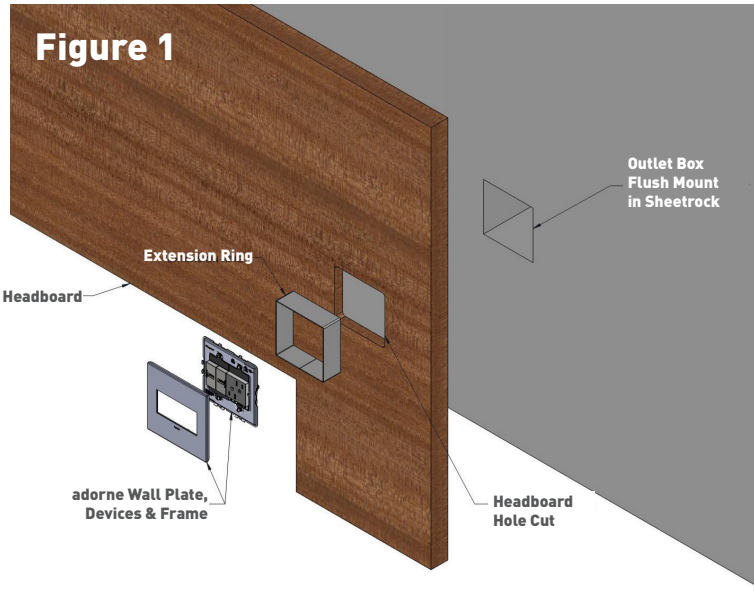
WHITE PAPER

Hospitality Trends in Power, USB Charging, and Lighting Controls at the Headboard

There is a trend in hospitality to provide an enhanced user experience for the guest. Guests expect all aspects of their hotel stay to be delightful, with no inconveniences to detract from the experience. This is leading to a convergence of power and lighting at the headboard.



Traditionally, the only electrical devices found on the headboard have been sconce/reading lights. Electrical outlets and USB Charging are now being introduced at the headboard, offering a convenient place for guests to charge their phones and tablets. Also, due to a focus on energy savings, some guest rooms are being equipped with a master switch at the headboard, allowing the guest to shut off all non-essential power from the bedside as they retire for the night.

As you can see, there are numerous lighting, power, USB charging, and lighting control elements converging at the headboard. Designers are striving to create clean, simple, and elegant hospitality spaces. Therefore, the power, USB charging, and lighting control elements should ideally be combined at one location on the headboard. We will explore several installation methods to achieve this goal, starting with the traditional on-site fabrication method as well as prefabricated Furniture Power Center assemblies from the adorne collection.

Please see **Figure 1** for a traditional install of outlets, USB charging, and lighting controls in a headboard. An electrician would install an outlet box in the wall at the location of the headboard and the wiring would be "roughed in". An opening would be cut in the headboard the same size as the outlet box and be located such that it will line up with the outlet box when the headboard is mounted to the wall. An outlet box extender would be installed, followed by the wiring devices and the wall plate. This requires a significant amount of coordination, including:

a. The outlet box must be precisely located in the wall to make sure it lines up with the hole in the headboard.

b. The dimensions of the outlet box must be identified so that the correct hole can be cut in the headboard. If the electrician uses a different brand of outlet box than what was specified, the hole in the headboard may not match.

If the outlet box in the wall does not line up with the hole in the headboard, a significant and costly delay in the project will result, as either the box in the wall will need to be moved or a new headboard with a revised hole location will need to be provided.

We will now look at using prefabricated Furniture Power Center assemblies from the adorne collection. These prefabricated assemblies consist of an enclosure with all receptacles, USB charging ports, and lighting controls mounted and prewired, ready for installation in the headboard. They are provided with either a power supply cord and plug or MC cable whip, depending on the application as we will detail below.

The Furniture Power Center for your application can use a power supply cord and plug if the following conditions are met:

a. The sconce/reading light provided is connected using a power supply cord and plug (ie, cord connected) and is not hardwired.

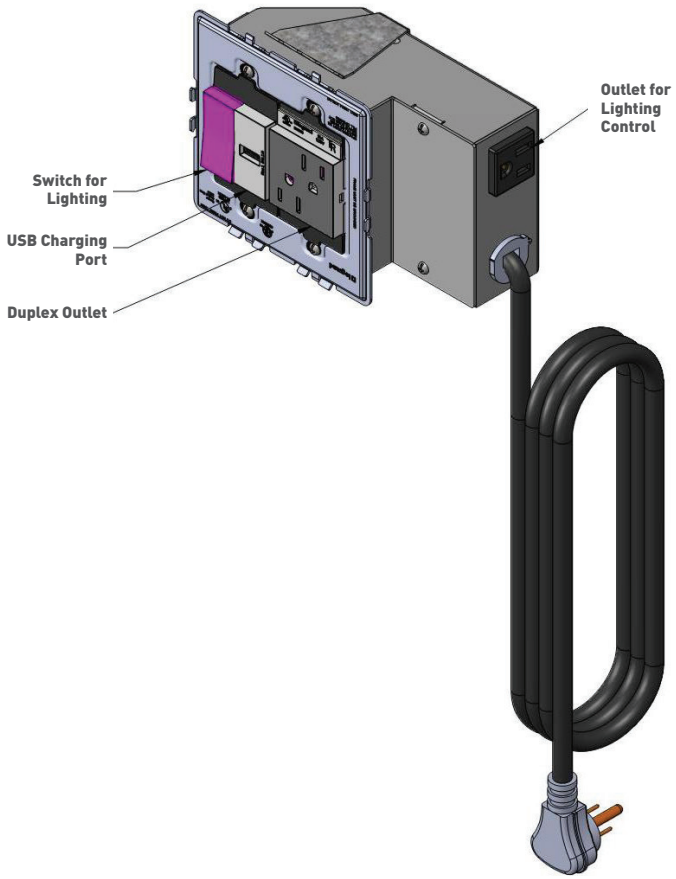
b. The sconce/reading light is not part of a multi-way (3-way or 4-way) switching circuit.

