**Enterprise-class Universal Network Management Controller**

# NMS-500

Quick Installation Guide

# Table of Contents

# 1. Package Contents

Thank you for purchasing PLANET Universal Network Management Controller.

The description of the model is shown below:

**NMS-500** Enterprise-class Universal Network Management Controller

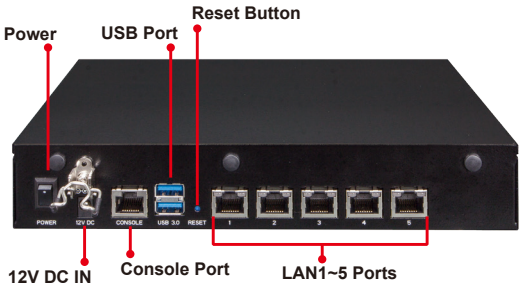
**"NMS-500 Controller"** is used as an alternative name in this Quick Installation Guide.

**Package Contents:**

- The NMS-500 Controller x 1
- Quick Installation Guide x 1
- RS232 to RJ45 Console Cable x 1
- Adapter with Power Cord x 1
- UTP Cable x 1
- Round Gasket x 4

If any item is found missing or damaged, contact your local reseller for replacement.

# 2. Hardware Description




Reset Button: < 5 sec: System reboot; > 5 sec: Factory default

## 2.1 Hardware Interface Definition

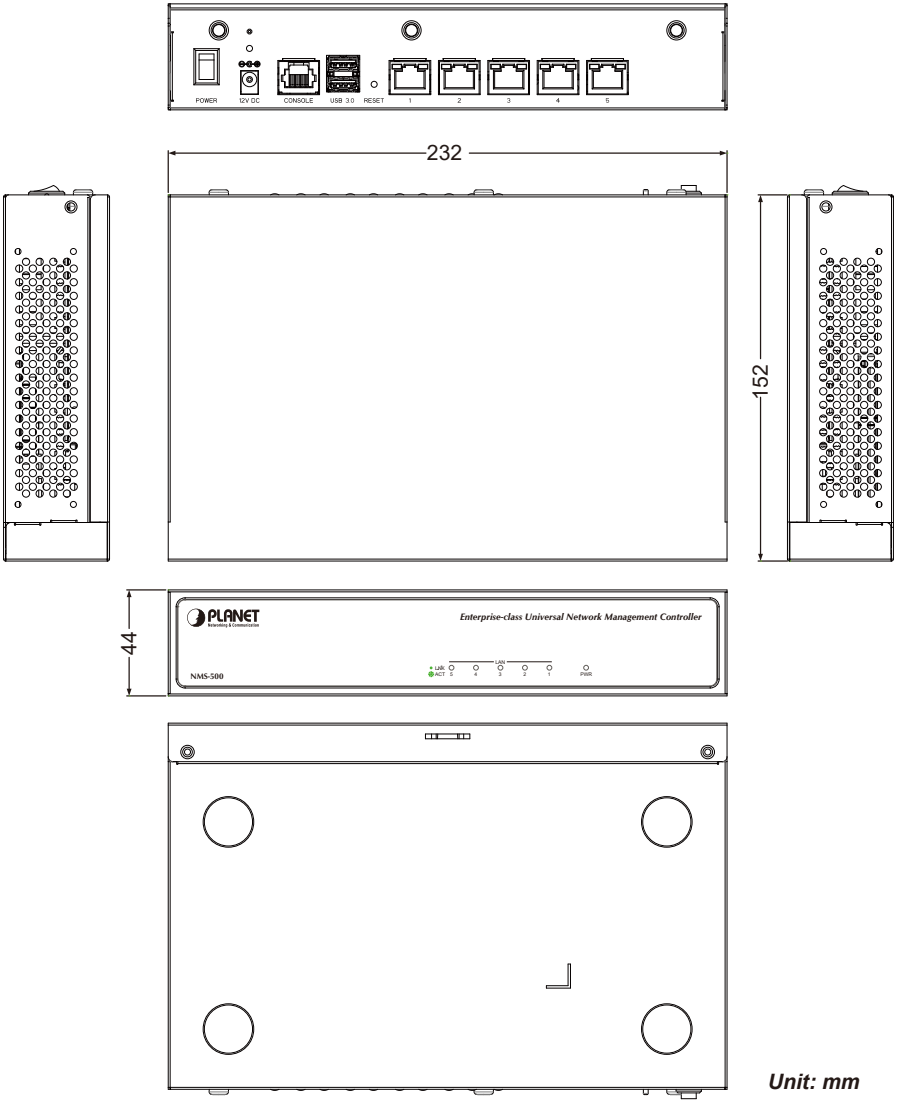
| Interface | Description |
|---|---|
| Power Switch | Press the power switch to power on the device |
| DC IN | DC jack power Input 12V 5A |
| Console Port | Connect PC through the RS232 to RJ45 serial cable (115200, 8, N, 1) to enter the management interface |
| USB Port | Connect the USB HDD to enable USB backup/restoration function |
| Reset Button | < 5 sec: System reboot<br>> 5 sec: Factory default |
| LAN Ports (1~5) | 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports |
| PWR LED | Indicates that the device is powered on (Blue) |
| LAN LED | Link: Steady Green (Green)<br>Active: Flashing Green (Green) |

