

EDGEPOINT PRO



EdgePoint PRO Reference Guide

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What to Expect with AirWalk EdgePoint PRO

The EdgePoint PRO is a compact cellular access point, also known as an enterprise femtocell. It expands 3G cellular service inside buildings so mobile users can experience full voice and data service in areas that have inconsistent or no cellular signal. Typical installations include office buildings, warehouses, high rises, convention centers and other in-building hot spots.

The EdgePoint PRO works as an access point independent of the macro network towers to bring cellular capacity and coverage to a specific area. While users are in the designated enterprise femtocell coverage area their cellular signal will be provided by the EdgePoint PRO rather than the macrocell towers. Cellular service is seamless, so users are fully mobile to move between the femtocell coverage area and the macro network coverage area with no service interruptions.

EdgePoint Pro Advantages:

- **Voice Clarity and Full Mobility:** Reliable voice coverage and increased cellular capacity from the EdgePoint PRO frees users from relying solely on a traditional land line. Cellular phones become a practical option to use as a primary phone both inside and outside of a building.
- **Consistent High-Speed Data:** Mobile data users are able to rely upon their mobile phone or laptop with CDMA AirCard to access applications, accounts and other electronic information throughout the coverage area. Cellular service is a reliable and secure technology .
- **Standard Phone Convenience:** The EdgePoint PRO service is compatible with any CDMA cellular phone or AirCard.
- **Long Term Performance:** Once the device is installed, there is typically no reason to move, or update the EdgePoint PRO. This unit is also maintenance free and requires no regular maintenance.

EdgePoint PRO Features

Device Performance

- Simultaneously supports up to 28 users for voice and up to 32 users for data services
- Covers up to 100,000 square feet of indoor space with 200mW of RF power
- Compatible with any standard-issue CDMA cellular phone
- Feature transparency with the CDMA macro network
- Supports 911 emergency calls

Device Specifics

- 3G, CDMA technology
- 1xRTT (voice) and 1xEV-DO Rev. A (data)
- 15 amps maximum / 120V AC
- Dimensions: 12"H x 14.6"W x 2"D
- Weight : ~ 6.5 lbs (9 lbs with bracket)
- Temperature: 32°F t- 122°F
- Humidity: 0% to 95% non-condensing
- RJ 45 for connection to standard CAT 5 or CAT 6 Connection
- 3GPP2 compliant
- Safety and FCC certified

Network Requirements

The EdgePoint PRO is IP-based, it plugs directly into an existing broadband connection to extend 3G wireless service. Minor adjustments to the network settings may be required for a successful implementation. The available LAN network should meet the following requirements for bandwidth and capacity.

Service Usage Type	Bandwidth Requirements	Capacity Description
Maximum Capacity	5 Mbps	28 voice calls and 32 active data users, simultaneous
Idle	20 Kbps	No active users
Voice Traffic Only	60 Kbps per call	Maximum of 28 concurrent calls
Data Traffic Only	3 Mbps per device (maximum)	Maximum of 32 simultaneous data sessions

If multiple devices are installed throughout a campus there will be an increase of IP traffic on the LAN

LAN Installation Considerations (varies depending upon the existing customer network)

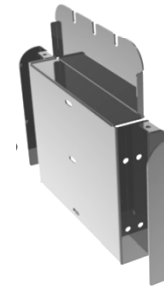
- The device supports standard RJ 45 LAN connection
- The device supports IP addressing using DHCP (default) or direct configuration of a static IP address.
- The local LAN needs to be adjusted for access to external internet and allow packets to be routed through the customer's network.

WAN Considerations

- All packets are marked with a configurable Class of Service that can be used by the Customer Premise router for priority routing.
- The following WAN considerations should be addressed prior to installing the device.
 - UDP Port 500 is open on the firewall
 - Internet Security Association is properly configured
 - Key Management Protocol (ISAKMP) is addressed for VPN networks
 - UDP port 4500 is open on the firewall
 - IPSec NAT Traversal is allowed

Contents of the Installation Kit

EdgePoint PRO



Mounting bracket

GPS antenna



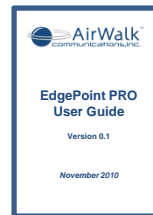
RF antenna



Power converter and
5 ft (1.5 m) cable



User's Guide



Ethernet cable
16.4 ft (5m)



