MV Cloud-Managed Smart Cameras

SECOND GENERATION (MV12, MV22, MV72, MV32)

OVERVIEW

The MV smart camera family brings simplicity and intelligence to the security camera world. Every MV model comes with a powerful processor — the same kind found in many of today's smartphones — and an innovative architecture that minimizes physical infrastructure as well as software requirements.

These smart cameras not only help ensure physical safety and security, but also provide advanced business intelligence. MV packs fast processing power, robust security features, and sophisticated analytics into a refreshingly simple package.

MV: BEYOND JUST SECURITY

MV smart camera architecture places high-endurance storage directly on the camera, removing the need for a network video recorder (NVR). Not only does this drastically simplify both installation and scaling, it also eliminates a major network security vulnerability in the IT infrastructure.

Features like LLDP insights, offline device alerting, and built-in remote tools reduce troubleshooting time, freeing up IT resources. And, because MV is managed through the browser-based Meraki dashboard and operates using a licensing model, there's no need to purchase, download, and maintain any additional software. The Meraki dashboard ensures firmware updates and new features will continually roll out over the lifespan of the product, increasing the overall value.

Equipped with an industry-leading processor, these cameras are not only capable of providing high definition video, they also allow for machine learning-based analytics. These capabilities previously required additional software and heavy-duty hardware. Harnessing the power of computer vision and machine learning, MV smart cameras can detect objects within a frame. This simple-seeming insight builds the foundation for more effective and efficient processes, like reducing wait times, journey pathing, and safe working practices. And the best part is that they will only get smarter, and more accurate, over time.
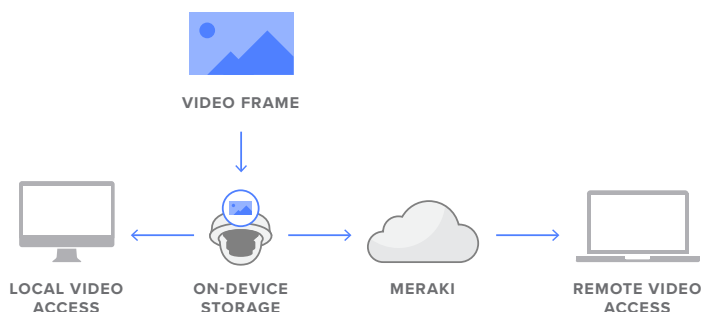
Product Highlights

- Intelligent motion indexing with search engine
- Built-in motion analytics tools like Motion Search, Motion Recap, and Motion Heatmaps
- Machine learning capability for intelligent object detection
- No special software or browser plugins required
- Cloud-augmented edge storage minimizes physical infrastructure
- Secure encrypted control architecture

- Secure boot and signed firmware backed by hardware security chip
- Granular user access controls
- Wireless functionality for install flexibility
- Meraki dashboard simplifies operation
- Suitable for deployments of all sizes: 1 camera or 10,000+

Cutting Edge Architecture With Streamlined Management

VIDEO FRAME

LOCAL VIDEO ACCESS → ON-DEVICE STORAGE → MERAKI → REMOTE VIDEO ACCESS
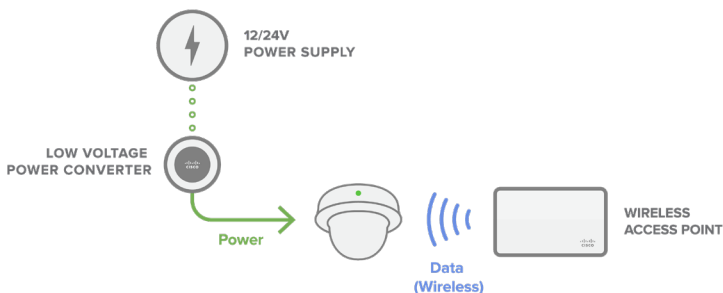
MERAKI MV ARCHITECTURE

Meraki's expertise in distributed computing brings simplicity to the security camera deployments. With cloud-augmented edge storage, MV smart cameras provide ground-breaking ease of installation, configuration and operation. Eliminating the network video recorder (NVR) reduces equipment CAPEX, and the simplified architecture minimizes lifetime OPEX costs.

