

POWERVERTER RAIL USB CHARGERS

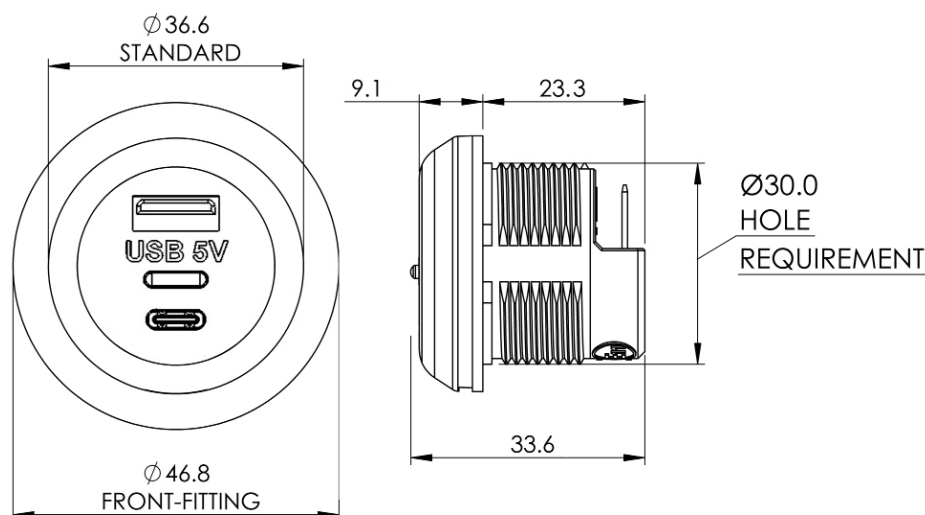
24VDC USB TYPE A & C CHARGER IP65 PROTECTED

A & C PORT USB CHARGING FOR 24VDC APPLICATIONS TESTED TO EN45545-2, EN50121-3-2 AND EN61373 (ROLLING STOCK)

The widespread use of smartphones and computer tablets has created an increasing need for user accessible, on the move charging systems. The PowerVerter PRPWp Railway Range is specifically designed to meet all requirements for rolling stock applications. These units can easily be installed into seat backs (space permitting), under the seat, directly into carriage walls, or tabletops using the suitable mounting pods available.

These chargers are available in both standard (secured from the rear with a nut) or front fitting, secured by three screws, covered with a discreet cover ring. Ingress protection is to IP65 (not connectors).

For systems already galvanically isolated, the PRPWp can be connected directly to the electrical system at 24V. These units have been tested according to the requirements of EN50155 Annex G, including EMC EN50121-3-2, Fire EN45545-2 and Shock and Vibration EN61373.



All dimensions in mm.

THE RANGE

All units are installed through a 30mm hole. Standard format units are retained by a rear nut while the front fit versions include a bezel with tamperproof cover ring. Input power is by way of two 6.3mm push-on flat fit automotive terminals.

Electronically the designs include reverse polarity protection and the output withstands short circuit current and will return back to full operation when the short is removed.

SAFETY

A requirement of the USB standard is that the metal cage around the USB plugs and sockets is connected to ground (zero volts). If a USB charger is to be used in an application with a positive ground, i.e. battery/supply positive terminal is connected to the vehicle chassis, then there is a risk that the exposed metal cage of any USB cable could come in contact

with the positive connected chassis, causing uncontrolled heating of the USB cable and USB charger and potentially creating a hazard.

In positive ground applications, the use of an isolated Alfatronix Converter is required to be installed between the positive ground supply and the input of the USB charger. Please refer to the PRi DC-DC datasheet.

WARRANTY

The PRPWp range of chargers are manufactured using rugged components to provide years of service in demanding commercial environments and are covered by a three year return to base guarantee.



PRPWp-CC, standard fit CC USB charger secured into place with locking nut.

The PRPWp range has the following key benefits:

- Both type-A and type-C outputs
- Apple and Android compatible
- Carriage wall, seat back or under seat and tabletop pod configurations
- LED output indicator
- IP65 ingress protection
- CE and UKCA marked



PRPWp-ACFf, front fitting version can be screwed in place from the front, then covered with the attractive ring to avoid tampering.



POWERVERTER RAIL USB CHARGERS

Part Number	Description	Dimensions (mm)	Weight
PRPWp-AC	USB 'A' & 'C' Dual output rugged, IP65 24-5V, 3.6A	Ø37 x 34; Hole Ø30; Rearspace typ.36	29g
PRPWp-C	USB 'C' Single output rugged, IP65 24-5V, 3.0A	Ø37 x 34; Hole Ø30; Rearspace typ.36	23g
PRPWp-CC	USB 'C' & 'C' Dual output rugged, IP65 24-5V, 3.0A	Ø37 x 34; Hole Ø30; Rearspace typ.36	24g
For front fit versions, please add the suffix Ff, e.g. PRPWp-AAFf, PVPWp-ACFf etc. The detachable ring in both standard and front fit format can be customised for branding and advertising purposes. Please ask our sales team.			
Accessories			
USB-POD	Under-seat mounting pod for USB chargers	W 60, H 52, D 80	69g
USB-TPOD	Table mounting pod for 2x USB chargers	W 103, H 44.5, D 88	73g
USB-WPOD	Wall mounting pods for USB chargers	W 60.5, H 75.9, D 25.6	22g
The USB 'A' & 'C' dual output or 'C' single and dual outputs can also be installed with the USB-POD, USB-TPOD or USB-WPOD. Please ask our sales team.			

TECHNICAL DATA

Input voltage range	24Vdc +/-30% according to IEC EN 50155		
Output voltage	5.Vdc +/- 0.2V		
Max output current	Dual A & C: 3.6A, Single C: 3.0A, Dual C: 3.0A		
Application	Charging of USB devices including Apple and Android		
Output noise	Typically: 1%		
Off load current (quiescent current)	<2.5mA		
Isolation	Non-isolated >400Vrms between casing and terminals		
Power conversion efficiency	90%		
Operating temperature	-25°C to +55°C, to meet this specification table		
Storage temperature	-40°C to +100°C		
Operating humidity	95% max., non-condensing		
Casework	Dark grey polycarbonate body, contrasting trim ring		
Connections	Input: 6.3mm push-in flat blade connectors Output: USB type-C single/double socket, USB type-C socket + USB type-A socket		
Output indicator	Blue LED output indication		
Mounting method	30mm diameter hole, with rear nut or front fit bezel		
Safe area protection:	Over Current	Output current limit	
	Over heat	Temperature sensing with automatic output de-rating	
	Over voltage	Protected against over-voltage surges according to EN 501201-3-2:2016 + A1:2019	
	Under voltage	Protected against under-voltage by sensing circuits	
	Reverse Polarity	Protected against reverse polarity of the input	
Catastrophic Protection	Internally fused, external fusing required on input wires		
Declarations	2014/30/EU - The EMC Directive 1907/2006 - The REACH Directive 2011/65/EU and 2015/863/EU - The RoHS Directive		
Tested to	EN50121-3-2:2016 + A1:2019 - Rail EMC EN45545-2:2020 + A1:2023 - Rail Fire EN61373:2010 - Rail shock and vibration EN 60068-2-1:2007 [test Ad], EN 60068-2-2:2007 [test Bd], EN 60068-2-30:2005 [test Db variant 2] - Environmental Testing		
Designed to	EN50155:2021 Annex G - Railway applications - Rolling stock - Electronic equipment		
Markings	CE and UKCA Marked		
IP Rating	IP65 - Tested according to EN 60529:1992 + A2:2013		