



Quick Installation Guide

RANGER SERIES

300Mbps CEILING MOUNT ACCESS POINT

DG-WM2005SI



UPTO 300 Mbps

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Package Contents

The following items should be present in your package:

- DG-WM2005SI Ceiling Mount Access Point
- DC 12V Power Adapter
- Patch Cord
- Installation Guide CD
- Mounting Screw Kit (2 Nylon washers, 2 Screws)

Make sure that the package contains above items. If any of the listed items is damaged or missing, please contact your retailer immediately.

Product Overview

Congratulations on your purchase of this outstanding product DG-WM2005SI WiFi 2.4G N 300 Ceiling Mount Access Point designed for small- and medium-sized businesses to extend the existing wired networks and has the ability to operate in different modes and can be used in a wide variety of wireless applications like AP, Point-to-Point and Universal Repeater Mode not only has an easier setup method, but also provides better performance and compatibility to create a virtually larger wireless network infrastructure by linking up other access points.

Support Multiple-SSID capability to use one Physical AP to simultaneously emulate 8 APs with different ESSIDs by separate packets via VLAN technology.

System requirements

The following system requirements are recommended:

- An Ethernet based cable or DSL modem
- Windows, Macintosh or Linux based operating system
- CD-ROM drive
- IE 6.0 or higher, Chrome 2.0, Firefox 3.0, Safari 3.0

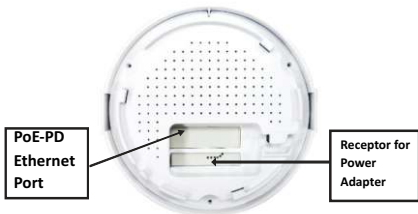
Product View

Below shown is the product view indicating the LED status.



LED	Description
Status	<p>When the device is booted up and ready: When WEC/Reset is triggered (with button pressed): Status LED flashes at different rate depending on how long the button is pressed Stage 1 (1 ~ 5 sec) : Flashes very fast Stage 2 (6 ~ 10 sec) : Flashes twice per second Stage 3 (11~15 sec) : Flashes once per second Stage 4 (16~30 sec) : Solid Green OFF: The device is powered off.</p>
WiFi	<p>Green LED : Device is in Master Mode Amber LED: Device is in Slave Mode LED flash: Data packet transferred. LED in fast flash per second during 2min: WPS PBC status OFF: Wireless Radio is disabled. LED in slow flash or Flash Green and Amber Alternately : Wireless Connection doesn't establish. LED in Solid: Wireless Connection established successfully.</p>
LAN	<p>OFF: No Ethernet connection. Solid Green: Ethernet connection is linked up. Flash Green: Data packet is transferred over the Ethernet link.</p>

Rear View



Hardware Installation

Warning




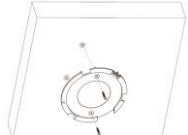

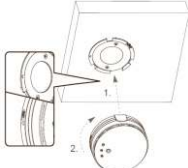

Attention

- Do not use the product in high humidity or high temperatures.
- Do not use the same power source for the Product as other equipment. Only use the power adapter that comes with the package. Using a different voltage rating power adaptor may damage the device.
- Do not open or repair the case yourself. If the Product is too hot, turn off the power immediately and have it repaired at a qualified service center.
- Place the Product on a stable surface and avoid using this product and all accessories outdoors.

Mounting on the Ceiling/Wall

This device is designed for easily mounted on the ceiling or wall with a simple mount bracket. Before mounting it to the expected location, please make proper configuration for the device setting and run the PoE Ethernet cable to the location in advance.

The following illustrations show you how to mount this device on the ceiling / wall.

	Description	Illustration
A	<p>Drill 2 holes for wall plugs. Self-tapping screws (Diameter : 3mm)</p> <p>If you run the cable above the ceiling (invisible cabling), you have to drill another big hole (about 10-20 mm diameter) to pull out the cable for connecting to the device.</p>	
B	<p>Screw the mounting bracket on the ceiling / wall.</p>	
C	<p>Plug-in the cable (Ethernet cable, Power cord) to the connectors in the button side.</p> <p>Run the cables upward to proper location.</p>	
D	<p>Attached this device to mounting bracket by rotating it clock wisely to click into place.</p>	
E	<p>Installation completed.</p>	

Button Definition

There is one multi-function push button "WEC/Reset" in this device. According to different button pressed duration, the device will take specific reaction. For ease of interacting with the device, you can also check the Status LED to determine when to release the button.

