

## HUBBELL WIRING DEVICE-KELLEMS

### **How does USB charging work?**

Almost all portable electronic devices such as tablets, cell phones, music players, etc, contain batteries which are typically charged via a cable to a USB port. The USB port may be located on a computer, a power adapter or a dedicated charging port for USB devices, such as our Hubbell USB receptacles. The port supplies +5VDC power, the USB industry standard, via pins 1 and 4 of a standard USB connector. When connected, a portable device will draw the current it needs to charge its battery. The maximum current the connected device will draw is determined by the capacity of its internal battery, the percent of charge it has at the time of connection, the internal circuitry of the portable device and the maximum current the dedicated charging port can supply.

### **Why not just charge my device through my computer's USB port?**

You may notice that your portable device charges slowly or sometimes not at all when connected to a computer's USB port. This is because the USB ports in a computer do not offer much in the way of current. A full charge can take several times longer than with a dedicated charger. Hubbell USB chargers provide up to 3 amps in our USB Duplex Receptacle and up to 5 amps in our 4-Port USB Receptacle, so your charge speed will be considerably faster -- and more convenient.

### **Can I charge multiple tablets simultaneously?**

Yes, the USB Duplex Charger can deliver up to 3.0 amps through the USB ports, with the 4-Port delivering up to 5.0 amps. Most tablets will need less power to charge, especially if there is power left in the battery. If two "dead" tablets are charging, the USB Duplex ports will split the power and charge both of them, at 1.5 amps each.

### **How much power does the USB Duplex Charger consume?**

While in sleep mode it will consume about 0.6 watts. When fully used the ports will consume 19.7 watts. If the product is used 6 hours a day for 365 days it will consume less than \$5.00 @ \$0.10 per kilowatt. If never used, sitting idle in the wall, it will cost about \$0.50 per year.

### **How much power does the USB 4 Port Charger consume?**

When not in use (with the shutters closed) the 4 port charger is completely off by the internal control switch, consuming no power.

### **I'm concerned that my Hubbell USB charger will push too much power into my device. What if it's exposed to more current than it can handle?**

The Hubbell USB charger supplies +5VDC when connected to portable devices. The resistance (impedance) of the connected device, or its battery, determines the amperage (current). Smartphone and tablet batteries will only draw what they want to. You can't "push" more current into it unless you raise the voltage. Hubbell provides superior current levels while limiting the voltage to +5VDC and providing protection from surges and over-voltage, making it both safe and speedy.

### **How does the USB Charger provide surge protection?**

The USB charger uses a transformer to isolate the AC power from the DC powered circuitry through which the USB ports supply power. As such it offers inherent protection of the components and to itself.

### **What kind of protection does the Hubbell USB charger offer against potential electrical damage?**

Hubbell uses several circuitry features to protect the device. The power supply transformer provides AC mains isolation, the integrated circuit controller has shut-down features in case of damaging events, and the output has excellent filtering and regulation.

**What does the USB receptacle do when connected portable devices require excessive current?**

Hubbell USB chargers will supply the rated charging current (3A or 5A) indefinitely. However when multiple devices are connected that require a total charging current above our rated current, Hubbell USB receptacles will supply an excess charge for a limited amount of time, depending on how much excessive current is required.

Hubbell USB receptacles have circuitry that will shut down the charge output if too much current is being supplied over time, which would otherwise cause the receptacle circuitry to overheat. At the point of shut-off, the LED will turn off to indicate that power is not being provided to the device. When the receptacle cools, the output and the LED will turn on again. If the devices to be charged are still connected, the output will cycle (turn on and off) until the excessive current load is removed, or if the connected devices have charged enough where they do not require as much current.

**Why would the light on my USB receptacle go out when I plug in my smart device?**

It is possible that your smart device is damaged, the USB cord set has a short or the USB connector on the cord set is damaged. If there any damage to the smart device or USB cord set, the USB receptacle senses this and automatically shuts down to prevent delivery of power to the smart device.

**What if something catastrophic happens to my device while using a third-party charger? Will using one void my warranty?**

Using a third-party charger will not void an Apple or Samsung warranty. Consult your owner's manual or your device's manufacturer for further information.

**How does Hubbell fulfill battery compliance regulations to ensure compatibility?**

Hubbell has designed its USB charging receptacle to comply with the latest revision of the USB Battery Charging Specification (Ver. 1.2), which can be accessed at [www.USB.org](http://www.USB.org).

**USB 3.0 Type-C has been confirmed as incompatible with current USB designs. Does Hubbell plan to accommodate the change as it is designed into new products?**

Because the design for USB 3.0 Type-C has not yet been revealed to the public, we cannot say how it will differ in performance from the current USB models. As more information becomes available, our engineers will research the new cables, connectors and communication protocol so we can continue to provide superior charging devices to our customers.

**If USB 3.0 Type-C is on its way, why should I buy a USB Receptacle now?**

Just as Apple's Thunderbolt is set to replace Firewire as the premier datacom port in its MacBooks, USB 3.0 Type-C will likely be phased in gradually as older versions of USB phase out. That process can take years to complete, but you still need power for your device today -- our receptacles can provide that power!

**Does the USB Charger work on a GFCI or AFCI protected circuit?**

Yes. We have tested up to three USB chargers on a circuit and there are no negative effects with any of the products. There is no false tripping.

**Can someone access the information on my smart device while it is plugged into the USB Charger?**

The port supplies +5VDC power, the USB industry standard, via pins 1 and 4 of a standard USB connector. The commutation pins 2 and 3 are shorted out, not allowing access.