POWERVERTER
12/24VDC USB CHARGERS

FOR MOBILES AND TABLETS – THE SAFE ALTERNATIVE FOR ON BOARD POWER

The widespread use of smartphones and computer tablets has created an increasing need for user accessible, on the move charging systems. The PowerVerter USB Chargers can be easily installed onto any vehicle and allow both drivers and passengers to readily access power to charge any device connected via a USB lead.

This type of system has the distinct advantage of largely negating the need for mains electricity on vehicles. The 5Volt DC power is much safer than mains, so installation is quick and simple. Passengers can access the charging facility directly and power their equipment simply through the USB charging lead which is supplied with all such products.

All versions in the range can be connected directly to both 12Vdc and 24Vdc systems without adjustment. The advanced electronic design will also automatically detect if the device is an Apple or Android configuration and alter the charging process accordingly. This ensures that whatever device is connected, be it Apple, Android, iPad, phone or tablet, it will always be charged as fully as time and capacity allow.

Protective pod for under seat or retrofit installation. Can be supplied with charger, pod & wiring ready assembled.

THE RANGE

The PowerVerter USB chargers are available with either single or double outputs. The USB1 design is ideal for installation in dashboards, facia displays or underneath bus seats and is retained from behind with the threaded securing ring provided. The USB2 provides the same performance but is designed to be stored out of the way with other wiring. The USB3 design offers a slimline alternative and requires only 20mm rear space. This version is ideal for installation into seat backs, armrests or wherever space is an issue. Where rear access is limited, a front fixing retaining plate is supplied as an alternative. A protective installation pod is also available. This will accept both single and double USB chargers and is ideal for under seat installations on buses and coaches as well as retrofit applications where the vehicle is already in service.

WARRANTY

Like all products, the USB chargers are manufactured using rugged components to provide years of service in demanding commercial environments. Due to the limitations of public use, the guarantee on these products is limited to three years.

COMMERCIAL INSTALLATIONS

The PowerVerter USB chargers offer an advanced design that effectively counteracts the voltage drop common when output currents vary as different devices charge at different rates. This avoids the common problem of the phone or tablet indicating it is charging when in fact very little current is being supplied. They also have an exceptionally low quiescent current of less that 2mA meaning that multiple devices can safely be installed throughout buses and coaches without materially discharging the battery.

They have been designed to meet the rigorous standards required for on board commercial vehicle applications including BS EN50498 and ISO 7637-2 and are both CE and E marked. The casings are made from V0 rated (self-extinguishing) high impact polycarbonate and the electronic assembly is predominantly by computer controlled SMT for maximum reliability.

All versions have a subtle blue LED light to highlight their location on the vehicle.

- 12Vdc and 24Vdc systems
- Up to 2.1A output (single) 3.0A (double - max 1.5A per socket)
- Apple and Android auto-detect
- Dashboard, slim-line seat back or underseat pod configurations
- LED output indicator
- CE and E Marked

PowerVerter USB - available in both single and double outputs

Slim line version for where rear space is limited.

Retaining plate for when rear access is limited

PV USB-2: Charger only, no interface. For under –dash use.

CHOOSE YOUR POWERVERTER USB PRODUCT

Part Number	Description	Dimensions (mm)	Weight
PV-USB1	Single output 12/24-5V USB Charger 2.1A	Diameter 36; Hole 30; Depth 55	30g
PV-USB1-DUAL	Double output 12/24-5V USB Charger 3.0A	Diameter 36; Hole 30; Depth 55	40g
PV-USB2	Single output charger only 12/24-5V USB 2.1A	85 x 24 x 14mm	30g
PV-USB3	Single output slimline 12/24-5V USB Charger 2.1A	Diameter 36; Hole 30; Depth 20	55g
PV-USB3-DUAL	Double output slimline 12/24-5V USB Charger 3.0A	Diameter 36; Hole 30; Depth 20	60g
PV-USB-POD	Mounting pod for USB Chargers	Width 60; Height 52; Depth 80	55g
PV-USB-H1	Standard 1.2m wiring with inline 2A fuse	1 x Red 1.2m, 1 x Black 1.2m	50g

TECHNICAL DATA

Input voltage range	9-32Vdc
Output voltage	5Vdc +/- 0.1V
Output Power	2.1A (single) 3.0A (double - max 1.5A per socket)
Application	Charges all USB devices including Apple and Android
Transient voltage protection	Meets ISO7637-2 International standard for 12/24V vehicles
Output noise	<50mV pk-pk
Off load current (quiescent current)	<1.7mA
Power conversion efficiency	86%
Operating temperature	-25°C to +30°C to meet this specification table
Storage temperature	-25°C to +100°C
Operating humidity	95% max., non-condensing
Casework	Black polycarbonate body
Connections	Input: 6.3mm push-in flat blade connectors Output: USB type A single socket/double socket
Output indicator	Blue LED output indication
Mounting method	30mm diameter hole with or without bezel. USB2 for non through fitting applications.
Safe area protection:	
Over Current:	Limited by current sensing circuit
Over heat:	Limited by temperature sensing circuit
Overvoltage and Undervoltage:	Limited by sensing circuit
Reverse Polarity:	Limited by sensing circuit
Transients:	Protected by filters and rugged component selection
Catastrophic protection:	Internal fuse
Approvals	2004/108/EC The general EMC directive Regulation 10 The automotive directive 93/68/EEC The CE marking directive AESP5
Designed to	EN50498, ISO 7637-2
Markings	CE and E marked
IP Rating:	IP30