### LED Color Function

| RJ45 LED | Color | Function | |
|---|---|---|---|
| 1000 LNK/ACT | Green | Lights | To indicate the port is successfully established at 1000Mbps. |
| | | Blinks | To indicate that the switch is actively sending or receiving data over that port. |
| 100 LNK/ACT | Orange | Lights | To indicate the port is successfully established at 100Mbps. |
| | | Blinks | To indicate that the switch is actively sending or receiving data over that port. |

## 2.2 Physical Specifications

| | |
|---|---|
| Dimensions (W x D x H) | 232 x 153 x 44 mm |
| Weight | 1.15 kg |




***Unit: mm***

## 2.3 Product Features

- **Dashboard:** Providing the at-a-glance view of system and wireless network status.
- **Node Discovery:** To detect PLANET managed devices available and allow AP grouping to accelerate AP management.
- **Topology Viewer:** A topology of network devices compliant with SNMP, ONVIF, Smart Discovery and LLTD Protocol.
- **Event Reports:** The status of a network can be reported via network alarm, system log.
- **SMPT Alarm:** To send an email alert to the administrator via the SMTP server.
- **Batch Provisioning**: Enabling multiple APs to be configured and upgraded at one time by using the designated profile.
- **Coverage Heat Map:** Real-time signal coverage of APs on the user-defined floor map to optimize Wi-Fi field deployment.
- **Customized Profile:** Allowing the creation and maintenance of multiple wireless profiles.
- **Auto Provisioning:** Multi-AP provisioning with one click.
- **Cluster Management:** Simplifying high-density AP management.
- **Zone Plan:** Optimizing AP deployment with actual signal coverage.
- **Authentication:** Built-in RADIUS server seamlessly integrated into the enterprise network.
- **User Control:** Allowing on-demand account creation and user-defined access policy.
- **Scalability**: Free system upgrade and AP firmware bulk upgrade capability.

## 2.4 Specifications

| | |
|---|---|
| Product | NMS-500 |
| | Enterprise-class Universal Network Management Controller |
| Platform | |
| Form Factor | Desktop |
| Physical Specifications | |
| I/O Interface | Five10/100/1000BASE-T RJ45 ports with auto-MDI/MDI-X |
| | 2 USB 3.0 ports (They cannot be used at the same time.) |
| | 1 RS232-to-RJ45 console port (115200, 8, N, 1) |
| | 1 DC jack power Input |
| | 1 power switch |
| | 1 reset button |
| Storage | 8GB EMMC5.1, 15nm/2 eMLC |
| Dimensions (W x D x H) | 232 x 153 x 44 mm |
| Weight | 1.15 kg |
| Enclosure | Metal |
| Power Requirement | 60W adapter 12V 5A with DC jack |
| | AC 100~240V, 3~1.5A, 60~50Hz. |
| Environment & Certification | |
| Temperature | Operating: 0 ~ 40 degrees C<br>Storage: -20 ~ 75 degrees C |
| Humidity | Operating: 10 ~ 85% (non-condensing)<br>Storage: 10 ~ 85% @ 40 degrees C (non-condensing) |
| MTBF (Hours) | 120,000 @ 25 degrees C |
| Devices Management | |
| Number of Managed Devices*1 | 512 |
| Number of RADIUS Client Devices*2 | 512 |
| Number of RADIUS User Accounts*3 | 10,000 |