Each MV smart camera comes with integrated, ultra reliable, industrial-grade storage. This cutting edge technology allows the system to efficiently scale to any size, with the storage expanding with the addition of each camera. Plus, as video is stored locally, administrators can rest easy knowing that even if the network connection cuts out, the cameras will continue to record footage.
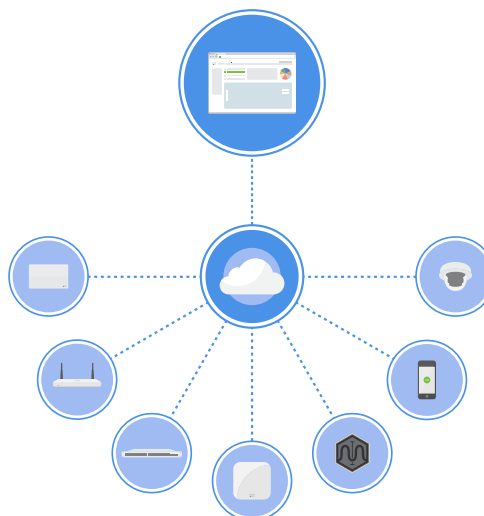
INTEGRATED WIRELESS FOR FLEXIBLE DEPLOYMENTS

As the primary storage is on the camera itself, very little bandwidth is used unless video is being watched. This unique architecture makes it possible to deploy MV smart cameras wirelessly with minimal impact to the network. All MVs have wireless functionality built in, meaning they can be deployed without having to run new cabling for connectivity. The option for wireless deployments offers organizations an easy upgrade path for analog cameras without the need for recabling, and allows greater flexibility for remote or temporary sites.

12/24V POWER SUPPLY

LOW VOLTAGE POWER CONVERTER

Power

Data (Wireless)

WIRELESS ACCESS POINT

SIMPLY CLOUD-MANAGED

Meraki's innovative web-based dashboard has revolutionized networks around the world, and brings the same benefits to networked video surveillance. Zero-touch configuration, remote troubleshooting, and the ability to manage distributed sites through a single-pane-of-glass eliminate many of the headaches administrators have dealt with for decades. The Meraki dashboard experience makes additional video management software (VMS) a thing of the past.

EASY TO ACCESS, EASY TO CONTROL

The Meraki dashboard allows for flexible viewing — whether locally or remotely via automatic cloud proxy. This means that users can access video on a variety of devices, without installing software or plugins, or worrying about complicated VPN set up.

To ensure that users are only accessing video appropriate for their role, the Meraki dashboard has granular controls that allow organizations to define what a user can and cannot do. For example, a store manager would not need to change camera settings, nor access cameras at other stores they do not manage. Camera-only admin roles allow administrators to prevent security staff from changing network settings, limit views to only selected cameras, or restrict the export of video. Access logs allow network admins to audit video viewing, exports, and more.

With the Meraki cloud authentication architecture, the controls scale for any organization and support Security Assertion Markup Language (SAML) integration.
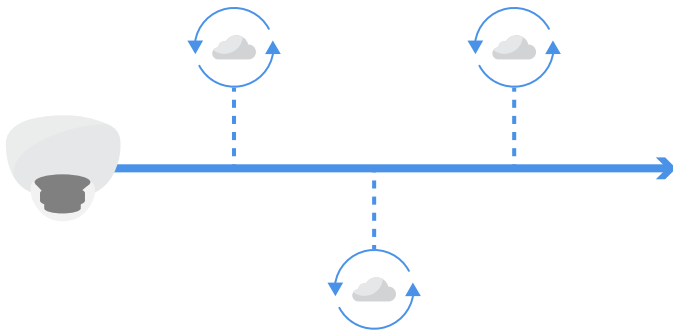
ADMIN

CONFIGURE

VIEW-ONLY

SECURE AND ALWAYS UP-TO-DATE

Centralized cloud management offers one of the most secure platforms available for camera operation. All access to the camera is encrypted with a public key infrastructure (PKI) that includes individual camera certificates. Integrated two-factor authentication provides strong access controls. Local video is also encrypted by default and adds a final layer of security that can't be turned off.

