

# DD and DDi Series Voltage Converters

## 12V-12V, 24V-24V, 12V-24V and 48V-12V Converters for a wide range of applications

If you need to fit 24V equipment onto a 12V vehicle, then an up converter from the DD Series offers a fast and easy way to configure your system. Or, if you need to stabilise your voltage or isolate your supply, then the DDi Series of 12V-12V and 24V-24V Isolators will suffice. There are also 48V-12V units available for telecoms and forklift truck applications.

### A Wide Product Range

There are three 12V-24V products in the range running at currents from 3A (DD 12-24 072) to 10A (DD 12-24 240), while there are 5 more products from 3A – 10A in the 12V-12V and 24V-24V isolator range. All products use modern switchmode designs and are built using the same manufacturing concepts and technologies as the successful **PowerVerte**r range which will of course meet your 24V-12V requirements.

12V-12V and 24V-24V units provide a stable output voltage as well as providing galvanic isolation for a variety of applications



These 12V units are ideal for small vehicle applications such as cars, minibuses, small marine craft, caravans and motorhomes and a variety of industrial uses.



### Fast Installation

All the units consume an off load current of less than 100mA, which is probably less than the self discharge current of the vehicle's battery.

All the 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, then simply click the unit into position.

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



The 12V-24V converters have been used for a variety of applications including bus ticketing systems on mini buses and for 24V bow thrusters on leisure craft.

### Product Variants

Many PowerVerters and DD Series products can be configured with alternative output voltages etc., for specialist applications. Please call our sales team to discuss your requirements.

### Product Coding

The product code is developed as follows taking the DDi 12-12 036 as an example:

<b>DD</b>	DC input and output
<b>i</b>	Denotes isolated converter
<b>12-12</b>	Nominal 12V input and output
<b>036</b>	36W Capacity Unit

## Choose your DD Series Product

Part Number	Power	Nominal Voltage	Dimensions	Weight
DDi 12-12 036	36W (3A) Isolated	12Vdc input, 12Vdc output	89 x 87 x 50mm	290g
DDi 12-12 072	72W (6A) Isolated	12Vdc input, 12Vdc output	162 x 87 x 50mm	540g
DDi 24-24 072	72W (3A) Isolated	24Vdc input, 24Vdc output	127 x 87 x 50mm	440g
DDi 24-24 108	108W (4.5A) Isolated	24Vdc input, 24Vdc output	167 x 87 x 50mm	540g
DDi 24-24 168	168W (7A) Isolated	24Vdc input, 24Vdc output	217 x 87 x 50mm	780g
DDi 24-24 240	240W (10A) Isolated	24Vdc input, 24Vdc output	217 x 87 x 62mm	880g
DD 12-24 072	72W (3A) Non-Isolated	12Vdc input, 24Vdc output	89 x 87 x 50mm	300g
DD 12-24 168	168W (7A) Non-Isolated	12Vdc input, 24Vdc output	167 x 87 x 50mm	640g
DD 12-24 240	240W (10A) Non-Isolated	12Vdc input, 24Vdc output	217 x 87 x 50mm	820g
DD 48-12 072	72W (6A) Non-Isolated	48Vdc input, 12Vdc output	89 x 87 x 50mm	260g
DD 48-12 108	108W (9A) Non-isolated	48Vdc input, 12Vdc output	127 x 87 x 50mm	360g
<b>Other input and output voltage configurations are available as special orders, please ask our sales team</b>				

## Technical Data

Input voltage range	12 Vdc, 24 Vdc or 48 Vdc +/- 30%
Output voltage	13.6Vdc or 27.2Vdc +15% -20% at extremes of temperature, load, input tolerance, etc.
Intermittent output power	Continuous rating +25%, taken for a maximum of 2 minutes followed by 8 minutes rest.
Transient voltage protection	Meets ISO7637-2 International standard for 24Vdc commercial vehicles
Electrostatic voltage protection	Meets ISO10605, ISO14892, >8kV contact, 15kV discharge
Output noise	<50mV pk-pk (100mV on 24V units) at continuous load. Meets CISPR25 and VDE0879-3
Off load current (quiescent current)	<15mA
Power conversion efficiency	Typically: 90% for non-isolated units, 85% for isolated units
Isolation	>400Vrms between input, output and case, on isolated products only
Operating temperature	-25°C to +30°C to meet this specification table +30°C to +80°C de rate linearly to 0A
Storage temperature	-25°C to +100°C
Operating humidity	95% max., non-condensing
Casework	Anodised aluminium, glass filled polycarbonate, dust water and impact resistance to IP533. (excludes DDi 12-12 072 and DDi 24-24 240 which are ventilated, IP20). DDi 24-24 240 is also fitted with a cooling fan.
Connections	Four 6.3mm push-on flat blade connectors
Output indicator	Red LED adjacent to output terminals
Mounting method	'Click 'n' fit mounting clip, fitted separately using three hole fixing
Safe area protection: Over current	Limited by current sensing circuit
Over heat	Limited by temperature sensing circuit
Transients	Protected by filters and rugged component selection
Catastrophic failure	Protected by internal input and output fuses
Approvals	2004/108/EC The general EMC directive 2006/96/EC The automotive directive 93/68/EEC The CE marking directive
Markings	CE and e marked



**Alfatronix Limited**, 29 Newtown Business Park, Poole, Dorset, BH12 3LL, England  
 Telephone: +44 (0)1202 715517. Fax: +44 (0)1202 715122  
 Website: <http://www.alfatronix.co.uk>. E mail: [sales@alfatronix.co.uk](mailto:sales@alfatronix.co.uk)  
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