The Reset/WEC button's behavior is defined below:

Function	Button	Description
Easy Configuration (Master to Slave)	WEC/Reset (Press 3 sec)	<p>There are two alternative AP modes defined for the device to operate with WEC (Wireless Easy Connection) feature. One is Master Mode (by default), and the other is Slave Mode.</p> <p>Please manually configure the Wireless Setting for the Master AP through web UI first, and also prepare a Slave AP that already been set to Slave Mode.</p> <ol style="list-style-type: none">1. Press the WEC/Reset button of the Master AP for 1~3 seconds, release it to trigger the WEC process. Then, the WiFi LED flashes fast.2. Press the WEC/Reset button of the Slave AP for 1~3 seconds, release it to trigger the WEC process. Then, the WiFi LED flashes fast. Note: The Slave AP must be an un-configured one, if it has already been paired and configured before, please reset its Slave configuration first.3. After a few seconds (normally about 30~60 seconds). The Master and Slave APs can be paired automatically, and auto-duplicates the VAP1 wireless setting of the Master AP as that of the Slave AP. (If there is something wrong during pairing the two devices, the process will be finished in 2 minutes.)4. Once the easy configuration process completed, the Status LED will be recovered to its original behavior (prior to you triggered it). And the WiFi LED will be Solid Green when Slave AP is connected to the network.
Easy Configuration (Slave to Slave)	WEC/Reset (Press 3 sec)	<p>Besides the above "Master to Slave" configuration, the easy configuration process also supports "Slave to Slave" configuration.</p> <ol style="list-style-type: none">1. Press the WEC/Reset button of the first Slave AP (say Slave1 that has been paired and configured) for 1~3 seconds, release it to trigger the WEC process. Then, the WiFi LED flashes fast.2. Press the WEC/Reset button of the second Slave AP (say Slave2 that is an un-configured Slave AP) for 1~3 seconds, release it to trigger the WEC process. Then, the WiFi LED flashes fast.3. After a few seconds (normally about 30~60 seconds). The Slave1 and Slave2 APs can be paired automatically, and auto-duplicates the wireless setting of the Slave1 as that of the Slave2. (If there is something wrong during pairing the two devices, the process will be finished in 2

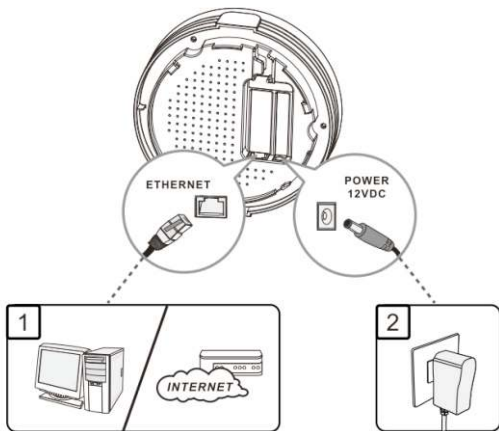
AP Mode Toggling	WEC/Reset (Press 8 sec)	<p>There are two alternative AP modes defined for the device to operate with WEC (Wireless Easy Connection) feature. One is Master Mode (by default), and the other is Slave Mode.</p> <p>To change the AP mode from one to the other, you have to:</p> <ol style="list-style-type: none"> 1. Press the WEC/Reset button for 6~10 seconds, and then release it. 2. The WiFi LED becomes OFF in 3 ~ 5 seconds, 3. After about 20 ~ 25 seconds, the WiFi LED will be lit ON again to indicate that the AP Mode is changed. <p>It takes about 36 seconds to change (toggle) the AP Mode completely.</p> <p>WiFi Green LED : Device is in Master Mode WiFi Amber LED: Device is in Slave Mode</p>
Reset Slave AP Configuration	WEC/Reset (Press 13 sec)	<ol style="list-style-type: none"> 1. Press the WEC/Reset button for about 11~15 seconds and release it. 2. The Slave AP will be marked as an un-configured device, so that it can be paired with another Master or configured Slave AP later. <p>For Master AP, there is no effect on this button behavior.</p>
Reset to Default	WEC/Reset (Press 25 sec)	<ol style="list-style-type: none"> 1. Press the Reset/WEC button for about 25 seconds till the Status LED becomes solid Green to indicate that the reset to default function is triggered. Release the button. 2. Then, the device will reboot automatically and apply the factory default settings as well. <p>It takes about 2 minutes to finish the reset to factory default operation.</p>