All software updates are managed automatically for the delivery of new features and to enable rapid security updates. Scheduled maintenance windows ensure the MV family continues to address users' needs with the delivery of new features as part of the all-inclusive licensed service.

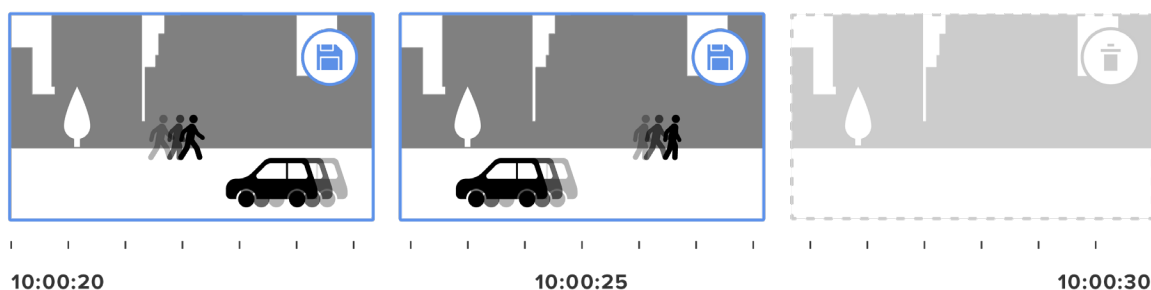# Improving Processes and Providing Business Insights

OPTIMIZED RETENTION

MV smart cameras have flexible options for video quality and retention policies to meet a variety of deployment needs. Real-time retention estimates for each camera are provided in the dashboard, showing how different bit rate and frame rate settings, and features like motion-based retention and scheduled recordings, affect video storage.

With motion-based retention, cameras always retain continuous recording of the most recent 72 hours as a safety net. After that period, the camera intelligently trims footage that contains no motion. Motion-based retention is possible because of the unique way MV handles motion - analyzing video on the camera itself, and indexing motion in the cloud. This feature can be turned on with the click of a button, and can considerably extend the on-camera storage.

Schedules allow users to define when cameras record, and when they don't. Create schedule templates for groups of cameras and store only what's needed, or turn off recording entirely to only view live footage.

Whatever combination is chosen, the dashboard provides a real-time retention estimate for each camera. This removes the guesswork and makes it easy to define recording policies that work best for every deployment. For organizations with non-negotiable regulatory requirements surrounding storage, optional licenses for 90 and 180 day cloud archive are available, too.
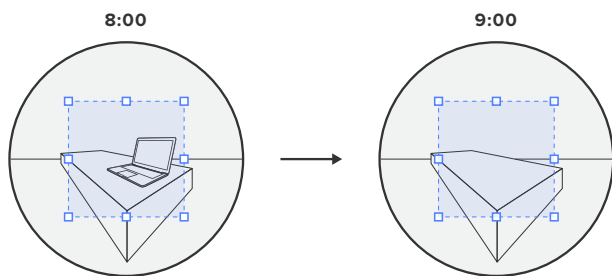

10:00:20   10:00:25   10:00:30

VIEWING VIDEO

Video is streamed from the camera to the dashboard for easy, in-browser viewing from almost any device. When the dashboard detects a local connection to the camera from the viewing device, video is streamed directly from the camera, minimizing WAN usage. When viewing video remotely, the dashboard will create a cloud proxy to securely stream video to the device. All of this is done automatically, requiring no special software, plugins, or special firewall configurations.

Features like the drag-and-drop video wall help streamline video monitoring, whether on-site or remote. Video walls can be configured with up to 16 camera feeds per view wall, and set to rotate at specific intervals to allow users to cycle through multiple views. Additionally, motion alerts can be configured to send notifications of activity, including people, keeping users aware even when video is not being watched.

ISOLATE EVENTS, INTELLIGENTLY

Meraki MV smart cameras use intelligent motion search to quickly find important segments of video amongst hours of recordings. Optimized to eliminate noise and false positives, this allows users to retrospectively zero-in on relevant events with minimal effort. Simply select elements of the scene that are of interest, and the dashboard will return the activity that occurred in that area, during the specified time. Missing laptop? Drag the mouse over the area it was last seen to quickly find out when it happened and who was responsible.

