1Gbps like multi-gigabit with 2.5 and 5Gbps on Cat5e and Cat6 cabling, so you would not get the advantage of 10G potential.

### 6. What is the PoE+ budget for the M4200?

The M4200-10MG-PoE+ has a power budget of 240W, offering 30W per port up to 8 ports to support 8 Wave 2 802.11ac 3 x 3 and 4 x 4 access points which require a higher power draw than 802.3af PoE.

### 7. What is "Easy Mount"?

The M4200-10MG-PoE+ offers a flexible form factor mounting solution, allowing placement in ceilings (plenum rated), on walls and inside wiring closets. It comes with a rack mount kit as well as mount clamps and mount belts for flexible placement.

### 8. What is the multi-gigabit configuration on the M4200-10MG-PoE+ switch?

There are 8 ports of multi-gigabit; 6 PoE+ ports offering 100M, 1G and 2.5G speeds and 2 PoE+ ports offering 100M, 1G, 2.5 and 5GbE speeds. And with 2 10GbE uplink ports (SFP+ fiber and DAC cables), the backhaul is convenient, simple and cost effective.

### 9. Is the switch fabric line-rate for Multi-Gigabit?

M4200-10MG-PoE+ (GSM4210P) offers non-blocking 90Gbps fabric for (6 x 2.5G) + (2 x 5G) + (2 x 10G) full duplex operation.

### 10. What are the dimensions of the M4200 switch?

Plenum rated, slim design and mounting accessories allow to place this switch to optimize access point's placement and cabling efficiency, inside and outside the rack. The M4200-10MG-PoE+ switch comes in 1U height and 3.94 inches depth (10 cm).

### 11. What are the Layer 2/3/4 software features supported?

- **Management:** Out-of-band; Web GUI; HTTPS; CLI; Telnet; SSH; SNMP; MIBs; RSPAN; Radius Users, TACACS+
- **Usability Enhancements:** Link Dependency (Enable or Disable one or more ports based on the link state of one or more different ports); Syslog and Packet Captures can be sent to USB storage
- **IPv4/IPv6 ACL and QoS, DiffServ:** Ingress 1 Kbps shaping; Time-based ACLs; Single Rate Policing
- **IPv4/IPv6 Multicast Filtering:** IGMPv3 MLDv2 Snooping; IGMPv1,v2 and MLDv1 Snooping Querier
- **IPv4/IPv6 Policing and Convergence:** Auto-VoIP; Auto-iSCSI; LLDP-MED
- **Spanning Tree:** STP, MTP, RSTP; Per VLAN PV(R)STP (CLI only); BPDU/STRG Root Guard

- **Green Ethernet:** EEE (802.3az)
- **VLANs:** Access Ports; Trunk Ports with Native VLAN; Static; Dynamic; Voice; MAC; GVRP/GMRP; QinQ; Private VLANs
- **Trunking, Port Channel:** Static or Dynamic LACP Seven (7) L2/L3/L4 hashing algorithms
- **IPv4/IPv6 Authentication Security:** Successive Tiering (DOT1X; MAB; Captive Portal); DHCP Snooping; IPv4: Dynamic ARP Inspection
- **IPv4/IPv6 Static Routing:** IPv4/IPv6 Port, Subnet, VLAN routing; DHCPv4 Relay; DHCPv4 Server
- **IPv4 Dynamic Routing:** RIP

## 12. M4200 support SDN and OpenFlow 1.3. What is supported?

M4200 OpenFlow feature enables the switch to be managed by a centralized OpenFlow Controller using the OpenFlow protocol.

- Support of a single-table OpenFlow 1.3 data forwarding path
- The OpenFlow feature can be administratively enabled and disabled at any time
- The administrator can allow the switch to automatically assign an IP address to the OpenFlow feature or to specifically select which address should be used
- The administrator can also direct the OpenFlow feature to always use the service port (out-of-band management port)
- The Controller IP addresses are specified manually through the switch user interface
- The list of OpenFlow Controllers and the controller connection options are stored in the Controller Table
- The OpenFlow component in M4200 software uses this information to set up and maintain SSL connections with the OpenFlow Controllers
- M4200 implements a subset of the OpenFlow 1.0.0 protocol and a subset of the OpenFlow 1.3
- It also implements enhancements to the OpenFlow protocol to optimize it for the Data Center environment and to make it compatible with Open vSwitch (OVS 2.3.0)

## 13. What is the USB port for on front panel?

The USB port allows user to download/upload switch firmware or configuration file using USB flash device. It is also used to recover the firmware image through the utility menu during boot up. It is more effective and easier than using XMODEM serial port protocol for file transfer. Latest 12.0 enhancements allow Syslog and Packet Captures to be sent to USB storage as well.

## 14. What are M4200 console ports for serial connection?

M4200 front panel provides two serial ports:

- One mini-USB console port
- One straight-through wiring RJ45 serial port

Both ports are active simultaneously. Mini-USB console port allows user to directly access M4200 switch using one USB cable. USB driver must be installed first. The USB driver can be obtained either from the CD that comes with the switch, either from the following link:

[http://support.netgear.com/for\\_business/default.aspx](http://support.netgear.com/for_business/default.aspx)

Drivers for the mini-USB console port are provided for Windows Server 2008; Windows Server 2003; Windows 10; Windows 8; Windows 8 x64; Windows 7; Windows 7 x64; Windows Vista; Windows Vista x64; and Windows XP.

## 15. Is out-of-band management for Telnet, SSH and GUI network access supported by M4200?

Yes, M4200 Switch provides the admin with two differentiated methods (in-band and out-of-band) for Telnet, SSH and Web GUI network access. For security, the admin can decide to allow or restrict any of these two methods. Out-of-band management is possible through the dedicated OOB RJ45 10/100/1000 port on the front. If OOB restriction is not a requirement, in-band management can be also available from any network port: Management ACLs are available to restrict which port(s) can reach M4200 CPU in that case.

## 16. What is the warranty of the M4200 Switch Series?

The M4200 series is covered under NETGEAR Lifetime Warranty and it includes:

- 90 days of Technical Support via phone and email
- Lifetime Technical Support through online chat
- Lifetime Next Business Day Hardware Replacement

You can find more information here:

<http://www.netgear.com/business/documents/prosafe-lifetime-warranty/default.aspx>

and here:

<http://support.netgear.com/general/contact/default.aspx>

## 17. Where can I download software updates for M4200 Switch Series?

The M4200 series technical documentation and firmware updates can be found here:

[http://support.netgear.com/for\\_business/default.aspx](http://support.netgear.com/for_business/default.aspx)

## 18. Where can I find more information on M4200 Switch Series?

Please visit <http://www.netgear.com/managed>