| Network Management Feature | | |
|---|---|---|
| Auto Discovery | | Supports PLANET devices auto discovery |
| Dashboard | | Summarized system overview includes online device numbers, activated client number |
| Device List | | Allows creation and maintenance of device profiles |
| Topology View | | Provides visual topology view of connected PLANET devices |
| Status Monitoring | | Real-time online/offline of devices |
| Event and Syslog Report | | Real-time system event and syslog server supported |
| SMTP Alarm | | E-mail alert to the administrator via the SMTP server |
| SSID/RF Profile | | Allows creation and maintenance of multiple wireless profiles |
| Cluster Management | | Allows AP grouping for bulk provisioning and batch upgrading |
| Bulk AP Provisioning | | Supports bulk AP provisioning with user-defined profiles |
| Bulk AP Firmware Upgrade | | Supports bulk AP firmware upgrade |
| Coverage Heat Map | | Enables real signal coverage of managed AP reflecting on the uploaded zone maps |
| Graphical Statistics | | Real-time and historical visibility of wireless traffic flow |
| Backup/Restoration | | Provides system and profile backup/restoration |
| SSIDs-to-VLANs Mapping | | Allows to configure SSIDs-to-VLANs mapping in supported APs |
| RADIUS Authentication | | RADIUS server is integrated for client authentication in a large-scale enterprise network |
| User Account Management | | Supports on-demand account creation per user-defined access policypolicy |
| Network Services | | |
| Network | DDNS | Supports PLANET DDNS/Easy DDNS |
| | DHCP | Built-in DHCP server for auto IP assignment to APs |
| | Management | Console; Telnet; SSL; Web browser (Chrome is recommended); SNMP v1, v2c, v3 |
| | Discovery | Supports SNMP, ONVIF, PLANET Smart Discovery |

| | | |
|---|---|---|
| Maintenance | Backup | System backup and restore to local or USB HDD |
| | Reboot | Provides system reboot manually or automatically per power schedule |
| | Diagnostic | Provides IPv4/IPv6 ping and trace route |
| Standards Conformance | | |
| Regulatory Compliance | | CE, FCC |
| Standards Compliance | | IEEE 802.3 10BASE-T<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3ab Gigabit 1000BASE-T<br>IEEE 802.3x Flow control and back pressure<br>IEEE 802.3z Flow control with Rx thresholds and Tx pause frames |

**Remark:** *1 Please refer to user's manual under Appendix to get last support model and firmware list on the web site.

*2 *3 For RADIUS client devices and user account settings, please refer to user's manual under System Menu -- Network Services.

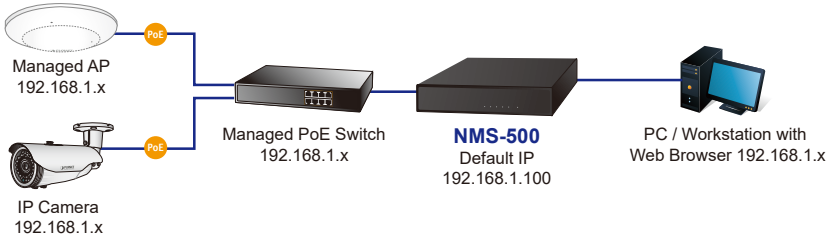
# 3. Deployed Devices Monitored via NMS-500 Controller

The NMS-500 incorporated in a workstation or PC can monitor all the deployed wired or wireless PoE industrial–grade network devices, such as managed switches, media converters, routers, smart APs, VoIP phones, IP cameras, etc. compliant with the **MQTT Protocol, SNMP Protocol, ONVIF Protocol and PLANET Smart Discovery utility.**

| Note | Please regularly check PLANET website for the latest compatibility list of managed devices. |
|---|---|

Follow the steps below to set up the device from the **"Standalone device"** mode to the **"Managed device"** mode.