8:00   9:00

Motion Recap further minimizes the amount of video that needs to be watched by summarizing activity in a single image. The composite image is built in the camera, and displayed as Motion Search results in the dashboard. This powerful, time saving feature allows a user to understand the events of a 30 second video clip in a fraction of a second, with just a glance.
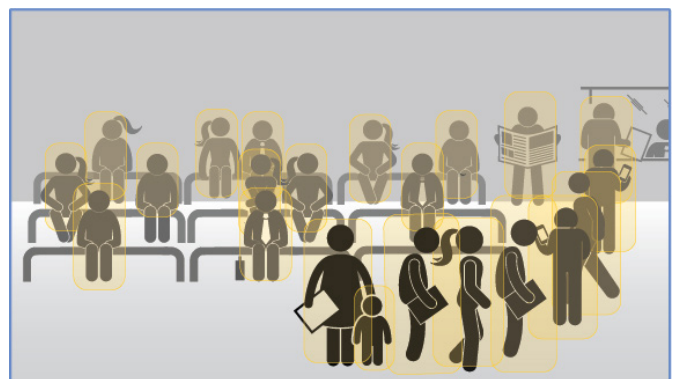

Once important footage has been identified, the dashboard makes it easy to share. Video clips can be exported from the camera, shared via a link, and downloaded into an easily viewable MP4 file. No proprietary file formats or special players are required. After video has been exported, the integrity of the file can be verified using the SHA-256 export verification feature built into the dashboard. There are also options for sharing video links, as well as a snapshot tool, useful for circulating still images.

ANALYTICS, BUILT RIGHT IN

With an industry-leading processor onboard every MV smart camera, advanced analytics using computer vision and machine learning are now easy, scalable, and cost effective to implement. MV smart cameras can detect, classify, and track objects such as people and vehicles within a frame. This provides valuable insights into office foot traffic, or customer behavior patterns, straight from the camera, viewable in the dashboard - no servers, special software, or dedicated hardware required.
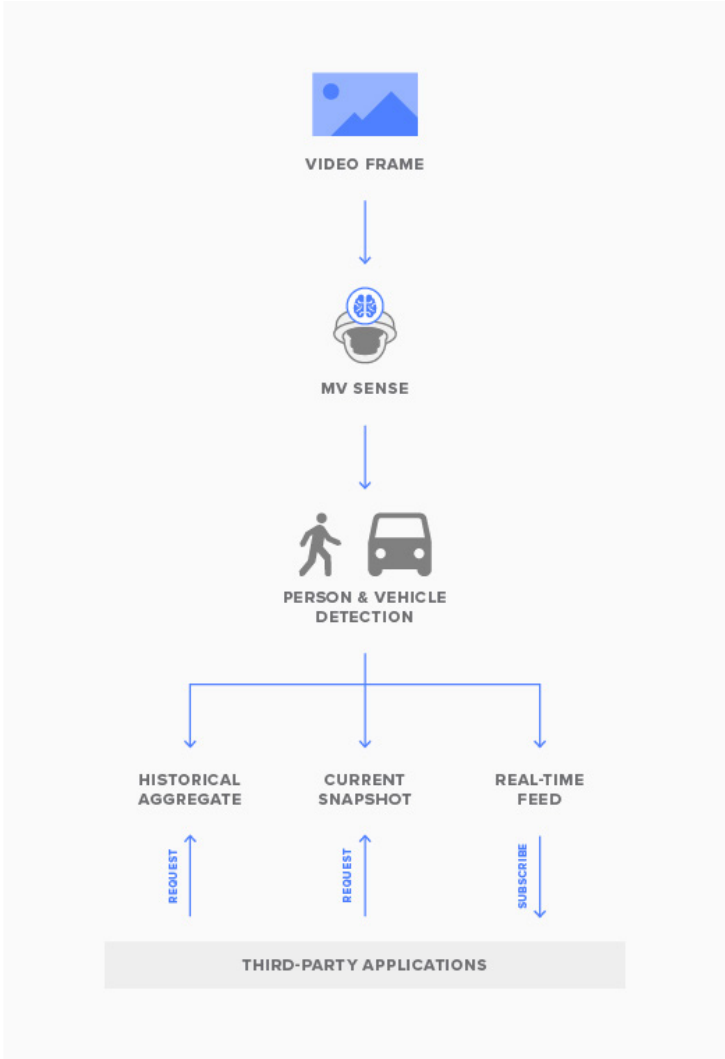
Motion heatmaps provide an overview of relative motion in a given area hour-by-hour or day-by-day. This helps paint a picture of general motion trends. These functionalities make it possible to start expecting more from cameras than just security.

