APC 2M-14

Quick Installation Guide

Revision 1.2
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Notice

Trademarks

Contents

Introduction

FCC Warning

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC Radiation Exposure Statement

To comply with FCC RF exposure requirements in section 1.1307, a minimum separation distance of 8.7 feet is required between the antenna and all public persons.

Antenna Installation

WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply), only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

Antenna Compliance

The APC 2M-14 radio module contains internal antenna.

CE Mark Warning

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

R&TTE Compliance Statement

This equipment complies with all the requirements of the Directive 1999/5/EC of the European Parliament and the Council of 9 March 1999 on Radio Equipment and Telecommunication Terminal Equipment and the Mutual Recognition of their Conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this manual and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

EU Countries Intended for Use

The ETSI version of this device is intended for home and office use in Austria, Belgium, Denmark, Finland, France (with Frequency channel restrictions), Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and United Kingdom.

The ETSI version of this device is also authorized for use in EFTA member states Iceland, Liechtenstein, Norway and Switzerland.

EU Countries Not Intended for Use

None.

About this Guide

Prerequisite Skills and Knowledge

To use this document effectively, you should have a working knowledge of Local Area Networking (LAN) concepts and wireless Internet access infrastructures.

Definitions, Acronyms and Abbreviations

The following typographic conventions and symbols are used throughout this document:

	Additional information that may be helpful but which is not required.
	Important information that should be observed.
bold	Menu commands, buttons, input fields, links, and configuration keys are displayed in bold
italic	References to sections inside the document are displayed in italic.
`code`	File names, directory names, form names, system-generated output, and user typed entries are displayed in constant-width type

Technical Support

If you encounter problems when installing or using this product, please consult the Deliberant website at www.deliberant.com for:

- Direct contact to the Deliberant support centers.
- Frequently Asked Questions (FAQ).
- Download area for the latest software, user documentation and product updates.

Contact us

EU office:
UAB WILIBOX Veiveriu 150 - IIIa. Kaunas, LT-46391
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138 Mountain Brook Drive
Canton, GA 30115
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For support: support@deliberant.com
For sales enquiries: sales@deliberant.com

Installation

This chapter provides installation instructions for the hardware components of the APC 2M-14.

Package Contents

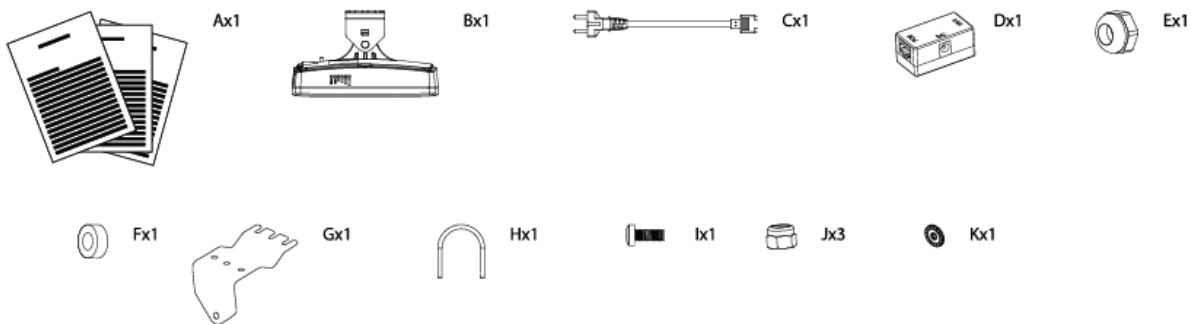The figure below displays APC 2M-14 package contents.

Figure 1 – APC 2M-14 Package Contents

Item	Component Name	Quantity
A	APC 2M-14 Quick Installation Guide	1
B	APC 2M-14 enclosure	1
C	Power adapter	1
D	PoE injector	1
E	Gland cap for the CAT5 Ethernet cable	1
F	Rubber gasket for the CAT5 Ethernet cable	1
G	Mounting bracket for wall/pole mount	1
H	U bolt M6 for pole mounting	1
I	Hexagon bolt M6 x 18 for wall/pole mount	1
J	Hexagon lock nut M6	3
K	Anti-slip washer M6	1

If any of these items are missing or damaged, please contact your reseller.

