

# Meraki MR12

## 802.11n Access Point



### Incredibly affordable, cloud-managed wireless LAN

The Meraki MR12 is an enterprise class, single-radio 802.11n cloud-managed access point designed for deployments in small-to-medium businesses, home and branch offices, hotels and retail stores. The MR12 uses advanced 802.11n technologies including MIMO, beam forming and channel bonding to deliver the throughput and reliable coverage required by the most demanding business applications.

#### MR12 and the Meraki Cloud Controller: A Powerful Combo

The MR12 is managed through the Meraki Enterprise Cloud Controller, with an intuitive browser-based interface that lets you get up and running quickly without training or certifications. Since the MR12 is self-configuring and managed over the web, you can even deploy the MR12 at a remote location without on-site IT staff.

The MR12 is monitored 24x7 from the Meraki Enterprise Cloud Controller which delivers real-time alerts if your network encounters problems. Remote diagnostics tools enable real-time troubleshooting over the web, meaning multi-site, distributed networks can be managed remotely.

The MR12's firmware is always kept up to date from the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web, so you never have to manually download software updates or worry about missing security patches.

## Product Highlights

- 802.11n MIMO provides up to 300 Mbps throughput
- Enhanced transmit power and receive sensitivity
- Self-healing, zero-configuration mesh
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- Self-configuring, plug-and-play deployment
- Sleek, low profile design blends into office environments
- Additional Ethernet port for printers and other wired devices

## Features

### Enterprise class 802.11n radio, up to 300 mbit/sec

The MR12 features a powerful radio and advanced RF design for enhanced receive sensitivity. Combined with 802.11n technologies including 2x2 MIMO and transmit beamforming, the MR12 delivers up to 300 mbit/sec throughput and up to 50% increased range compared to typical enterprise class 802.11n access points, meaning fewer access points are required for a given deployment.

### Application-aware traffic shaping

The MR12 includes an integrated layer 7 packet inspection, classification, and control engine, enabling you to set QoS policies based on traffic type. Prioritize your mission critical applications, while setting limits on recreational traffic, e.g. peer-to-peer and video streaming.

### Automatic cloud-based RF optimization with spectrum analysis

The MR12's sophisticated, automated RF optimization means that there is no need for the dedicated hardware or RF expertise typically required to tune a wireless network. An integrated spectrum analyzer monitors the airspace for neighboring WiFi devices as well as non-802.11 interference – microwave ovens, Bluetooth headsets, etc. The Meraki Cloud Controller then automatically optimizes the MR12's channel selection, transmit power, and client connection settings, providing optimal performance even under challenging RF conditions.

### Integrated enterprise security and guest access

The MR12 features integrated, easy-to-configure security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and WPA2-Enterprise authentication with 802.1x and Active Directory integration provide wire-like security with the convenience of wireless mobility. One-click guest isolation provides secure, Internet-only access for visitors. Our policy firewall (Identity Policy Manager) enables group or device-based, granular access policy control. Meraki Teleworker VPN makes it easy to extend the corporate LAN to remote sites, without requiring all clients and devices to have client VPN software. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments. Integrated WIPS detects, classifies, locates, and contains rogue AP's and client attacks.

### High performance mesh

The MR12's advanced mesh technologies like multi-channel routing protocols and multiple gateway support enable scalable, high throughput coverage of hard-to-wire areas with zero configuration. Mesh also improves network reliability - in the event of a switch or cable failure, the MR12 will automatically revert to mesh mode, providing continued gateway connectivity to clients.

### Self-configuring, self-optimizing, self-healing

When plugged in, the MR12 automatically connects to the Meraki Enterprise Cloud Controller, downloads its configuration, and joins your network. It self optimizes, determining the ideal channel, transmit power, and client connection parameters. And it self heals, responding automatically to switch failures and other errors.

### Low profile, environmentally friendly design

Despite its incredible power and feature set, the MR12 is the lowest profile 802.11n access point available - at just one inch thick, it blends seamlessly into any environment. In addition to looking great, the MR12 is earth friendly: we've eliminated excess packaging and documentation, and 90% of the access point materials are recyclable. A maximum power draw of only 6.5 watts and a cloud-hosted, multi-tenant controller mean that pollution, material utilization and your electric bill are kept to a minimum.

