

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, RIA12 (EN 50121-3-2) as well as other suitable equipment installations.



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.



POWERVERTER RAILWAY
PV6i-R

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 | Constant Power | Dimensions | Weight |
|-------------|------------------|---------------------------|----------------|-----------------|--------|
| PV6i-R | 6A/10A isolated | 24Vdc input, 12Vdc output | 80W | 127 x 87 x 50mm | 505g |
| PV12i-R | 12A/18A isolated | 24Vdc input, 12Vdc output | 160W | 167 x 87 x 50mm | 590g |
| PV24i-R | 24A/30A isolated | 24Vdc input, 12Vdc output | 320W | 217 x 87 x 50mm | 785g |

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 0A |
| 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 & RIA12 |
| Designed to | EN50155, EN50121-3-2, EN45545-2 and EN61373 |
| Markings | CE and E (automotive) marked |