Other
Documentation



2 secure lock bracket
screws

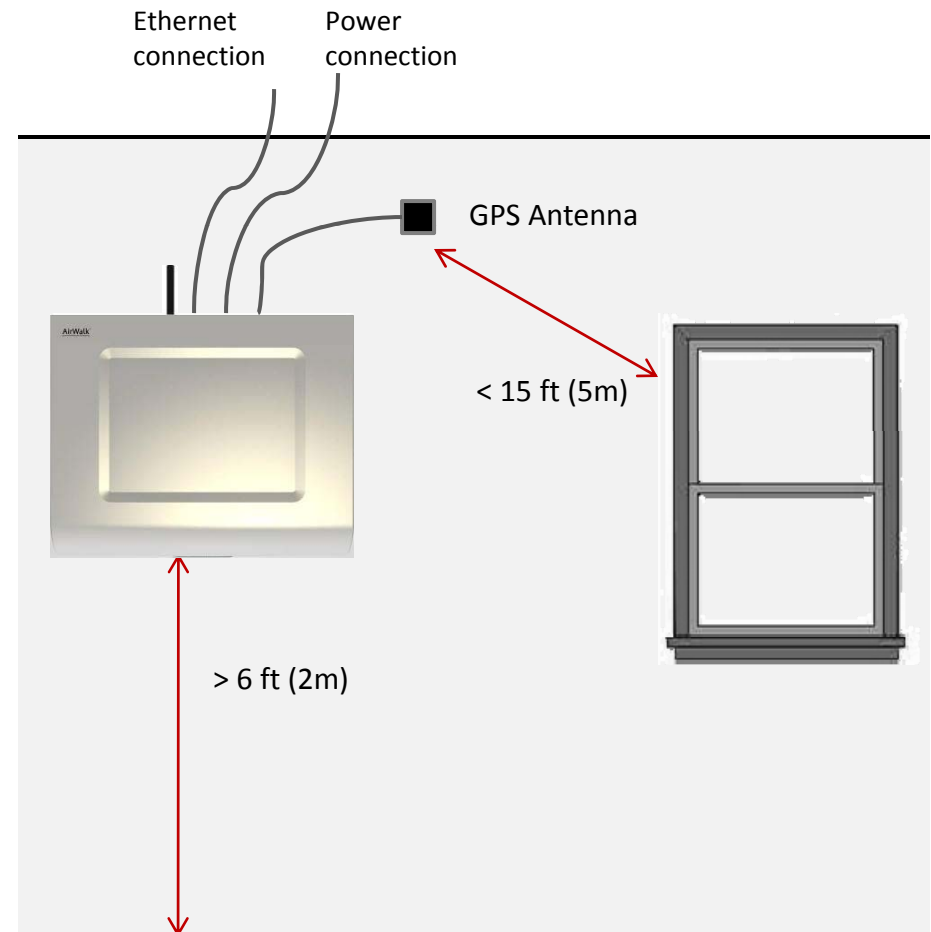
Step One – Select Location

EdgePoint PRO location requirements:

- Flat 24"x24" wall space so a physical clearance of 5" on all sides of the device is observed to ensure efficient operation of the cooling fans and antennas
- A building support beam for mounting support (recommended)
- Access to a AC power source and breakers to accommodate up to 15 amps / 120 VAC (ceiling access is recommended)
- Access to an Ethernet port to connect the enterprise LAN line to the internet backbone (ceiling access is recommended)
- Must be 15 ft (5m) from a window that has no metal sheeting with a clear view of the sky
- Moderate temperature between 32°F and 122°F
- Dry environment with relative humidity between 0 to 95% non-condensing

Equipment needed for installation:

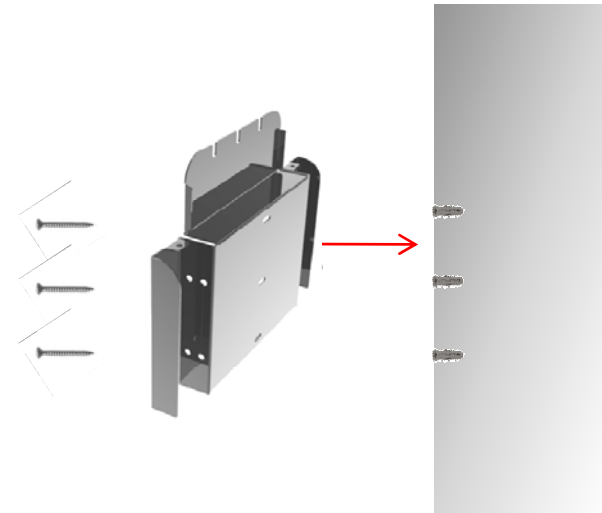
- Drill or screwdriver with medium Phillips head
- Step ladder to install and connect the cables in most locations (most locations)
- 3 screws size #10 pan head x 2" with washer
- 3 wall anchors optional



Step Two – Mount Bracket to Wall

Once the location is selected, mount the bracket to the wall.