Getting Started

Before you can install this product to designated location and make it operate properly, you have to configure the device setting to fit in your network environment.

Hardware Preparation:

- a. Connect an Ethernet cable between this device and the computer that you will operate to set up the device.
- b. Power on the device via connecting the power adaptor DC Plug to the DC Jack of this device and plug in the power adaptor to an electrical outlet.

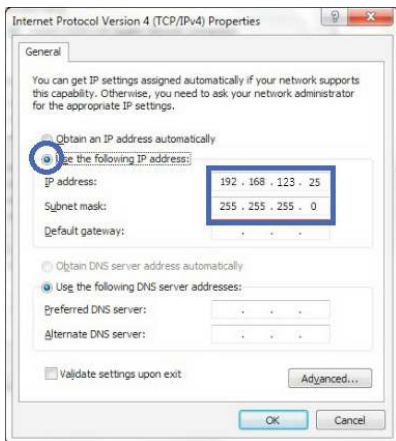


Software Preparation

Most computers are connecting to a local network with dynamic IP (DHCP) setting. To access the web UI of the device, you have to change your computer's TCP/IPv4 settings into a static IP setting for the Ethernet Interface. You can refer to Appendix A for how to assign a Static IP address to your computer.

The device's default IP address is 192.168.123.50, and your computer must be assigned with a 192.168.123.x IP address to get access to the device.

Referring to Appendix A, set the TCP/IPv4 address of your computer to 192.168.123.25, and subnet mask to 255.255.255.0.



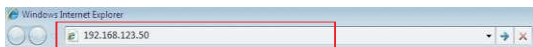
After applying this setting, you can now access to the web UI for configuring the device.

Easy Set up via Web UI

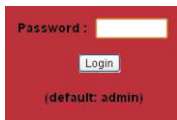
You can browse web UI to configure the device. Firstly you need to launch the Setup Wizard browser first and then the Setup Wizard will guide you step-by-step to finish the basic setup process.

Activate the setup wizard

Type in the IP Address (http://192.168.123.50)



Type the default password "admin" in the system authentication field, and then click 'login' button.



Select "Wizard" for basic settings in a simple way.

Or, you can go to Basic Network / Advanced Network / System to setup the configuration by your own selection.



Press "Wizard" to start the Setup Wizard. Click on "Next".



Configure with Setup Wizard

Step 1 You can change the password of administrator here.



Step 2 LAN IP Address. You have to change the IP address of this device according to your network configuration.



Step 3 Wireless settings. You can specify the Wireless setting for VAP1.

Setup Wizard - Wireless settings [EXIT]

- Wireless Module
- Network ID(SSID)
- Channel

Enable Disable

DO-VM2005S

Auto

< Back [Start > Password > LAN > **Wireless** > Summary > Finish] Next >

Step 4 Wireless settings. Specify VAP1's wireless authentication and encryption.

Setup Wizard - Wireless settings [EXIT]

- Authentication
- Encryption

Auto

None

< Back [Start > Password > LAN > **Wireless** > Summary > Finish] Next >

Step 5 Check the information again.

Setup Wizard - Summary [EXIT]

Please confirm the information below

[Wireless Setting]	
Wireless	Enable
SSID	GO-PM200501
Channel	Auto
Authentication	Auto (Open/Shared)
Encryption	None

The setting will be set after saving, confirm?

