



Daintree Networks

WAC50 Wireless Area Controller Installation Instructions

Daintree's WAC50 Wireless Area Controller (WAC) is at the heart of the Daintree ControlScope lighting control solution in commercial and industrial buildings. It provides intelligent control across a large area. Using open and interoperable ZigBee® standards-based technology, the WAC50 communicates with wireless standards-compliant sensors, switches, and lighting control devices that are part of the Daintree ControlScope network.

The WAC50 provides commissioning, control and management functions. It creates the mesh network, manages it, and applies the lighting controls defined on the System Controller (SC). The System Controller is used to initiate device commissioning and define lighting control strategies. It houses the ControlScope Manager (CSM), used for ongoing management of the lighting control system.

The WAC50 is a low voltage DC powered device. It can be powered using the provided plug-in transformer, or using PoE (Power over Ethernet) supplied by a PoE adapter (not provided). The WAC50 communicates with the System Controller over Ethernet. An Ethernet hub or switch is required (not provided).



Specifications

Input voltage	5VDC 1.5A
Power connector	2.1mm barrel connector
Input/Output Connections	10/100 Mbps Ethernet, 2 RJ45 ports USB (host): USB 2.0, 2 ports USB (device): USB 2.0 micro, 1 port Memory card: Micro SD card slot
Radio properties	2.4 GHz ISM band, 100mW (+20dBm)
Operating environment	Indoor, dry location -13° to 122°F (-25° to 50°C)
Compliance	FCC Part 15, C-Tick
Mounting	Wall surface
Dimensions	9.37" L x 8.0" W x 1.18" H (238.1mm x 203.2mm x 30mm)
ControlScope Manager (CSM) compatibility	Release version 1.2 or later
Distances, maximum	100' between wireless devices (wireless range is clear line-of-sight, no obstructions) 300' of Ethernet cable between WAC and Ethernet switch or System Controller



Installation Process

The WAC50 must be installed in accordance with all local, state, and national electrical codes and requirements.

1. Install and test lighting, control devices and wireless adapters per the instructions provided with the units.
2. Determine the location for the WAC. If power will be supplied by the plug-in transformer, be sure there is a receptacle nearby. The Cat 5e Ethernet cable run from the Ethernet hub or PoE switch to the WAC location must be less than 300 feet.
3. Remove the cover from the WAC to expose the wiring connectors.
4. Plug the Ethernet cable into to the  port on the WAC.
5. Plug the power cable from either the plug-in adapter or the PoE adapter into the  barrel connector on the WAC. When power is applied, the Status Indicator illuminates.
6. Secure the power cable using the strain relief feature on the WAC50 base.
7. Mount the WAC50, using the four screw mounting holes on the WAC50 base.
8. Secure the Ethernet cable and the 5VDC power plug wire to a stationary point using a tie-wrap.
9. Reattach the cover to the WAC.
10. Use the ControlScope Manager application to configure zones and devices communicating with the WAC.

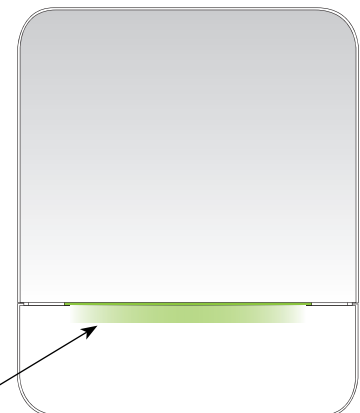
Status Indicator

The status of the WAC displays through an opening in the cover. A green glow across the width of the opening indicates the unit is operating normally.

See the table in the Troubleshooting section if there are any other colors or patterns in the status indicator area.

Status Indicator area

Uniform green glow = power on and unit operating normally



Where to Install the WAC50

Typically, the WAC50 is mounted high on a wall near the ceiling.