PART OF SOMETHING BIGGER

Cameras are only a part of a physical security system, and the information they hold can help provide context into other system events. MV smart cameras have APIs that make it easy to get eyes on what is happening, or use video analytics to provide insight into business processes.

APIs make it possible to programmatically retrieve video links or snapshots to correspond with badge access events, or PoS transaction. MV Sense enables further use of the MV machine-learning based computer vision outputs through both REST and MQTT API endpoints. Organizations can request or subscribe to historical, current, or real-time data generated in camera to create custom business solutions. This provides organizations and developers with processed, high-value data and insights without needing any additional hardware, software, or infrastructure.

MT10 Datasheet - Temperature and Humidity

MT10 Sensors

Meraki MT cloud-managed sensors provide more complete visibility into physical environments

Overview

Businesses need a complete view of data to make sound decisions. Businesses need to have visibility into their network availability metrics, capex & opex, and customer satisfaction levels to deliver on their mission. While businesses have a good grip on embracing and utilizing data in the business world, they are yet to fully visualize the physical world.

Current solutions are complicated to install, do not scale and are difficult to use. Hence businesses do not have a simple and reliable way to have visibility into their critical assets to maximize their network uptimes, reduce equipment failure, reduce unnecessary site visits, and deliver best-in-class customer service.

So, Meraki is introducing a range of sensors to prevent loss and increase operational efficiency with ease. Our sensors are simple, scalable and secure. Our sensors also connect to the dashboard using the MV/MR which removes the need for expensive gateways. Customers can now gain real-time visibility into their critical business environment form a single pane of glass.

CLOUD MANAGED SENSORS

The Cisco Meraki MT10 sensors provide temperature and humidity monitoring for network closets across industries using BLE (Bluetooth Low Energy) beacons on the MR and MV.

The sensor includes can monitor temperature -0°C - 55°C / 32F - 131F (limited by operating temperature) ranges and humidity in the 0 - 95 % RH.

Our sensors are built from the ground up to be easy to manage without compromising on power and flexibility.

All Meraki sensors are managed through an elegant, intuitive cloud-based interface.

Meraki's centralized management gives administrators granular visibility into their network.

INDUSTRY LEADING CLOUD MANAGEMENT

Cloud management has a number of benefits that make it easier to build networks large and small.

Automatic alerts based on customizable thresholds through SMS, Email and Mobile push notifications.

Enterprise-grade security which the Cisco Trustworthy Systems seal of approval.

Role-based administration.

Firmware upgrades and enhancements from the Meraki cloud.

Zero-touch provisioning for rapid deployment across sites.

Product Highlights

- Single pane of glass for sensor monitoring combined with your existing Meraki dashboard
- Always-on, real-time visibility (24/7/365 visibility)
- Flexible alerts via email, SMS, mobile push notifications and Webhooks

- Simple to set up reporting and configuration
- Data mining APIs for custom development and integrations.
- Multiple installation options
- Provision multiple sensors in minutes

Technical Specifications

Sensors

Temperature	Range: 0°C - 55°C / 32F - 131F
	Accuracy: +/- 0.3°C
Humidity	Range: 0 - 95 % RH
	Accuracy: +/- 2.5% RH

Wireless Capabilities

Bluetooth 4.2 Low Energy BLE	Automatically detects and connects to the MV/MR gateway
Operating Frequency	2.400–2.4835 GHz
IEEE Standard	802.15.1 (BLE 4.2)

Data Logging

Data polling frequency	Sample Polling: 2 minutes
	Data reporting to gateway: 20 minute interval, or immediately upon threshold violation
Onboard data storage	4000 data points (5 days of data at the default sampling rate)
Security	Secure BLE messaging using LTK(Long-Term Key)