[Back] [Start > Password > LAN > Wireless > Summary > Finish] [Apply Settings]

Step 6 System is applying the setting.

Setup Wizard - Apply settings [EXIT]

System is applying the settings.
Please wait 65 seconds...

[Back] [Start > Password > LAN > Wireless > Summary > Finish] [Finish]

Step 7 Click finish.

Setup Wizard - Apply settings [EXIT]

Configuration is Completed.

Please click "Finish" to back to Status page.
LAN IP Address is changed, please reconnect manually.

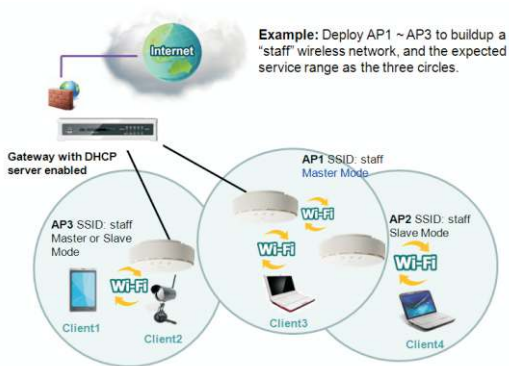
[Back] [Start > Password > LAN > Wireless > Summary > Finish] [Finish]

Use WEC button to setup wireless profiles

WEC (Wireless Easy Connection) is an easy configuration feature that is similar to well-known WPS function. It can be used to duplicate one device's wireless configuration to the other AP devices from the same manufacturer by clicking one button for both devices.

There are two alternative AP modes defined for the device to operate with WEC (Wireless Easy Connection) feature. One is the Master Mode (by default), and the other is the Slave Mode. Before starting to use WEC to configure your AP devices, you have to learn how to identify and set the device in the Master Mode, or the Slave Mode (As stated in Section 1.2.4 and 1.2.5).

One Master and several isolated Slaves

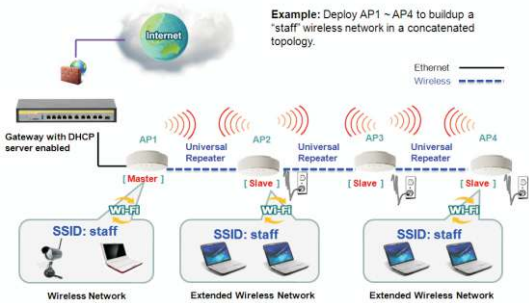


As illustrated in above figure, how to configure the three APs (AP1, AP2, AP3) to build up the "staff" wireless network. You can follow the procedure below:

Step	Button	Description
1	Set AP1 in Master Mode, and configure it via web UI.	<ol style="list-style-type: none"> 1. Make sure AP1 is in Master Mode (WiFi LED should be "Green" color, if not, you have to toggle its AP mode via pressing the WEC button for 9~10 seconds) 2. Login in to AP1 web UI and configure the wireless settings as what you want (LAN IP, SSID, encryption key, etc..).
2	Set AP2 and AP3 in Slave Mode.	<ol style="list-style-type: none"> 1. Make sure AP2 / AP3 is in Slave Mode (WiFi LED should be "Amber" color, if not, you have to toggle its AP mode via pressing the WEC button for 9~10 seconds)
3	Easy configure AP2 via WEC.	<p>Master to Slave WEC:</p> <ol style="list-style-type: none"> 1. Trigger AP1 into WEC configuration process via pressing the WEC button for 3 second. 2. Trigger AP2 into WEC configuration process via pressing the WEC button for 3 second. 3. It takes 30 ~ 60 seconds for the device to finish the WEC configuration process.
4	Easy configure AP3 via WEC.	<p>Master to Slave WEC:</p> <ol style="list-style-type: none"> 1. Trigger AP1 into WEC configuration process via pressing the WEC button for 3 second. 2. Trigger AP3 into WEC configuration process via pressing the WEC button for 3 second. 3. It takes 30 ~ 60 seconds for the device to finish the WEC configuration process.
5	Mount the devices AP1, AP2, and AP3 to expected locations.	<ol style="list-style-type: none"> 1. Install AP1 to its location first and verify its wireless network connectivity with a client device (Client3). 2. Install AP2 to its location and verify its wireless network connectivity with a client device (Client4) at the location beyond the service range of AP1. Besides, You can also check the AP2's WiFi LED, it should be "Solid Amber" if AP2 already connected a Master AP AP1. 3. Install AP3 to its location and verify its wireless network connectivity with a client device (Client1) at the location beyond the service range of AP1. In this case, AP3 is located out of the service range of AP1, you don't have to check AP3's WiFi LED, but you have to connect the AP3 with an Ethernet cable to the gateway.