Hardware Introduction

APC 2M-14 is housed in a plastic enclosure ensuring a reliable sealing in a wide range of temperature and has an integrated 14dBi panel antenna.
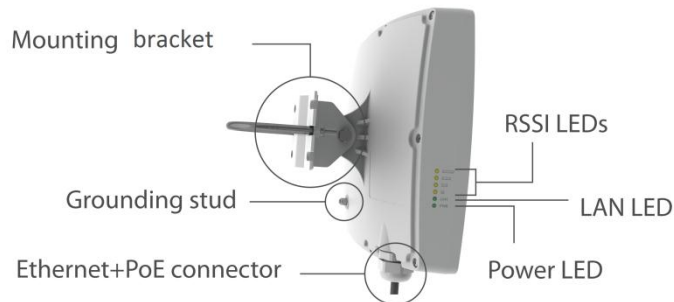

Figure 2 – APC 2M-14 Overview

The panel of the APC 2M-14 contains:

- **Ethernet/Power connection** in the form of passive PoE through standard Ethernet cable
- **6 LEDs**: power LED, LAN activity LED and 4 LEDs for device RSSI level indication
- **Grounding stud**

The APC 2M-14 has label with the following information:

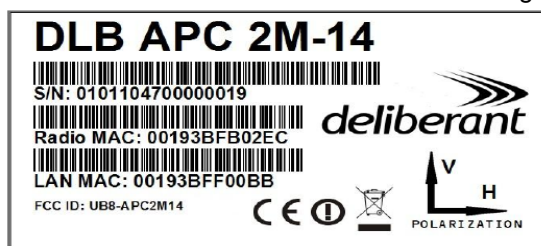

Figure 3 – APC 2M-14 Label

The label of the APC 2M-14 contains:

- **Model** name. The official model name is **APC 2M-14**.
- **Serial Number**
- **Radio MAC** address
- **LAN MAC** address
- **FCC ID: UB8-APC2M14**
- **IC ID: 6607-APC4M14**

LEDs

The APC 2M-14 has 6 LEDs located on the side panel: power, LAN and 4 RSSI LEDs (refer at the *Figure 2 – APC 2M-14 Overview* for details). The various states of the LEDs indicate different connection operations as follows:

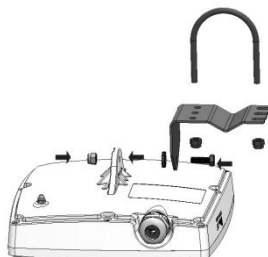| LED	Color	Status	Indication
Power	Green	On	APC 2M-14 is active/working
		Off	No power on APC 2M-14
LAN	Green	On	LAN connection exists.
		Blinking	Indicates the traffic on LAN interface.
		Off	No LAN connection.
RSSI (1, 2, 3, 4)	Yellow	On	The RSSI level has reached the appropriate threshold level (default RSSI threshold levels: 10, 25, 35, 50)
		Off	The RSSI level has not reached the appropriate threshold level

Assembling and mounting the APC 2M-14

The APC 2M-14 unit's mounting bracket is designed to make installation on a wall or a pipe easy. After the unit is attached, its position is fixed with the single bolt. Follow the steps for APC 2M-14 assembling:

Step 1.   Make sure that the APC unit is powered-off.

Step 2.   Ground the APC 2M-14 unit. The unit must be properly grounded to protect against lightning. The grounding wire must be attached to the grounding stud on the unit (refer at the *Figure 2 – APC 2M-14 Overview*).

> If the unit is attached to a metal pipe which is earth-grounded, no further grounding is required.

Step 3.   Attach mounting hardware (item C in the *Figure 1 – APC 2M-14 Package Contents*) to the unit and tighten with the nut and bolt (items I and J in *the Figure 1 – APC 2M-14 Package Contents*).
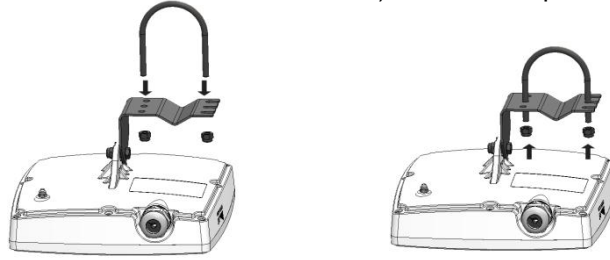
> For wall mounting, first attach the mounting bracket to the wall and then connect the unit together and tighten the nut and bolt.

> It is recommended not to tighten the unit to its mounting hardware until the alignment process of the antenna is complete.

