



Are cables a thing of the past? Is induction the new buzzword!

By CMD Limited

UNLESS YOU ARE PARTICULARLY organised and good with cable management, you probably have a few dusty power cord tangles around your workplace. You may have even had to follow one particular cord through the seemingly impossible snarl to the outlet, hoping that the plug you pull will be the right one. This is one of the downfalls of electricity. While it can make people's lives easier and in this fast paced technology driven world we can't live without it, it can add a lot of clutter in the process.

In the workplace, it is the responsibility of the business owner to provide a safe working environment, so that the employees can carry out tasks safely in the vicinity. Employees must be trained to use the equipment correctly to prevent any unnecessary risks. But why is electrical safety considered so important? Electricity is dangerous as you in the trade well know. Electricity always seeks the

shortest path to the ground, usually through a conductor; so because the human body is around 70% water, this makes it a suitable route for electricity to take. Thus if a bare, live wire is touched by a human, electricity will pass through that body to the ground causing electrocution as you will know only too well. Electrocution as you know can be mild, depending on the voltage of the object; however a small amount of electricity if passed straight through the heart, even as little as 100-200 milliamps, can kill a human.

So with this in mind, scientists have been seeking the holy grail for many years now trying to develop methods of wireless power transmission that could cut the clutter or lead to clean sources of electricity. While the idea may sound futuristic, it isn't particularly new. You only have to consider the Serbian American inventor and electrical engineer Nicola Tesla who proposed theories of wireless power transmission

in the late 1800s and early 1900s. Tesla gained experience in telephony and electrical engineering before emigrating to the United States in 1884 to work for Thomas Edison in New York City. Tesla went on to pursue his ideas of wireless lighting and electricity distribution in his high-voltage, high-frequency power experiments in New York and Colorado Springs and made early (1893) pronouncements on the possibility of wireless communication with his devices. One of his more spectacular displays involved remotely powering lights in the ground at his Colorado Springs experiment station.

Tesla's work was impressive, but it didn't immediately lead to widespread, practical methods for wireless power transmission. Since then, researchers have developed several techniques for moving electricity over long distances without wires. Some exist only as theories or prototypes, but others are already in use. If you have an electric toothbrush, for example, you probably take advantage of one method every day. The wireless transmission of energy is common in much of the world. Radio waves are energy, and people use them to send and receive cell phone, TV, radio and WiFi signals every day. The radio waves spread in all directions until they reach antennae that are tuned to the right frequency. A similar method for transferring electrical power would be both inefficient and dangerous.

For example, a toothbrush's daily exposure to water makes a traditional plug-in charger potentially dangerous. Ordinary electrical connections could also allow water to seep into the toothbrush, damaging its components. Because of this, most toothbrushes recharge through inductive coupling.

Wireless charging solutions for the office, home and public spaces will soon be an everyday essential as we all become increasingly dependent on mobile devices. Even though it is early days with this technology, inductive charging is being built into an increasing number of Smartphones and tablets, (such as the Google Nexus 5 and 7) and we all have a part to play in helping to build the infrastructure to enable us to make use of this technology and continue its development. Did you know that we will also soon be able to charge our devices in cars: the technical committee of automobile manufactures, CE4A, has endorsed Qi (what is Qi I hear you ask? Qi is the wireless power consortium) as the worldwide charging standard for passenger cars. From 2014, Mercedes-Benz will be introducing Qi wireless charging technology into their vehicle range.

So what is the Wireless Power Consortium? Well the Wireless Power Consortium believe that wireless charging is a better way of charging, much more convenient than plugging in a wire with connector. They want to see wireless charging adopted in all battery operated products. They believe that wireless chargers must be compatible. Consumers don't value chargers that work with one phone and not with another phone so they want to establish a global standard for wireless charging that makes all wireless chargers compatible with all phones and other battery operated products.

However before we all rush out and get ourselves a new wireless charger you do have to be mindful that your device, whatever this might be, needs a certified wireless receiver built in or some kind of wireless charging compatible



technology – many mobile phone manufacturers now do this as standard very much like the universal power charger you get but you can literally buy the receive outright for as little as £5 and add to your device. You can then just place your device with receiver on a wireless charging product, a "handshake" happens between the charging spot and the receiver device, identifying the device and then beginning wireless energy transfer to the device. It is an intelligent system and will only send power to devices it has identified. Some new Smartphones and tablets already have wireless charging compatible technology built in as standard. We hope this technology will continue to be built into more devices in future; but for now, accessory cases can be used as mentioned earlier.

Further information

Companies like CMD have launched products like their PortHole III with Wave Technology that brings wireless charging to the forefront and CMS Ergonomics with their aircharge. Both products can be used at home or in the office, the aircharge comes with a 2m USB cable which is connected to a hub (which can be purchased separately) whereas CMD's PortHole III has an integral power supply, both delivering the DC 5V you need, both products can be retrofitted into an 80mm grommet hole which can simply be dropped in to enable easy charging.

Make the most of this new Technology Although wireless charging is an emerging technology whereby a magnetic field in the charger transfers power to a receiver without using any cables. We know that as we become increasingly more dependent on mobile devices, powering them is always going to be an essential need.

Want to know more about these products that can help make that difference, why not talk to CMD who are British Electrical manufacturers, celebrating 30 years in the business this year. CMD also have a new catalogue out for 2014, or order yours on http://campaigns.cmd-ltd.com/2014/brochure_request/request.asp, call 01709 385469 or visit <http://www.cmd-ltd.com> or email marketing@cmd-ltd.com for more details.