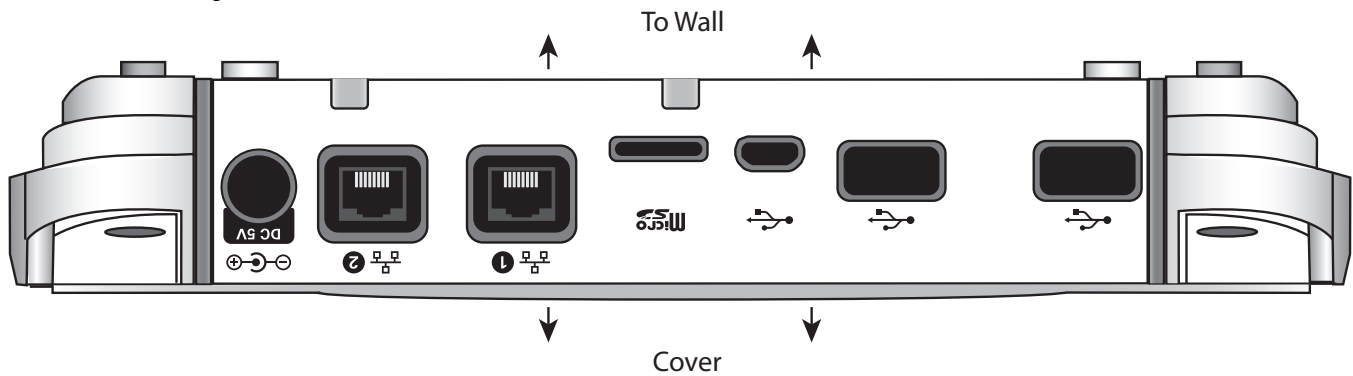
Ideally the WAC50 is located in an area with good line-of-sight to nearby wireless devices in the Daintree wireless network.

- Do not locate the WAC50 inside a metal enclosure or where a large metal object completely obstructs the line of sight to all of the wireless network devices.
- The WAC50 must be able to communicate with at least one other wireless device in the network.

- Locate the WAC50 so that less than 300' of Ethernet cable is required to connect it to the Daintree system controller or Ethernet switch.
- If the plug-in power adapter will be used to power the WAC50, make sure a power outlet is within reach of the plug-in adapter cord.
- If no power outlet is available, consider powering the WAC50 using a PoE adapter (not provided).

Wiring Connections

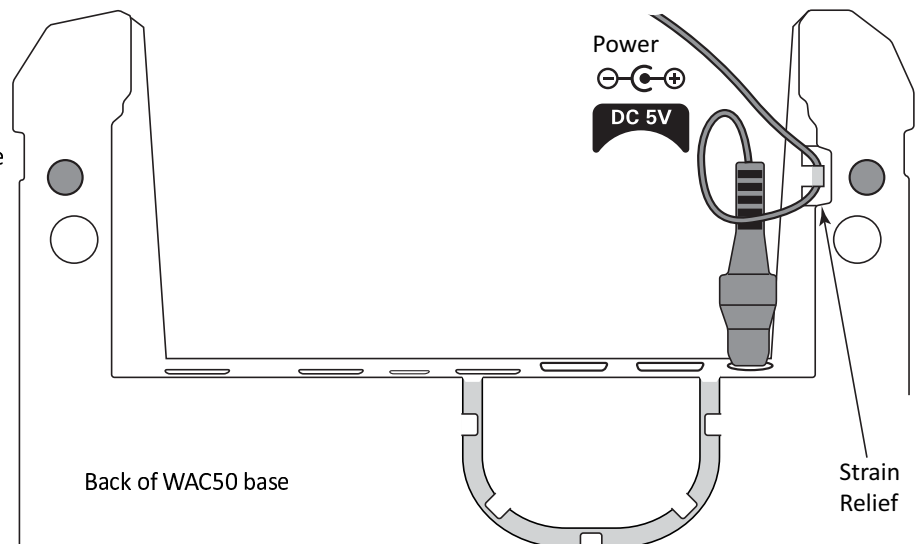
Top view of WAC50 wiring connection area.