Step 4.   For pole mounting attach APC 2M-14 on pole with U bolt (items H and J in the *Figure 1 – APC 2M-14 Package Contents*) as shown in picture below:

Step 5.   Connect Ethernet cable into the APC 2M-14 then insert a rubber gasket (item F in the *Figure 1 – APC 2M-14 Package Contents*) into CAT5 Ethernet connector gland and tighten with gland cap (item E in the *Figure 1 – APC 2M-14 Package Contents*) as displayed below:

Step 6.   Connect power adapter into PoE injector together with UTP cables as displayed in picture below:

Step 7.   Power-up the unit. The green Power LED must be on (refer at the respective section *LEDs*). Depending on link quality, up to four yellow LEDs will switch on indicating that link between two units was established successfully.

Step 8.   After the link was established, align the antenna for the maximum performance. Run the **Antenna Alignment** tool in the Web management interface and move the unit in the horizontal and vertical planes until the maximum RSSI visible on the Antenna Alignment graph is achieved. After the maximal RSSI is reached, tighten down the unit in the optimum position.

    Avoid standing directly in front of an operating antenna while aligning.
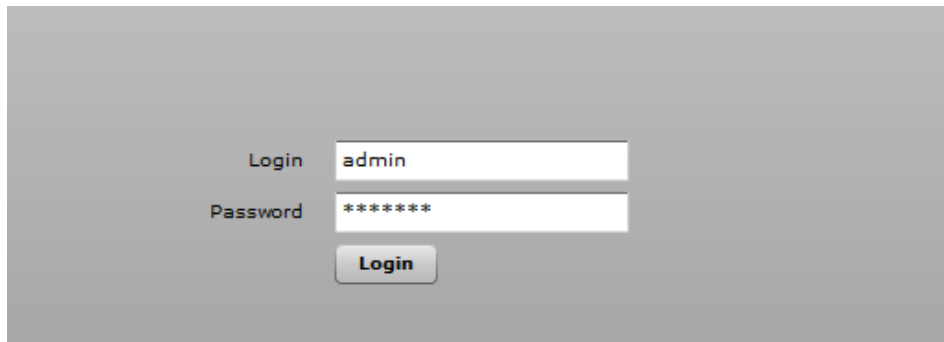
Access the APC 2M-14

The first connection to the APC 2M-14 can be made using a standard Ethernet cable connected directly to your PC. See next sections for the instructions on how to access the APC 2M-14 management interfaces.

Connection via WEB browser

The default IP address of the APC 2M-14 is 192.168.2.66 with a subnet mask of 255.255.255.0.

Step 1.   Configure your PC with a static IP address on the 192.168.2.0 subnet with mask 255.255.255.0. Connect the APC 2M-14 Ethernet interface in to the same physical network as your PC. Open the Web browser and type the default IP address of the APC 2M-14: https://192.168.2.66/

Step 2.   Enter the APC 2M-14 administrator login details to access the Web management:

The default administrator login settings for all APC 2M-14 are:
Login: **admin**
Password: **admin01**

Step 3.   After successful administrator log on you will see the main page of the APC 2M-14 Web management interface. The APC 2M-14 now is ready for configuration. For further instructions on Web management refer to the respective document APC 2M-14 User Guide.

Resetting to Factory Defaults

APC 2M-14 has the capability of being reset to defaults by pinging the device with a certain packet size when the device is booting. During the startup of the device, when the drivers of the ethernet interfaces are loaded, the reset daemon is started. The daemon suspends startup process for 3 seconds and waits for ICMP "echo request" packet of length 369 bytes. If the packet received, the reset daemon sets the device to default configuration.

> It is recommended to connect PC to the device via switch, as depending on PC OS settings, the ARP table might be flushed during wired link status change (connecting the device that will be reset).

Steps to reset to default settings:

Step 1.   Power off the APC 2M-14 device.

Step 2.   Obtain the device MAC address.

Step 3.   Connect a PC to the same physical subnet as the device.

Step 4.   Execute 'arp -s' command to assign the IP address (IP address should be from the same subnet as PC) to the device MAC address:

```
arp -s <IP address to assign> <device MAC address>
```

> Note that syntax of MAC address differs depending on OS:
>
> - Linux OS: AA:BB:CC:DD:EE:FF
> - Windows OS: AA–BB–CC–DD–EE–FF

Step 5.   Start pinging the APC 2M-14 device:

For Linux users: ping <IP address> –s 369

For Windows users: ping <IP address> –l 369 –t -w 200

Step 6.   Power up device and wait about 30sec or more (depending on device hardware).

Step 7.   Stop pinging the APC 2M-14, and let the device boot as usual. The device should start up with factory default settings.