**Step 1.** Connect the devices, NMS-500 Controller and your computer, to the same network.

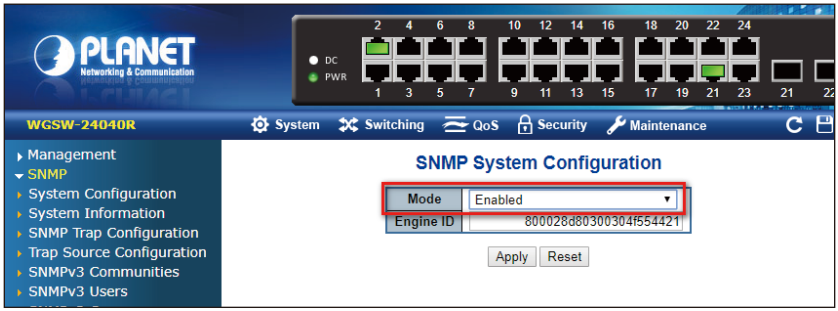


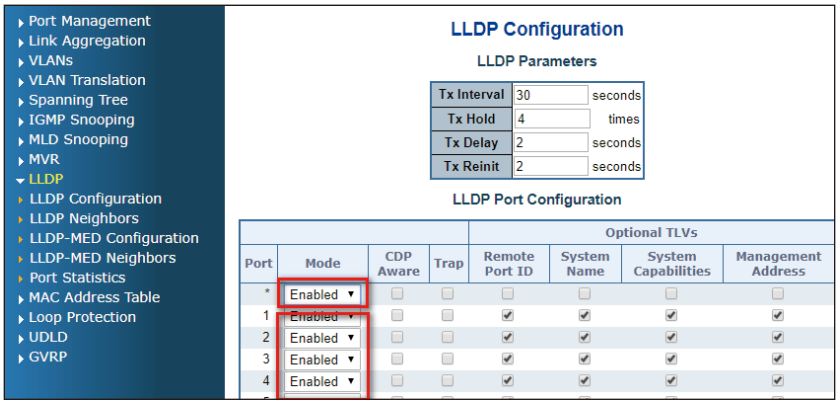

**Step 2.** **Switch/Router:** Log in to the Switch's Web User Interface and **enable** the **SNMP, LLDP and NMS controller** functions.

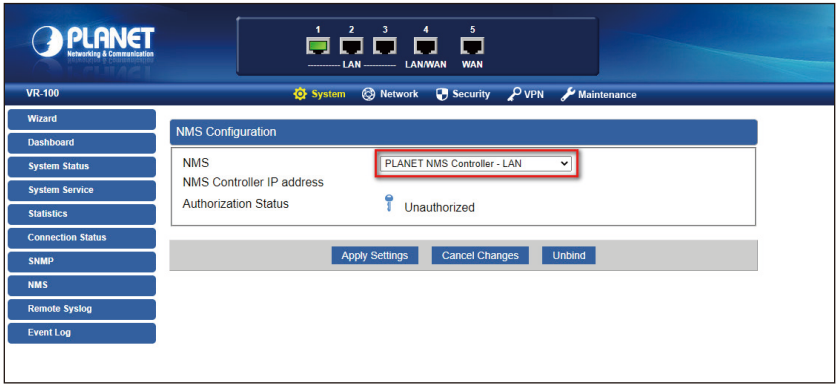
**AP:** Log in to the AP's Web User Interface to configure the AP to **"Managed AP"**. In support of SNMP AP, enable the **SNMP** function.

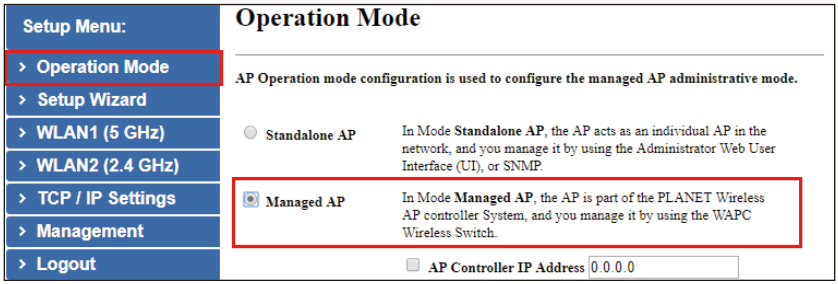
**IP Cam:** The **ONVIF** function is enabled by default. NMS controller can discover PLANET IP camera directly.

## Switch/Router



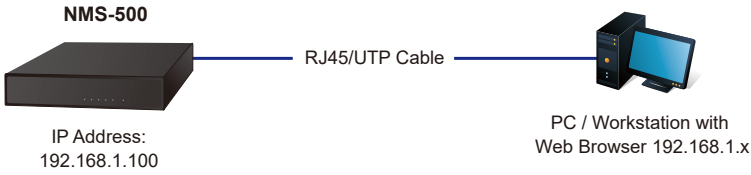

Port Management
Link Aggregation
VLANs
VLAN Translation
Spanning Tree
IGMP Snooping
MLD Snooping
MVR
LLDP
LLDP Configuration
LLDP Neighbors
LLDP-MED Configuration
LLDP-MED Neighbors
Port Statistics
MAC Address Table
Loop Protection
UDLD
GVRP
LLDP Configuration
LLDP Parameters
Tx Interval 30 seconds
Tx Hold 4 times
Tx Delay 2 seconds
Tx Reinit 2 seconds
LLDP Port Configuration
Optional TLVs
Port
Mode
CDP Aware
Trap
Remote Port ID
System Name
System Capabilities
Management Address
Enabled


