

Network Considerations

The BOSS Smart Plug 120 and Smart Plug 220 utilize your existing Wi-Fi network to provide device communication and control, enabling rapid deployment using your proven networking infrastructure environment.

Specific Questions

What network technologies are supported?

- 🔌 BOSS Smart Plugs are compatible with 802.11 networks. At this time BOSS Smart Plugs do not support 802.11 AC networks.
- 🔌 BOSS Smart Plugs support security options of none/open and WPA2. The older Wi-Fi WEP security option is not supported due to security concerns with the WEP protocol – in fact most current network deployments have moved from WEP to WPA2 security.
- 🔌 If your network uses the WPA2 Enterprise security option (which includes 802.1X Authentication / RADIUS Servers), contact BOSS to discuss how BOSS Smart Plugs can work with your network infrastructure.

Do the BOSS Smart Plugs require their own dedicated network?

- 🔌 Absolutely not – the BOSS Smart Plugs are designed to operate alongside your existing network-connected devices. If specific security requirements (e.g., for financial systems) require you to segregate network traffic between infrastructure and enterprise traffic, BOSS Smart Plugs can be deployed on the infrastructure Wi-Fi network.

Do the BOSS Smart Plugs require static IP addresses?

- 🔌 In order for the BOSS Smart Plugs to control devices at your facility, each BOSS Smart Plug must obtain its own IP address for 2-way communication. Your Wi-Fi routers can assign BOSS Smart Plugs an IP address automatically (via DHCP or dynamic IP addresses) or the IT department can assign a static IP address to each BOSS Plug. BOSS Smart Plugs will work in either environment, however most deployments utilize dynamic IP addresses via DHCP.

How do the BOSS Smart Plugs communicate with the BOSS Atmospheres® cloud?

- 🔌 The BOSS Smart Plug communicate with the BOSS Atmospheres® cloud platform via standard IP-based messaging using proprietary protocol. The network traffic looks like standard web traffic.
- 🔌 If network traffic is filtered or monitored, the BOSS Smart Plugs must have access to the following URLs to support the communication: [bosscontrols.com/*](https://bosscontrols.com/) and [exosite.com/*](https://exosite.com/).

What is difference between b and b/g?

- The terms b and b/g refer to the underlying WiFi technology in a BOSS Smart Plug. They are used to differentiate between the various levels of communication speed the Smart Plug can achieve, the ability of the Smart Plug to communicate with the network access point through walls*, and the number communication channels a network access point can have.

B WiFi 2.4GHz

- Lowest communication rate
- Longest communication distance through walls from a network access point
- Most number of network access point channels

B/G WiFi 2.4GHz

- Faster communication rate than B
- Shorter communication distance through walls from a network access point than B
- Fewer number of network access point channels than B

- In most network setups the BOSS Smart Plug will have the same level of performance across all WiFi technologies. If you have any questions regarding the setup of your network and how to get the most out of your BOSS Smart Plug, please contact BOSS.

*In general the lower the communication frequency the less attenuation a signal receives when traveling through objects, like walls.

Can BOSS Smart Plugs operate on our guest network?

- If your guest network enables direct access (i.e., does not require entry of a username or email address is not required via a web browser), the BOSS Smart Plugs can work just like any other network device.
- However, if your guest network requires an entry of a username or email address via a web browser, we will need to talk with your IT department to see if they can “white list” the BOSS Smart Plugs since the BOSS Smart Plugs do not have a web browser.

What are the MAC addresses of the BOSS Smart Plugs?

- Each BOSS Smart Plug has a unique serial number embedded in the label on the back (wall-facing) side of the Smart Plug. The MAC address of the BOSS Smart Plugs are the middle set of numbers in the serial number. For example, for the BOSS Smart Plug with the serial number of “A2-20F85E-A597FF-597FF”, the MAC address is “20F85E-A597FF”.

Can BOSS Smart Plugs be pre-provisioned with our network information?

- BOSS Smart Plugs can be pre-provisioned with your network information including the Wi-Fi SSID, password, and security mechanism. Pre-provisioning allows the BOSS Smart Plugs to be configured in a central location to facilitate a more rapid field installation.

How much network traffic do the BOSS Smart Plugs generate?

- Each BOSS Smart Plug generates a heartbeat message to the BOSS Atmospheres® cloud. The heartbeat messages are generated every 30 seconds; are approximately 100 bytes; and contain a snapshot of the Smart Plug's state and power measurement.
- The BOSS Smart Plug also sends an average power value for previous 5 minutes to the BOSS Atmospheres cloud. This data is sent every 5 minutes in a 100 byte packet. This is the value that is permanently stored in the cloud.
- If the schedule for the BOSS Smart Plug is modified, the messaging between the BOSS Atmospheres® cloud and the Smart Plugs are approximately 1 kilobyte data transfer to communicate the schedule change. Similarly if a BOSS Smart Plug state change (on or off) is performed via the BOSS Atmospheres® interface, the state change results in approximately 1 kilobyte data transfer message.
- For normal operation, only the heartbeat and 5 minute interval power data are communicated. To put the volume of traffic into perspective, a deployment of 10,000 BOSS Smart Plugs would generate an average of 2,200,000 bytes (2.2 MB) of traffic each minute.

What if we have additional questions?

- Please contact the BOSS team to have a direct discussion with your IT department staff to address any additional questions.