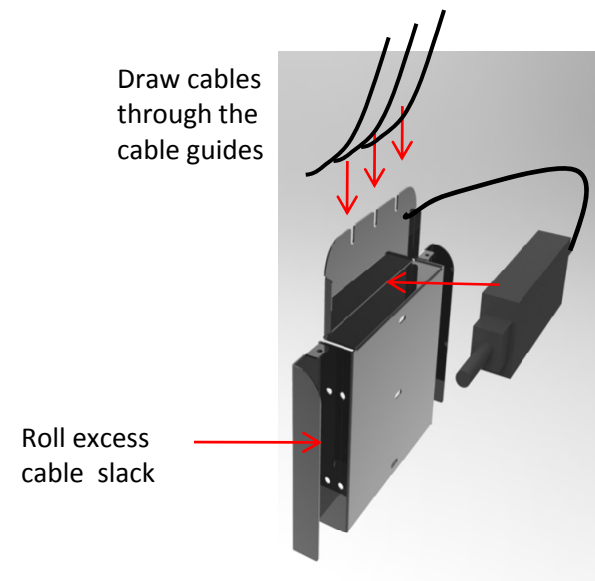
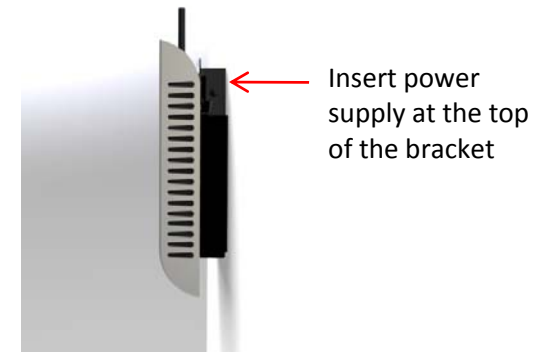
- Mount EdgePoint PRO at least 6ft (2m) from floor
 - Do not mount above ceiling or on ceiling
- Use bracket as a template to determine hole positioning
- Drill 3 wall anchors into the wall, if necessary. If mounting to a beam, no wall anchors will be necessary.
- Position the bracket lined up with the holes
- Drive screws through the bracket to firmly secure it to the wall



Step Three – Position Power Supply, Cables and Antennas

Use the mounted bracket as a base support to:

- Place power supply into designated location at top of bracket
- Use side areas of bracket to roll excess cable slack
- In the right cable guide space, pull power cable through to secure to device with approximately 2" of clearance
- In middle space, place Ethernet cable through the cable guide with approximately 2" of clearance
- In the left space, place GPS antenna cable through the cable guide with approximately 2" of clearance
- Install the GPS antenna within 15 ft (5m) of a window with no metal sheeting and with an open view of the sky

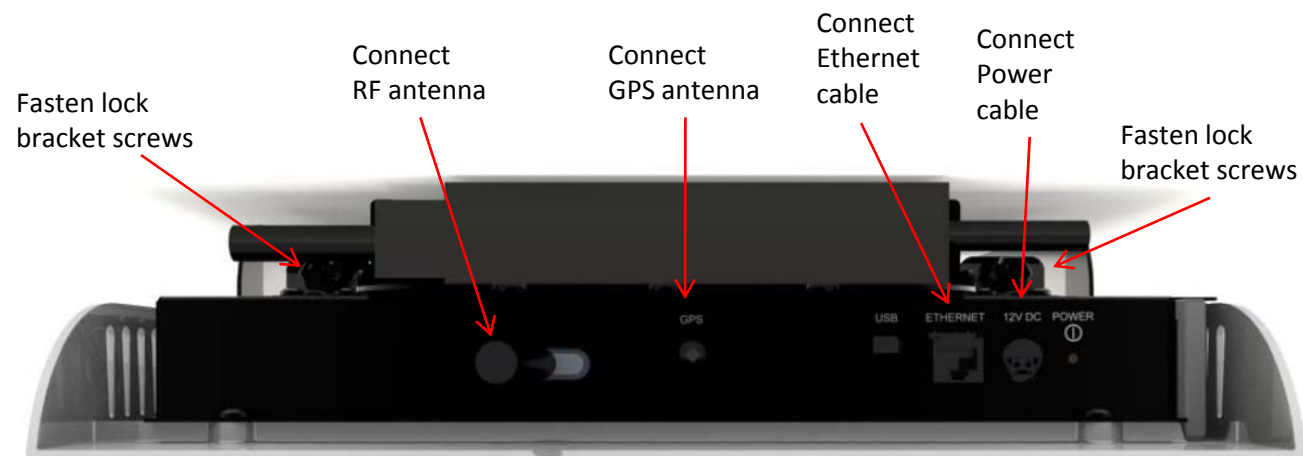


Step Four – Secure EdgePoint PRO to Bracket and Connect Cables

Secure the EdgePoint PRO cables:

- Position the device onto the mounting bracket in line with 4 pegs. Lock the device securely into the keyholes by sliding the device down.
- Secure the cables from the cable guides on the mounting bracket and plug into the device
 - Connect RF antenna
 - Connect GPS antenna
 - Connect power
 - Connect Ethernet
- Secure 2 lock bracket screws to top on either side to mount device to bracket

**Note: The USB port will remain vacant



Step Five – Powering Up the EdgePoint PRO

EdgePoint PRO Power Up Sequence



- Once all cable connections are established, press the Power button on the top right side of the device
- It will take between 5 to 45 minutes for the EdgePoint PRO to configure and be ready for service
- The blue lights will illuminate to indicate:
 - POW – Power is on
 - LINK - Ethernet access is established
 - NET – IP Security is established
 - GPS – The GPS location is identified
 - SYS – All radios are ready and the system is ready for operation.

