



APC

2M, 5M, 5M V2, 2M-8, 5M-12, 5M-12 V2

Quick Installation Guide

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Introduction

FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- 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 3.9 feet is required between the antenna and all occupational persons, and 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.

CE Mark Warning

This is a Class A product. 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

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Installation

This chapter provides installation instructions for the hardware components of the APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2.

Package Contents

The figure below displays package contents of APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2:

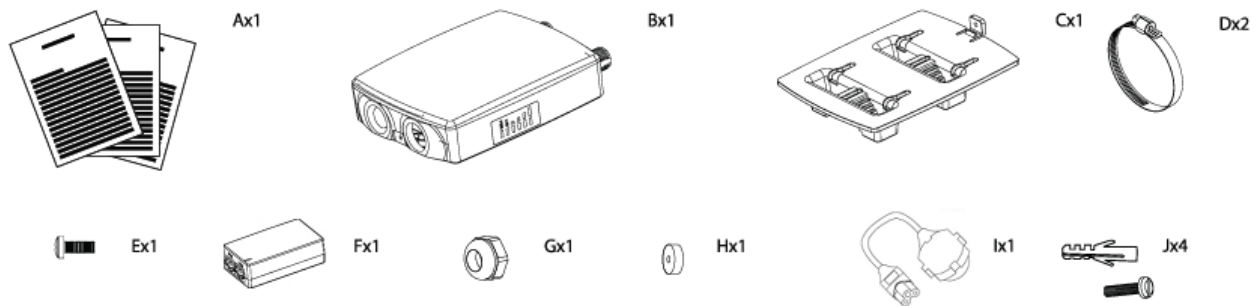


Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents

Item	Component Name	Quantity
A	APC Quick Installation Guide	1
B	APC enclosure with CAT5 Ethernet cable gland	1
C	Mounting plate	1
D	Clamp for pole (diameter: 40-64mm) mounting	2
E	Screw for enclosure and mounting plate fastening	1
F	PoE	1
G	CAT5 Ethernet cable gland cap	1
H	CAT5 Ethernet cable gland rubber gasket	1
I	Power cord	1
J	Mounting plate screws for mounting device on a wall	4



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

Hardware Introduction

The APC is housed in a plastic enclosure ensuring a reliable sealing in a wide range of temperature and has two external N-connectors for external antenna.

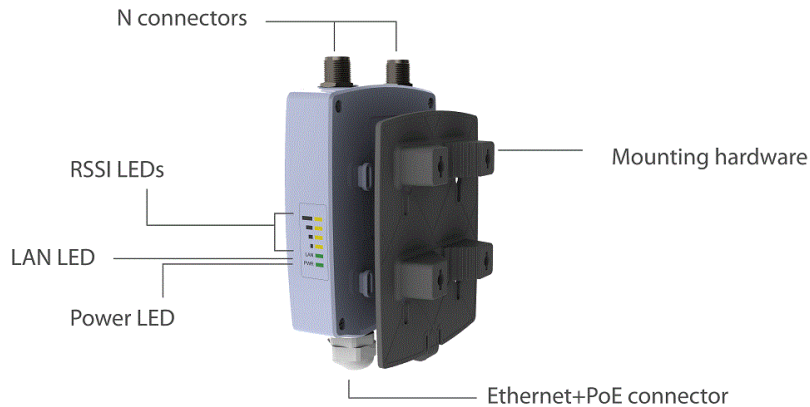


Figure 2 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Overview

The side panel of the APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 contains:

- Two **N connectors** for external antenna
- **Data/Power connector** 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

The label of the APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 contains:

- **Model** name.
- **Serial Number**
- **WAN MAC** address
- **LAN MAC** address
- **FCC ID**
- **IC ID**