Strain Relief

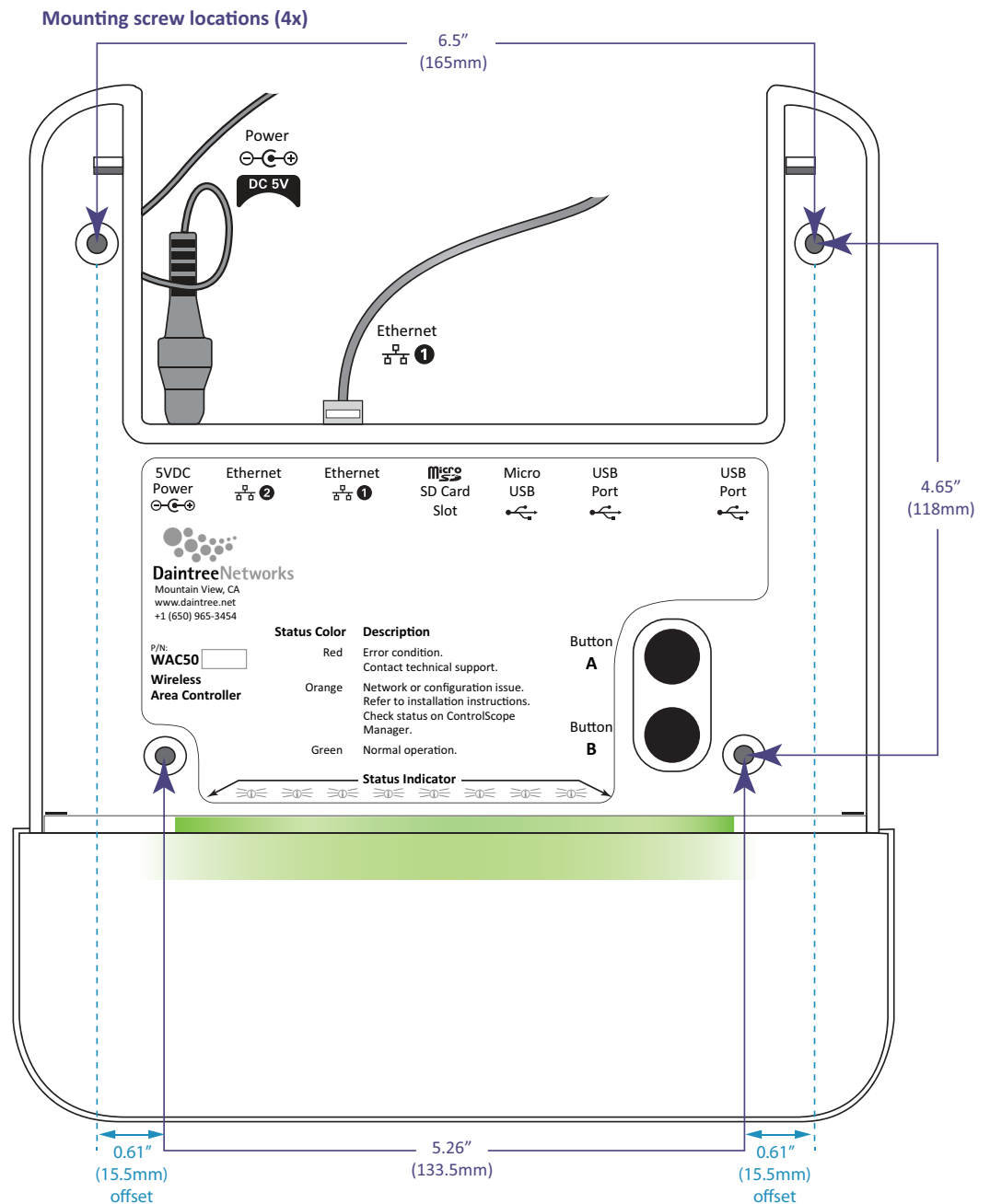
Secure the 5VDC power plug wire to the strain relief tab on the side of the connector area near the barrel connector or in the wire channel on the back of the base.

After mounting the WAC, provide external strain relief for the Cat 5e Ethernet cable and the 5VDC power plug wire by securing it to a stationary point using a tie-wrap.



Mounting the WAC50

Mount the WAC50 using the four (4) screws provided.



Joining the Zigbee Lighting Control Network

After the installation is complete the WAC50 is ready to communicate with the Daintree ControlScope Manager (CSM) web-based lighting management user interface.

For more information about configuring the lighting control network, see the instructions and on-line help provided with the ControlScope Manager application.

Troubleshooting

Status Indicator	Action Required	Description
Off	Apply power.	The device isn't powered. Make sure the power adapter is plugged into the appropriate power source and inserted firmly into the 5VDC input on the WAC. Check to be sure any plug adapters are connected properly.
Solid Green	None.	The device is powered and operating as expected.
Green on both ends of the light bar. Center of the light bar is dark.	Wait. If the WAC remains in the mode for more than 10 minutes, power cycle the WAC. If this doesn't clear the problem, contact technical support.	The applications on the WAC are starting. The WAC should be in this mode for less than 2 minutes.
Green pulsing on both ends of the light bar. Center of the light bar is Orange	Check CSM's web page.	The WAC50 is not communicating with the SC. This could be because of any of the following reasons: <ul style="list-style-type: none"> • The System Controller is not running. • The WAC50 doesn't have Ethernet link. • The WAC50 is not configured with the correct address for the System Controller.
Solid Red in center of the light bar.	Contact technical support and return WAC to manufacturer.	The WAC has had a hardware failure and must be replaced.

FCC warning message

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful Interference when the equipment is operated in a commercial environment. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

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