Activity (chronological)	POW	LINK	NET	GPS	SYS
1. Power on	Blue	Off	Off	Off	Blue Flashing
			As soon as network cable is connected.		
2 Ethernet Access Established	Blue	Blue	Off	Off	Blue Flashing
	LINK Led: Blue if physically connected. Blinking per activity				1-2 minutes
3. IP Sec Tunnel Connected	Blue	Blue	Blue	Off	Blue Flashing
	NET Led: Red flashing until getting DHCP IP address, Blue flashing while IPsec tunnel is established, red if authentication fails				Up to 20 minutes
4. GPS Lock Established	Blue	Blue	Blue	Blue	Blue Flashing
	GPS Led: Red if no satellite, Blue blinking with satellite, Blue if locked				10-15 minutes
5. System Reboot	Blue	Off	Off	Off	Off
					Up to 2 minutes
6. SIP Registration & Calibration	Blue	Blue	Blue	Blue	Blue Flashing
	SYS Led: Blue flashing until SIP registered for 1x and/or PDSN keep alive for DO, Red blinking if the bandwidth is not enough for a call				Up to 2 minutes
7. Frequency Lock & System Ready	Blue	Blue	Blue	Blue	Blue

Authorized User Lists

The Authorized User List (AUL) is a list of mobile numbers provided by the customer that have access to the device's voice and data services. The EdgePoint PRO services support only the mobile phones that are recognized as authorized mobile users of the device services. Mobile phones that are in the device coverage area, but not authorized users of the EdgePoint PRO will not be covered by the device's voice and data services. This leaves the full capacity of the device to service the authorized EdgePoint PRO users.

- Upon installation, the service provider will require a list of mobile numbers
 - up to 200 user numbers for data (EVDO)
 - up to 200 user numbers for voice (1xRTT)
- One outside US mobile phone number is accepted per device, the remaining numbers must be domestic US mobile numbers.
- After installation of the device, please contact the service provider to identify or update the Authorized User List.

Common Troubleshooting Tips

- POW not illuminated:
 - Check power cable, between power converter and wall plug
 - Check cable between power converter and enterprise femtocell
 - Check the power switch is on top right corner of femtocell
- LINK not illuminated
 - Check Ethernet LAN line, if continues blinking other network troubleshooting will need to be done by a trained technician
- NET not illuminated
 - Check internet connectivity from established line, call support if you have connectivity and no illumination
- GPS not illuminated
 - Reposition the GPS antenna as outlined in Installation Step 1: Selecting the Location until there is a signal.

Safety and Regulations

This user guide contains important operational and safety information that will help you safely use your base station.

Failure to read and follow the information provided in this user guide may result in serious bodily injury, death, or property damage.

General Precautions

There are several simple guidelines to operating your base station properly and maintaining safe, satisfactory service.

- Avoid exposing your base station to rain or liquid spills. If your base station does get wet, immediately turn the power off and remove the power connector.
- Do not operate this unit in an extremely dusty or humid environment.
- Do not obstruct the heat vents by blocking the openings or covering the base station, and do not operate it in a confined space.
- Avoid placing near radiators or other heating sources.
- Avoid locating the EdgePoint PRO where it could be exposed to direct sunlight for prolonged periods.
- Do not connect to a power strip containing an excessive number of other devices.
- If the base station will not be use for a prolonged period, remove the power cord from the AC outlet.
- Any changes or modifications to your base station not expressly approved in this document could void your warranty for this equipment and void your authority to operate this equipment.

Note: For the best care of your base station, ensure that only authorized personnel service your device. Failure to do so may be dangerous and void your warranty.

Safety and Regulations

Warning of 911 Limitations

Do Not Rely on Your Base Station for Emergency Calls

Your base station operates using radio signals, which cannot guarantee connection in all conditions. Therefore you should never rely solely upon your base station for essential communication (e.g., medical emergencies). Emergency calls may not be possible on all cellular networks or when certain network services or mobile phone features are in use. Check with your local service provider for details.

FCC Information

Radio Interference

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.

Unauthorized Modifications

Persons or parties responsible for operation of this equipment are cautioned that any changes or modifications not expressly approved by AirWalk Communications Incorporated could void the user's authority to operate this equipment.

Digital Device Interference

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.