One Master and a series of connected Slaves

This device also support universal repeater function, you can easily extend the wireless network with a series repeaters that are wireless concatenated to build up the wireless network without running Ethernet cables to each repeater.



As illustrated in above figure, if you intend to deploy 4 APs (AP1 ~ AP4) to create a "Staff" wireless network, you can follow the procedure below:

Step	Button	Description
1	Set AP1 in Master Mode, and configure it via web UI.	<ol style="list-style-type: none"> 1. Make sure AP1 is in Master Mode (WiFi LED should be "Green" color, if not, you have to toggle its AP mode via pressing the WEC button for 8 seconds) 2. Login in to AP1 web UI and configure the wireless settings as what you want (LAN IP, SSID, encryption key, etc..).
2	Set AP2, AP3, AP4 in Slave Mode.	<ol style="list-style-type: none"> 1. Make sure AP2 / AP3 / AP4 is in Slave Mode (WiFi LED should be "Amber" color, if not, you have to toggle its AP mode via pressing the WEC button for 8 seconds)
3	Easy configure AP2 via WEC.	<p>Master to Slave WEC:</p> <ol style="list-style-type: none"> 1. Trigger AP1 into WEC configuration process via pressing the WEC button for 3 second. 2. Trigger AP2 into WEC configuration process via pressing the WEC button for 3 second. 3. It takes 30 ~ 60 seconds for the device to finish the WEC configuration process.
4	Easy configure AP3 via WEC.	<p>Slave to Slave WEC:</p> <ol style="list-style-type: none"> 1. Trigger AP2 into WEC configuration process via pressing the WEC button for 3 second. 2. Trigger AP3 into WEC configuration process via pressing the WEC button for 3 second. 3. It takes 30 ~ 60 seconds for the device to finish the WEC configuration process.
5	Easy configure AP4 via WEC.	<p>Slave to Slave WEC:</p> <ol style="list-style-type: none"> 1. Trigger AP3 into WEC configuration process via pressing the WEC button for 3 second. 2. Trigger AP4 into WEC configuration process via pressing the WEC button for 3 second. 3. It takes 30 ~ 60 seconds for the device to finish the WEC configuration process.
6	Mount the devices AP1, AP2, AP3, and AP4 to expected locations.	<ol style="list-style-type: none"> 1. Install AP1 to its location first and verify its wireless network connectivity with a client device. 2. Install AP2 to its location and verify its wireless network connectivity with a client device at the location beyond the service range of AP1. Besides, You can also check the AP2's WiFi LED, it should be "Solid Amber" if AP2 already connected a Master AP AP1. 3. Install AP3 to its location and verify its wireless network connectivity with a client device at the location beyond the service range of AP2. Besides, You can also check the AP3's WiFi

Although such wireless repeater function is available, there are limitations for such topology.

First, the available bandwidth for AP2 ~ AP4 will be decayed since it is connected to its peer AP wirelessly. It depends on the data rate and environment. Besides, if one of the AP, say AP2, is disconnected, the AP's behind it will be disconnected as well. Such topology needs more maintenance effort to keep the whole wireless network connectivity.

If Ethernet cable is reachable, connecting each AP to an Ethernet Uplink is recommended. Above WEC configuration process is also suitable for running Ethernet cables to AP2 ~ AP4 to get a better wireless network.

Please refer www.digisol.com for warranty information in your region.



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