Physical Characteristics

Dimensions	117.1(L)X65.9(W)x 26.0(H)mm
Battery Compartment	2xAA Battery with up to 5 year battery life
Operating Environment	**Temperature:** 0°C - 55°C(32F - 131F) **Relative Humidity**: 0 - 95% RH
Hardware	Multicolor, multifunction status LED General purpose button Reset button

USB-C Port

Ordering Information

MT10-HW	Meraki Temperature and Humidity Sensor
LIC-MT-XY	Meraki Things Enterprise License (X = 1, 3, 5, 7, 10 years)
Accessories	External Power Adapter(Sold Separately): MA-PWR-USB-US MA-PWR-USB-UK MA-PWR-USB-EU MA-PWR-USB-AU

In the Box

Unit	MT10-HW
Guides	QIGs
Battery	2 AA Batteries
Mounting equipment	Backplate, Mounting Magnet, 3M tape, 2 mounting screws, 2 drywall anchors

MT12 Datasheet - Water Detection

MT12 Sensors

Cloud-Managed Sensors that help you have complete visibility across your business environment

Overview

Businesses need a complete view of data to make sound decisions. Businesses need to have visibility into their network availability metrics, capex & opex, and customer satisfaction levels to deliver on their mission. While businesses have a good grip on embracing and utilizing data in the business world, they are yet to fully visualize the physical world.

Current solutions are complicated to install, do not scale and are difficult to use. Hence businesses do not have a simple and reliable way to have visibility into their critical assets to maximize their network uptimes, reduce equipment failure, reduce unnecessary site visits, and deliver best-in-class customer service.

So, Meraki is introducing a range of sensors to prevent loss and increase operational efficiency with ease. Our sensors are simple, scalable and secure. Our sensors also connect to the dashboard using the MV/MR which removes the need for expensive gateways. Customers can now gain real-time visibility into their critical business environment form a single pane of glass.

CLOUD MANAGED SENSORS

The Cisco Meraki MT12 sensors provide water presence monitoring for network closets across industries using BLE (Bluetooth Low Energy) beacons on the MR and MV.

The sensor can detect the presence of at least 3 mL of water

Our sensors are built from the ground up to be easy to manage without compromising on power and flexibility

All Meraki sensors are managed through an elegant, intuitive cloud-based interface

Meraki's centralized management gives administrators granular visibility into their network

INDUSTRY LEADING CLOUD MANAGEMENT

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Automatic alerts based on customizable thresholds through SMS, Email and Mobile push notifications

Enterprise-grade security which the Cisco Trustworthy Systems seal of approval

Role-based administration

Firmware upgrades and enhancements from the Meraki cloud

Zero-touch provisioning for rapid deployment across sites

Product Highlights

- Single pane of glass for all your networking needs (Camera, IoT, etc)
- Always-on real-time visibility (24/7/365 visibility)
- Flexible alert management

- Peel & Stick installation
- Provision multiple sensors in minutes
- Simple to set up reporting and configuration

Technical Specifications

Sensors

Water Leak	Detect the presence of at least 3 mL of water making contact with the cable

Wireless Capabilities

Bluetooth 4.2 Low Energy BLE	Automatically detects and connects to the MV/MR* gateway
Operating Frequency	2.400–2.4835 GHz
IEEE Standard	802.15.1 (BLE 4.2)

Data Logging

Data polling frequency	Event Driven Wake up every 20 minutes to report
Onboard data storage	4000 data points
Security	Secure BLE messaging using LTK(Long-Term Key)

Physical Characteristics

Dimensions	117.1(L)X65.9(W)x 26.0(H)mm
Protection	IPX5 Rated
Battery Compartment	2xAA Battery with upto 5 year battery life
Operating Environmen	**Temperature: 0**°C - 55°C (32F - 131F) **Relative Humidity**: 0 - 95% RH
Hardware	Multicolor, multifunction status LED General purpose button Reset button USB-C port Water Leak Detection Plug(Female)
Warranty	3 Years

Ordering Information

Meraki MT Water Leak Sensor	MT12-HW
LIC-MT-XY	Meraki Things Enterprise License (X = 1, 3, 5, 7, 10 years)
Accessories	External Power Adapter(Sold Separately): MA-PWR-USB-US MA-PWR-USB-UK MA-PWR-USB-EU MA-PWR-USB-AU