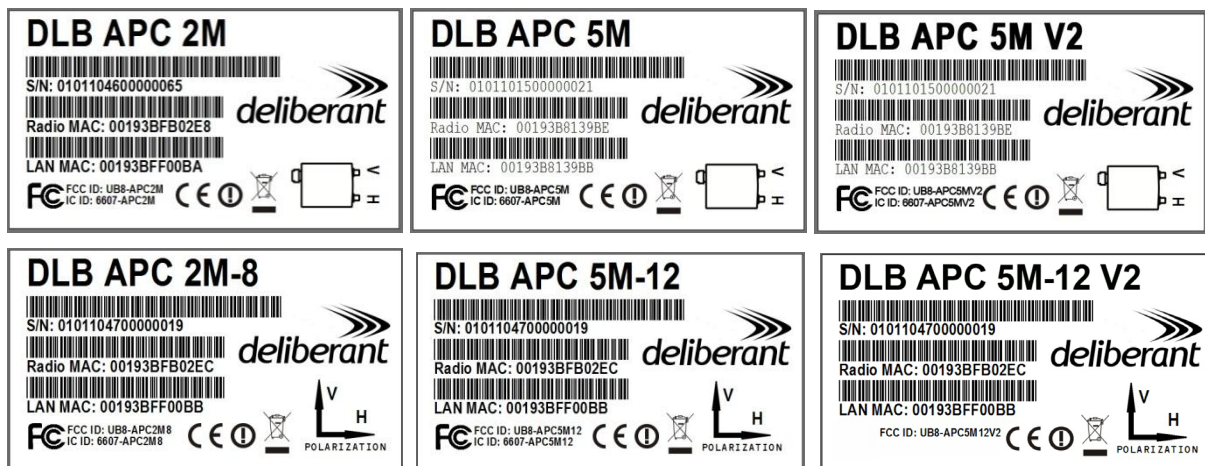


Figure 3 – The Labels of APC

LEDs

The APC has 5 LEDs located on the side panel: power, LAN and 4 RSSI LEDs (refer at the *Figure 2 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Overview* for details). The various states of the LEDs indicate different connection operations as follows:

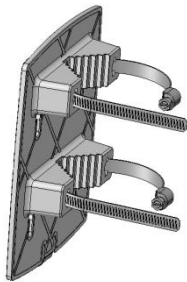
LED	Color	Status	Indication
Power	Green	On	APC is active/working
		Off	No power on APC
LAN	Green	On	LAN connection exists.
		Blinking	Indicates the traffic on LAN interface.
		Off	No LAN connection.
RSSI (1, 2, 3, 4)	Yellow	On	The RSSI level has reached the appropriate threshold level (default RSSI threshold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

APC Assembling and Mounting

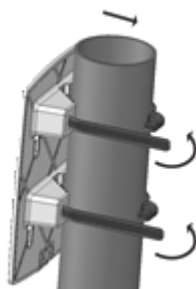
The APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 units are supplied with mounting hardware for pole with diameters in the range 40mm to 64mm installations. Follow the next two sections for APC mounting instructions on a preferable surface.

Pole Mounting

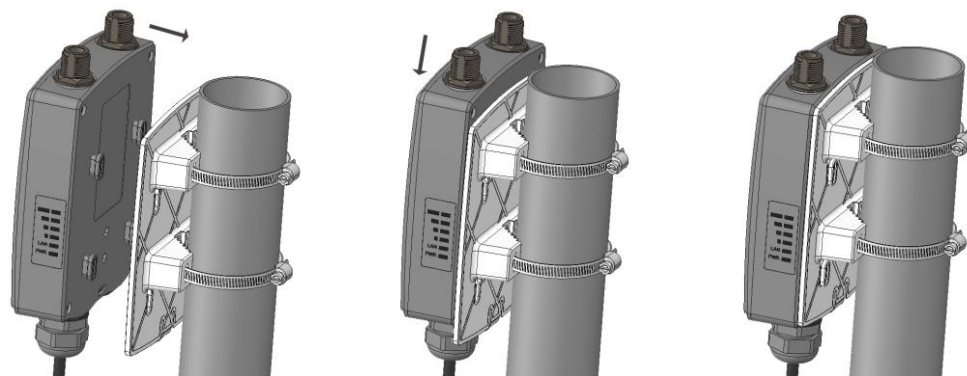
- Step 1.** Make sure that the APC unit is powered-off.
- Step 2.** Insert the clamps (item D in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) on the mounting plate (item C in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) as displayed below:



- Step 3.** Attach the mounting plate on the pole with clamps and tighten it properly:



Step 4. Attach the unit to a mounting plate and push it downwards until it clicks into position:



Step 5. Connect Ethernet cable into the APC then insert a rubber gasket (item H in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) into CAT5 Ethernet connector gland and tighten with gland cap (item G in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) as displayed below:



It is recommended to use shielded STP Ethernet cable to reduce exposure of the electromagnetic noise.

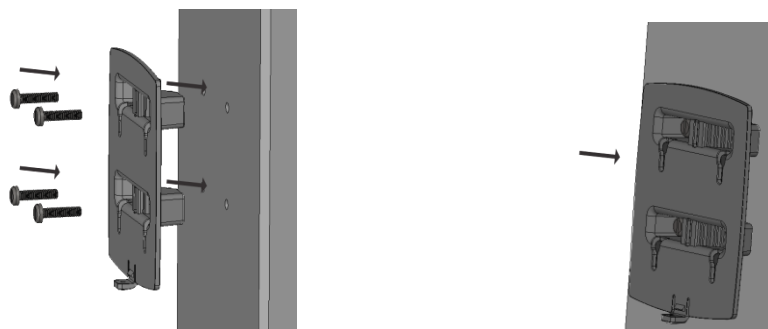
Step 6. After attaching the APC to the mounting plate, fasten the unit to the bottom near the CAT5 Ethernet plug using screw (item E in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*).