c. The sconce/reading light is located on the headboard along with the Furniture Power Center

d. There is no master switch required in the Furniture Power Center

If your application does not meet the guidelines above, then the MC cable whip version of the Furniture Power Center will be required. The MC cable whip version has the advantage of accommodating additional functionality, such as master switch control, multi-way switching, and switching lights that are not mounted to the headboard.

Figure 2



Cord Connected Furniture Power Center

Please see **Figure 2** for an example of a cord connected Furniture Power Center. A plug is provided to power the assembly. There is an electrical outlet as well as a USB charging port. A switch is connected to an outlet provided on the back of the Furniture Power Center. A light connected to this outlet will turn on and off using the switch on the Furniture Power Center.

Please see **Figure 3-A** and **Figure 3-B** for the typical installation of a cord connected Furniture Power Center. During the electrical rough-in, the electrician will install a receptacle outlet behind the headboard to power the Furniture Power Center. The Furniture Power Center and the sconce light will be installed into the headboard as shown. The sconce light will plug into the outlet provided on the back of the Furniture Power Center and the Furniture Power Center will be plugged into the receptacle on the wall. Both the receptacle on the wall and the plug for the sconce light will be accessible from an access panel provided in the headboard.

Figure 3-A

Figure 3-B

MC Cable Whip Connected Furniture Power Center

It is important to note that the functionality desired for an MC cable whip Furniture Power Center must be considered early on in the project. It must be part of the electrical design plan for the room so that the correct wiring can be roughed in to provide the desired functionality of the Furniture Power Center.

Please see **Figure 4** for an example of an MC cable whip connected Furniture Power Center. All of the wiring devices provided in the Furniture Power Center are connected to an MC cable whip. This whip consists of color coded wires that will be connected to the building wiring by an electrician to provide the required functionality of the power, USB charging and lighting controls.

Please see **Figure 5** for the typical installation of an MC cable whip connected Furniture Power Center. The Furniture Power Center is installed in the headboard as shown. Any lighting provided that is controlled by the Furniture Power Center is hardwired. A junction box and wiring is provided during the electrical rough-in to be connected to the MC cable whip of the Furniture Power Center. During (or after) the furniture installation, an electrician will wire the Furniture Power Center to the junction box. The junction box will be accessible from an access panel provided in the headboard.

The adorne Furniture Power Centers offer the following advantages over the traditional installation method:

a. The Furniture Power Center mounts to the headboard, not to the wall. The problem of the outlet box lining up with the hole in the headboard is eliminated. As long as proper clearance is provided behind the headboard where the Furniture Power Center will be located, the Furniture Power Center will install in the correct location every time.

b. Since the hole cut required for the Furniture Power Center is well defined, the furniture manufacturer can make the hole cut at the factory, eliminating the need to cut it on site. The correct hole cut will be provided every time.

c. If the Furniture Power Center has a power supply cord and plug, the electrician does not need to come back to install the Furniture Power Center during the furniture installation. The installation is plug and play at this point.

Legrand believes that all of the installation methods outlined above comply with the National Electrical Code. However, local Electrical Codes may vary. Therefore, we strongly recommend that you check with your local Authority Having Jurisdiction (AHJ) to confirm that your proposed installation of electrical devices in the headboard will be fully compliant with local codes.

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Figure 4

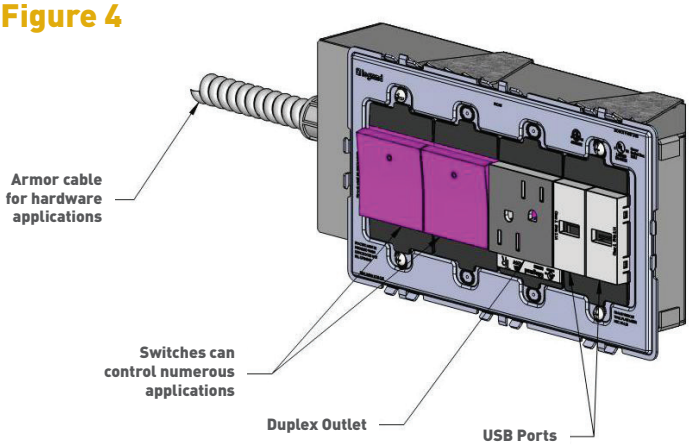

Figure 5

ABOUT LEGRAND

Legrand is a global specialist in electrical and network infrastructure solutions. Legrand transforms spaces where people live and work and delivers access to power, light and data to millions of spaces around the world.

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