In the Box

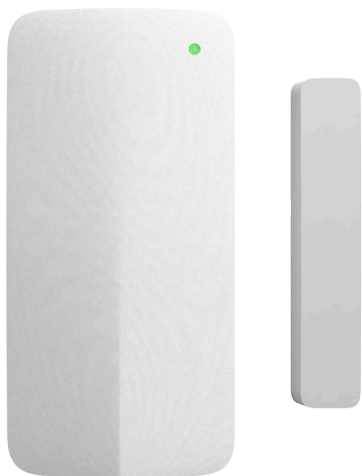|	
Unit	MT12-HW
Guides	QIGs
Battery	2 AA Batteries
Probe	1xMA-CBL-LEAK-1 (8ft/2.4m)
Mounting equipment	Backplate, Mounting magnet, 3M tape, 2 Mounting Screws, 2 drywall anchors, 1 security screw, 8 cable clips

MT20 Datasheet - Open/Close Detection

MT20 Sensors

Cloud-Managed Sensors that help you have complete visibility across your business environment.

Overview

Businesses need a complete view of data to make sound decisions. Businesses need to have visibility into their network availability metrics, capex & opex, and customer satisfaction levels to deliver on their mission. While businesses have a good grip on embracing and utilizing data in the business world, they are yet to fully visualize the physical world.

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CLOUD MANAGED SENSORS

The Cisco Meraki MT20 sensor provides the capability to detect if a door is open or closed for network closets across industries using BLE (Bluetooth Low Energy) beacons on the MR and MV.

The sensor uses a Hall Effect sensor to detect the magnetic field and determine if a Door is open or closed.

Our sensors are built from the ground up to be easy to manage without compromising on power and flexibility

All Meraki sensors are managed through an elegant, intuitive cloud-based interface

Meraki's centralized management gives administrators granular visibility into their network

INDUSTRY LEADING CLOUD MANAGEMENT

Cloud management has a number of benefits that make it easier to build networks large and small:

Automatic alerts based on customizable thresholds through SMS, Email and Mobile push notifications

Enterprise-grade security which the Cisco Trustworthy Systems seal of approval

Role-based administration

Firmware upgrades and enhancements from the Meraki cloud

Zero-touch provisioning for rapid deployment across sites

Product Highlights

- Single pane of glass for all your networking needs (Camera, IoT, etc)
- Always-on real-time visibility (24/7/365 visibility)
- Flexible alert management

- Peel & Stick installation
- Provision multiple sensors in minutes
- Simple to set up reporting and configuration

Technical Specifications

Sensors

Intrusion Detection

Detects magnetic field via a Hall Effect Sensor

Wireless Capabilities

Bluetooth 4.2 Low Energy BLE

Automatically detects and connects to the MV/MR* gateway

| Operating Frequency | 2.400–2.4835 GHz |
| IEEE Standard | 802.15.1 (BLE 4.2) |

Data Logging

Data polling frequency	Event Driven
	Wake up every 20 minutes to report
Onboard data storage	4000 data points(~5 days of data in case of connectivity loss)
Security	Secure BLE messaging using LTK(Long-Term Key)

Physical Characteristics

Dimensions	Main Device: 81.2(L)X39.7(W)X19.5(H)mm; Magnet Cover: 59.5(L)X12(W)X13.35(H) mm
Battery Compartment	1x AA Battery with up to 5 year battery life
Operating Environmen	**Temperature:** 0°C - 55°C(32F - 131F) **Relative Humidity**: 0 - 95% RH
Hardware	Multicolor, multifunction status LED
	General purpose button
	Reset button
	USB-C port
Warranty	3 Years

Ordering Information

| Meraki MT Water Leak Sensor | MT20-HW and Magnet w/Cover |
| LIC-MT-XYR | Meraki Things Enterprise License (X = 1, 3, 5, 7, 10 years) |

In the Box

Unit	MT20-HW
Guides	QIGs
Battery	1 AA Batteries

| Mounting equipment | 3M tape (for main device), 3M tape (for magnet cover), 4 mounting screws (2 for main device, 2 for magnet cover), 4 drywall achors (2 for main device, 2 for magnet cover), torx allen wrench |