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

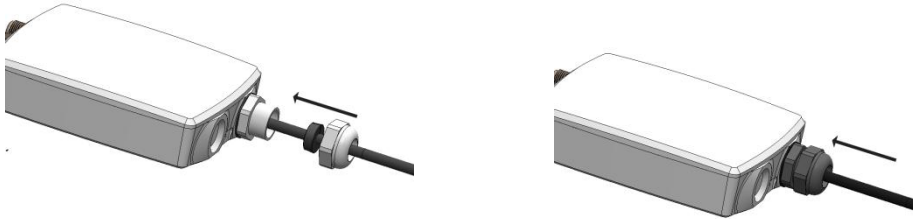
Wall Mounting

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

Step 2. Attach APC mounting plate (item C in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) to the wall using screws (item J in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) as displayed below:

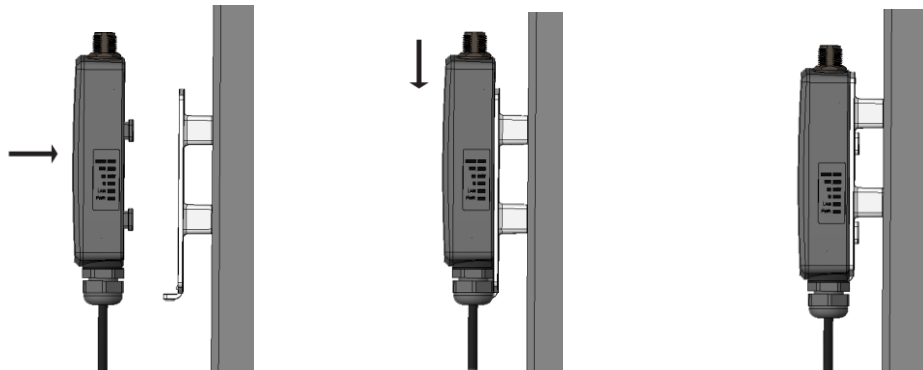


- Step 3.** Connect Ethernet cable into the APC then insert a rubber gasket (item H in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) into CAT5 Ethernet connector gland and tighten with gland cap (item G in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*) as displayed below:



It is recommended to use shielded STP Ethernet cable to reduce exposure of the electromagnetic noise.

- Step 4.** Attach the unit to a mounting plate and push it downwards until it clicks into position:



- Step 5.** After attaching the APC to the mounting plate, fasten the unit to the bottom near the CAT5 Ethernet plug using screw (item E in the *Figure 1 – APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 Package Contents*).

- Step 6.** Power-up the unit. The green Power LED must be on (refer at the respective section *LEDs*). Dependently on link quality, up to four yellow LEDs will switch on indicating that link between two units was established successfully.

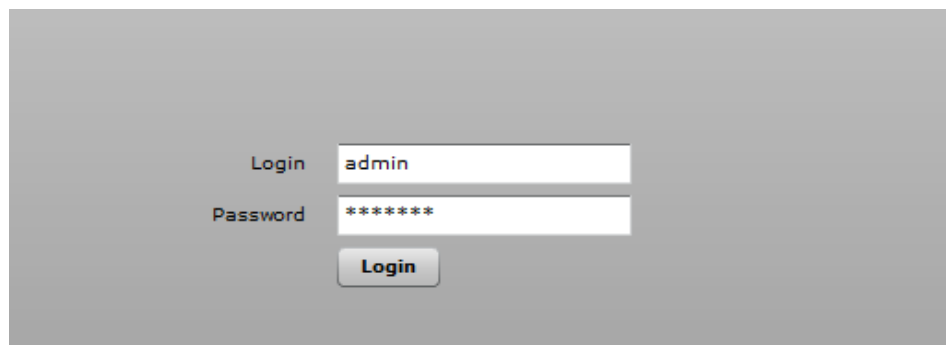
Access the APC

The first connection to the APC 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 management interfaces.

Connection via WEB Browser

The default IP address of the APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 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 Ethernet interface in to the same physical network as your PC. Open the Web browser and type the default IP address of the APC:
`https://192.168.2.66/`



Step 2 Enter the APC administrator login details to access the Web management:



The default administrator login settings for all APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 are:

Login: **admin**

Password: **admin01**

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

Resetting to Factory Defaults

APC 2M, APC 5M, APC 5M V2, APC 2M-8, APC 5M-12, APC 5M-12 V2 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 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 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, and let the device boot as usual. The device should start up with factory default settings.