# Specifications

---

## > Radio

- 802.11 b/g/n radio
  - Max throughput 300 Mbit/s
  - Operating band: 2.412-2.484 GHz
- 

## > 802.11n Capabilities

- 2 x 2 multiple input, multiple output (MIMO) with two spatial streams
  - Maximal ratio combining (MRC)
  - Beamforming
  - Packet aggregation
  - 20 and 40 MHz channels
  - Cyclic shift diversity (CSD) support
- 

## > Power

- Power over Ethernet: 24 - 57 V (802.3af compatible)
  - 12V DC
  - Power consumption: 6.5 W max
  - Power over Ethernet injector and DC adapter sold separately
- 

## > Mounting

- All standard mounting hardware included
  - Desktop
  - Wall mount
  - Ceiling tile rail (9/16, 15/16 or 1 1/2" flush or recessed rails)
  - Assorted cable junction boxes
- 

## > Physical Security

- Security screw included
  - Kensington lock hard point
  - Anti-tamper cable bay
  - Concealed mount plate
- 

## > Environment

- Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
  - Humidity: 5 to 95% non-condensing
- 

## > Physical Dimensions

- 7.3" x 5.8" x 1.0" (185 mm x 147 mm x 25 mm) not including desk-mount feet or mount plate
  - Weight: 16 oz (0.45 kg)
- 

## > Antenna

- Integrated omni-directional antennas
  - Gain: 3 dBi
- 

## > Interfaces

- 1x 100/1000Base-T Ethernet (RJ45) with 48V DC 802.3af PoE
  - 1x 10/100Base-T Ethernet (RJ45)
  - 1x DC power connector (5mm x 2.1mm, center positive)
- 

## > Security

- Integrated policy firewall (Identity Policy Manager)
  - Mobile device policies
  - 24x7 WIPS (wireless intrusion prevention system)
  - Rogue containment
  - Guest isolation
  - Teleworker VPN with IPsec
  - PCI compliance reporting
  - WEP, WPA
  - WPA2-PSK
  - WPA2-Enterprise with 802.1X
  - TKIP and AES encryption
  - VLAN tagging (802.1q)
- 

## > Quality of Service

- Wireless Quality of Service (WMM/802.11e)
  - Advanced Power Save (U-APSD)
  - DSCP (802.1p)
  - Layer 7 application traffic shaping and firewall
- 

## > LED Indicators

- 4 signal strength
  - 1 Ethernet connectivity
  - 1 power/booting/firmware upgrade status
- 

## > Regulatory

- FCC (US)
  - IC (Canada)
  - CE (Europe)
  - C-Tick (Australia/New Zealand)
  - RoHS
- 

## > Warranty

- Lifetime hardware warranty with advanced replacement included
- 

## > Ordering Information

MR12-HW	Meraki MR12 Cloud Managed AP
POE-INJ-3-XX	Meraki 802.3af Power over Ethernet Injector (XX = US, EU, UK or AU)
AC-MR-1-XX	Meraki AC Adapter for MR Series (XX = US, EU, UK or AU)

---

Note: Meraki Enterprise Cloud Controller license required.

> RF Performance Table

Operating Band	Operating Mode	Data Rate	TX Power (dBm)	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	22	-96
		2 Mb/s	22	-94
		5.5 Mb/s	21	-95
		11 Mb/s	21	-92
2.4 GHz	802.11g	6 Mb/s	26	-95
		9 Mb/s	26	-94
		12 Mb/s	26	-93
		18 Mb/s	26	-93
		24 Mb/s	25	-91
		36 Mb/s	25	-87
		48 Mb/s	24	-83
		54 Mb/s	23	-81
2.4 GHz	802.11n (HT20)	MCS0/8 HT20	21	-96
		MCS1/9 HT20	21	-94
		MCS2/10 HT20	21	-92
		MCS3/11 HT20	21	-89
		MCS4/12 HT20	21	-85
		MCS5/13 HT20	21	-82
		MCS6/14 HT20	19	-81
		MCS7/15 HT20	18	-79
2.4 GHz	802.11n (HT40)	MCS0/8 HT40	21	-93
		MCS1/9 HT40	22	-91
		MCS2/10 HT40	21	-89
		MCS3/11 HT40	22	-86
		MCS4/12 HT40	21	-82
		MCS5/13 HT40	21	-79
		MCS6/14 HT40	19	-78
		MCS7/15 HT40	18	-76

\*Maximum hardware capability shown above. Transmit power is configurable in increments of 1 dB and is automatically limited by the Meraki Cloud Controller to comply with local regulatory settings.

> Signal Coverage Pattern