PLANET
Networking & Communication
LAN
LAN/WAN
WAN
VR-100
System
Network
Security
VPN
Maintenance
Wizard
Dashboard
System Status
System Service
Statistics
Connection Status
SNMP
NMS
Remote Syslog
Event Log
NMS Configuration
NMS
PLANET NMS Controller - LAN
NMS Controller IP address
Authorization Status
Unauthorized
Apply Settings
Cancel Changes
Unbind

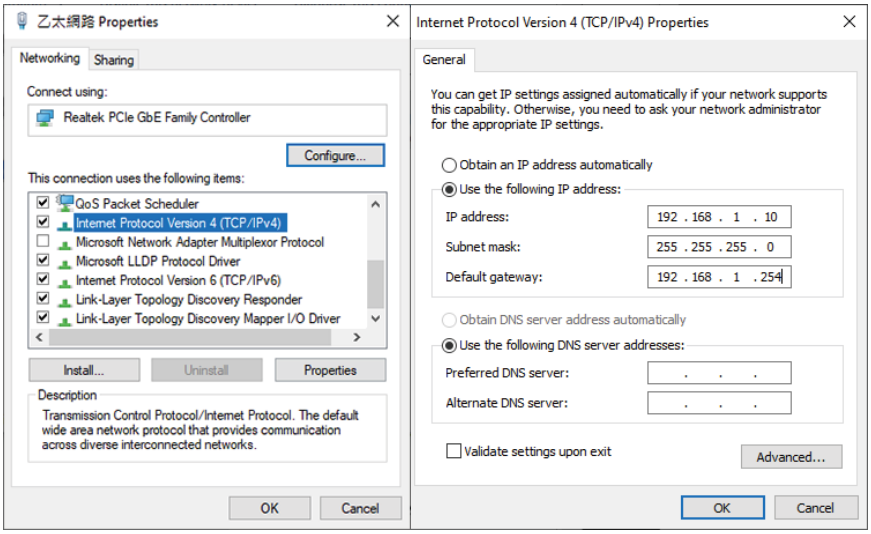

Setup Menu:
Operation Mode
Setup Wizard
WLAN1 (5 GHz)
WLAN2 (2.4 GHz)
TCP / IP Settings
Management
Logout
Operation Mode
AP Operation mode configuration is used to configure the managed AP administrative mode.
Standalone AP
In Mode Standalone AP, the AP acts as an individual AP in the network, and you manage it by using the Administrator Web User Interface (UI), or SNMP.
Managed AP
In Mode Managed AP, the AP is part of the PLANET Wireless AP controller System, and you manage it by using the WAPC Wireless Switch.
AP Controller IP Address 0.0.0.0

# 4. Wired Network Configuration

A computer with wired Ethernet connection is required for the first-time configuration of the **NMS-500 Controller**.




1. Go to **"Control Panel-> Network and Sharing Center-> Change Adapter Settings"**.
2. Double-click "Local Area Connection".
3. Select **"Internet Protocol version 4 (TCP/IPv4)"** and click **"Properties"**.
4. Select **"Use the following IP address"** and then click the **"OK"** button twice to save the configuration. For example, the default IP address of the NMS-500 Controller is **192.168.1.100**, then the manager PC should be set to **192.168.1.x** (where x is a number between 1 and 254, except 100), and the default subnet mask is 255.255.255.0.



# 5. Entering into the Web Management

Default IP Address: **192.168.1.100**
Default Management Port: **8888**
Default Username: **admin**
Default Password: **admin**

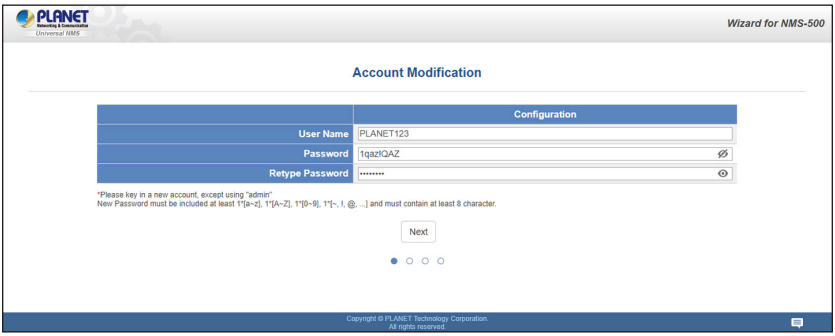
Launch the Web browser (Google Chrome with seamless mode is recommended.) and enter the default IP address **"https://192.168.1.100:8888"**. Then, enter the default username and password shown above to log on to the system.

