



USB POWER DELIVERY

USB-PD EXPLAINED

ELECTRICAL FURNITURE SPECIALISTS



USB - THE PAST

USB standard was designed to transfer data and started being used to charge small electronic devices.

USB 2.0 gave us 2,5W charging then USB 3.0 was capable of 4,5 Watt with USB BC1.2 then 7,5Watt. With this increase in power capabilities, data transfer rates also increased exponentially. For example from 10 Gig of data in just under 2 minutes on USB 2.0 to less than 20 seconds in USB 3.0.

Most recognizable by the traditional USB Type – A connectors. Later version of USB 3.0 has had blue inserts to identify them.



USB - THE FUTURE

In 2012 USB Power Delivery (PD) specification was released. Power Delivery is focused on providing the ability for devices to safely and easily draw more power than the 7,5 Watt limit, all the way up to 100 Watts. Along with USB-PD as a power system, the traditional USB- Type A connector has also undergone an upgrade to USB Type-C, which is more compact, reversible, support more protocols such as HDMI, VGA at the same time as delivering power up to 100W and data speeds of 10Gbps (that 10 Gig file can be theoretically transferred in 1 second).

USB-PD is set to rival the traditional AC outlet. With electronics increasingly being able to accept higher speed charging via USB-PD and lower power laptops, tables and module phones, this technology will roll out faster than any other previous USB upgrade.

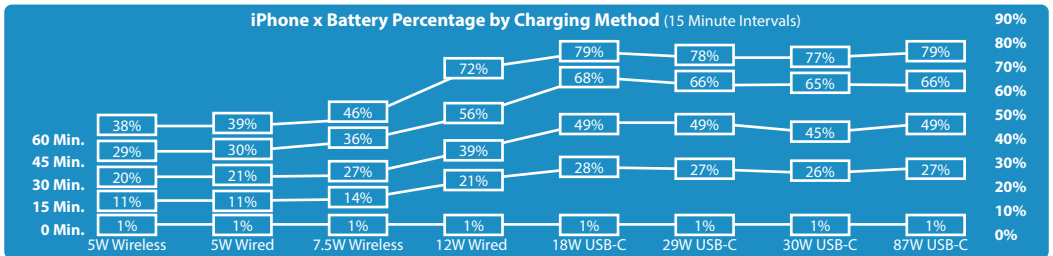
USB-PD chargers are intelligent and able to integrate the device being charged as well as the cable delivering the power. This intelligent handshaking sequence profiles the USB-PD system into 5 profiles as well as allowing for Bi-directional power delivery.

A battery bank being charged via USB-PD can reverse and become the power source should it need to.

USB PD POWER PROFILES

Device Category	Profile	Power	Notes
Hand-held devices, today's peripherals	PROFILE 1 5V @ 2A	10W	Default start-up profile
Tablets, notebooks, most peripherals	PROFILE 2 5V @ 2A, 12V @ 1.5A	18W	
Thinner notebooks, larger peripherals	PROFILE 3 5V @ 2A, 12V @ 3A	36W	
Larger notebooks, hubs, docks	PROFILE 4 5V @ 2A, 12V, 20V @ 3A	60W	Limit for Micro-B/AB connector
Workstations, hubs, docks	PROFILE 5 5V @ 2A, 12V, 20V @ 5A	100W	Limit for Standard A/B connector

The future of single power source and single cables handling Power, HDMI, Display Port, VGA, Ethernet with speed of 10 Gbit/s all via a single reversible connector will transform workspaces.



Patents pending.
Designed and manufactured
in South Africa.

Electrical furniture specialists. Integrating technology into
furniture with elegantly functional solutions

tel: 010 599 0444 | e-mail: info@design4.co.za | www.d-4.co.za

