



# POWERVERTER RAILWAY

## 24VDC TO 12VDC VOLTAGE CONVERTERS

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These railway approved products are the perfect solution if your system specification requires galvanic isolation, high performance products for the railway industry and other demanding applications. This Alfatronix range of DC-DC converters have been designed and approved for railway applications. They meet all the necessary standards for RF immunity, transient and electrostatic discharge including EN50121 and EN61004 as well as shock and vibration to EN61373.

They are isolated and can be used to power any 12Vdc equipment from the rolling stock 24Vdc source. The circuit provides transient and EMC protection and can also be used to protect ancillary equipment from interference and voltage surges. They can be used in conjunction with the Alfatronix PVPro range of USB chargers providing approval to EN 50155 (EN 50121-3-2) as well as other suitable equipment installations.



POWERVERTER RAILWAY  
PV6i-R



POWERVERTER RAILWAY  
PV12i-R

Two products are available, providing 6Amps or 12Amps continuous power. Both units are housed in a strong aluminium casing and the installation is quick and easy and offers long term reliability with vibration proof connections and mounting system.

### TAMPER PROOF

These units are IP53, so there are no ventilation holes to permit stray objects, dust or water droplets to enter the case, there are no external fuses to be tampered with. Fuses will only blow if there is a fault so there is no need to make them accessible.

### FAST INSTALLATION

All products fit onto a "Click 'n' Fit" mounting clip which is fixed in three points allowing it to be mounted on uneven surfaces. It is easy to fit the clip into awkward places and then simply click the unit into position.

A green LED indicates when there is output from the converter. This gives reassurance to the installation engineer and speeds fault finding.



# CHOOSE YOUR RAILWAY CONVERTER

Part Number	Cont/Int Power	Nominal Voltage	Dimensions	Weight
PV6i-R	6A/10A isolated	24Vdc input, 12Vdc output	127 x 87 x 50mm	505g
PV12i-R	12A/18A isolated	24Vdc input, 12Vdc output	167 x 87 x 50mm	590g

## TECHNICAL DATA

Input voltage range	17-32Vdc
Output voltage	13.6Vdc +/- 15% at extremes of temperature, load, input tolerance, etc.
Intermittent output power	As stated, taken for a maximum of 2 minutes followed by 8 minutes rest
Transient voltage protection	EN50121-3-2 to EN61004-4
Electrostatic discharge	EN50121-3-2 to EN61004-2
RF Immunity	Conducted: EN50121-3-2 to EN6100 4-6, Radiated to EN6100 4-3
RF Emissions	EN50121-3-2 to EN55011
Surges	EN50121-3-2 to EN6100 4-5
Vibration, Shock, Impact	EN61373
Output noise	<50mV pk-pk at continuous load. Meets CISPR25
Off load current (quiescent current)	<30mA
Power conversion efficiency	Typically: 85%
Isolation	>400Vrms between input, output and case
Operating temperature	-25°C to +55°C to meet this specification table +30°C to +80°C de rate linearly to OA
Storage temperature	-25°C to +70°C
Operating humidity	95% max., non-condensing
Casework	Anodised aluminium, glass filled polycarbonate, dust water and impact resistance to IP533
Connections	Four 6.3mm push-on flat blade connectors
Output indicator	Green LED adjacent to output terminals
Mounting method	Click 'n' fit mounting clip, fitted separately using three hole fixture
Safe area protection:	
Over current	Limited by current sensing circuit
Over heat	Limited by temperature sensing circuit
Reverse polarity	Limited by sensing circuit
Transients	Protected by filters and rugged component selection
Catastrophic protection	Protected by internal input and output fuses
Approvals	2014/30/EU The general EMC directive 93/68/EEC The CE marking directive Railway Standards to EN50155
Designed to	EN50155, EN50121-3-2, EN45545-2 and EN61373
Markings	CE and E (automotive) marked