**The secure login with SSL (HTTPS) prefix is required.**

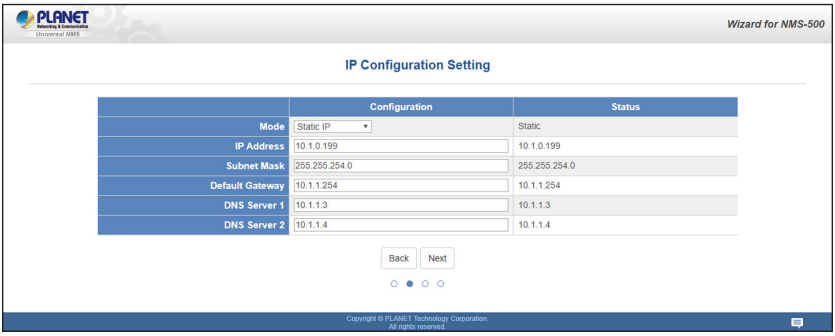

After logging on, connect the NMS-500 Controller to the managed network to centrally control PLANET managed devices.

# 6. Setup Wizard

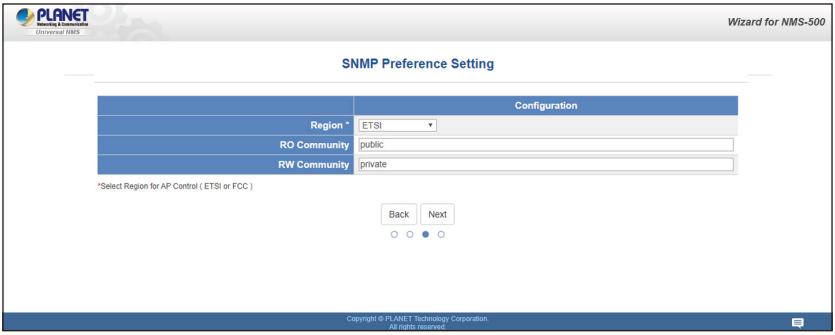
**1. Account Modification:** Set a new account and password for security.



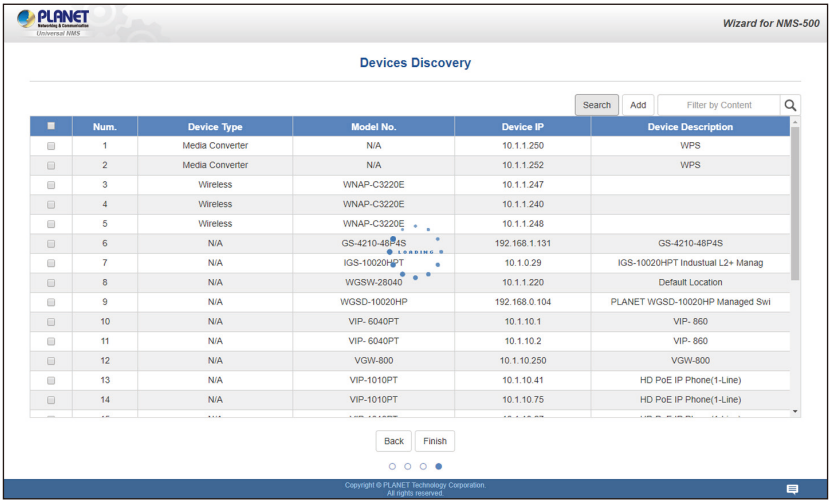

**2. IP Configuration Setting:** Set the NMS-500V's IP into the same local network segment.




**3. SNMP Preference Setting:** Select region for AP Control (ETSI or FCC) and set up RO/RW community password.



4. **Devices Discovery:** Search the managed devices and add to list. (Finish Wizard)



## *Further Information*

The above steps introduce the simple installations and configurations of the NMS-500 Controller. For further configurations of PLANET UNI-NMS, please refer to the user manual, which can be downloaded from the website.

PLANET online FAQs:
http://www.planet.com.tw/en/support/faq

Support team mail address:
support@planet.com.tw

User's Manual:
https://www.planet.com.tw/en/product/nms-500

(Please select your model name from the Product Model drop-down menu)

If you have further questions, please contact the local dealer or distributor where you purchased this product.