



POWERVERTER PVPro RAILWAY

12/24VDC USB CHARGERS FOR RAILWAY APPLICATIONS

USB CHARGERS CERTIFIED TO EN 50155 (EN 50121-3-2) 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 PVPro Railway range is especially designed to meet all the requirements for rolling stock applications. These units can easily be installed into seat backs or directly into carriage walls or underseat using the mounting pod.

These units 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.

Further general information can be found on the standard PowerVerter Pro leaflet.

Installations can be carried out two ways:

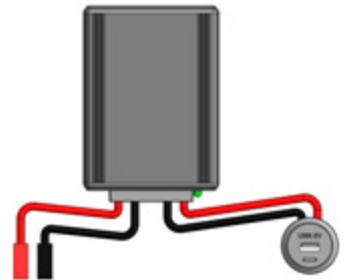
The PVPro-S (single output) or PVPro-D (double output) wired in conjunction with the PVPro-F (filter board) can be connected directly to the electrical system (either 12V or 24V). These units include transient filtration electronics to meet the requirements of EN 50155.

However, if the system specification requires galvanic isolation, then the PVPro range units can be used in conjunction with the Alfatronix PV6i-R or PV12i-R isolated railway approved converters. These units have also been tested as a system to EN 50155.



PVPro-S with PVPro-F filter

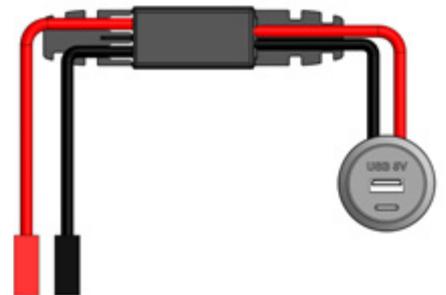
PVPro-D with PVPro-F filter



PVPro-S with PV6i-R
Any product in the PVPro range can be installed with a PV6i-R or PV12i-R to meet EN 50121-3-2

Note: A PV6i-R can power up to 6 single or 4 double output USB chargers. A PV12i-R can power up to 12 single or 8 double output USB chargers

Note: PV6i-R and PV12i-R can be used to provide power in a wide variety of railway applications



PVPro-S with PVPro-F filter
Any product in the PVPro range can be installed with a PVPro-F filter to meet EN 50121-3-2

CHOOSE YOUR PVPro RAILWAY PRODUCT

Part No.	Description	Dimensions (mm)	Weight
PVPro-F	Filter board to EN 50121-3-2 (use with PVPro series)	113 x 24 x 15 case + 150mm wire	25g
<i>All PVPro products can be used with a PV6i-R, PV12i-R or PVPro-F</i>			
PVPro-S	Single output 12/24-5V USB Charger, 2.1A	Ø37 x 33; Hole Ø30	20g
PVPro-D	Double output 12/24-5V USB Charger, 3.0A (1.5A per socket)	Ø37 x 33; Hole Ø30	24g
PVPro-SFf	Single output 12/24-5V USB, 2.1A, front fitting	Ø47 x 33; Hole Ø30	23g
PVPro-DFf	Double output 12/24-5V USB, 3.0A, front fitting	Ø47 x 33; Hole Ø30	27g
PV6i-R	6A 24V-12Vdc ISOLATED (PowerVerter Railway Converters)	127 x 87 x 50	505g
PV12i-R	12A 24V-12Vdc ISOLATED (PowerVerter Railway Converters)	167 x 87 x 50	590g
<i>NOTE: An underseat mounting pod P/N PV-USB-POD and wiring P/N PV-USB-H1 are also available.</i>			

TECHNICAL DATA (PVPro Series & PVPro-F filter)

NOTE: Technical specification also applies where PVPro series is used with PV6i-R and PV12i-R

Input voltage range	9-32Vdc
Output voltage	5Vdc +/- 0.2V
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 EN50155: 2007, EN50121-3-2: 2006
Vibration/Shock	EN61373: 2010
Output noise	<50mV pk-pk
Off load current (quiescent current)	<1.7mA
Power conversion efficiency	90%
Operating temperature	-25°C to +50°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 - tested to 10000 mating cycles
Output indicator	Blue LED output indication
Mounting method	30mm diameter hole, secured by rear nut or front-fitting bezel
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	2014/30/EU The general EMC directive 93/68/EEC The CE marking directive AES5, ECE R118.02 and UL 94: V-0
Designed to	EN50498, EN61373 and ISO 7637-2 Fully meets railway approval to EN50155, EN45545-2 and EN50121-3-2 For galvanic isolation use PVPro Series with PV6i-R or PV12i-R
Markings	CE and E (automotive) marked
IP Rating:	IP30