

AD Series *AC to DC* Voltage Converters

AC-DC Voltage Converters



These power supplies, commonly referred to as 'brick in the lead' units, offer a convenient way to use 12Vdc, 24Vdc or 48Vdc equipment from alternating current supplies of between 85 to 135Vac and 170 to 265Vac. Input voltage selection is automatic and requires no manual adjustment.

The continuous power rating spans 36 to 240 watts in five models. The nominal voltage output is factory set at 12Vdc, 24Vdc or 48Vdc.

These cool running products use switch mode technology and are assembled using surface mount technology.

The PowerMasters are continuously rated. The power output is limited at the continuous rating so that they can be used in parallel when extra power is required.

The units meet the European Low Voltage Directive and the EMC Directive. They also meet the requirements of UL1950 and FCC Class B.

Applications

PowerMasters may be used to supply radiotelephones and other appliances from ac mains used in offices, portable site cabins, communication cabins, telephone exchanges, remote antenna sites, ships, oil rigs, etc. The units may also be used for constant voltage lead-acid battery charging providing the battery manufacturer's guidelines are followed.

Rugged and Compact

The *brick* units are housed in a rugged corrosion resistant anodized aluminum extrusion. They can be

dropped, jumped on and splashed without damage.

The low mass Surface Mount Technology components are also less prone to damage from vibration and shock, further increasing the reliability of the units.

The use of SMT results in a very compact unit, making it easier for the installer to find a convenient location.

Fast Installation

All the brick units fit onto a 'Click 'n' Fit' mounting clip. It is easy to fit the clip into awkward places then click the brick unit into the clip. The clip is fixed in three points allowing it to be mounted on uneven surfaces. *For desktop versions of these power supplies ask for the 'Desktop' leaflet.*

The units are compact enough to be neatly mounted onto a bulkhead, under a desk, under a shelf or alongside an appliance. They may also be used as a free standing 'brick in the lead' power unit, resting on the four rubber feet that are provided.

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

International Connections

The mains input is via a national cordset attached to the unit via an IEC-320 C13/14 plug and socket. The DC output is via two 6.3 mm (1/4") push on connectors. A ground stud is also provided.

Full Circuit Protection

The *brick* units have transient, overload and overheat protection.

Product Coding

The new AlfaTronix AD Series codes have been developed to 'say everything'. They include all the product characteristics in one simple code and can be explained as follows, taking the AD115/230-12 as an example:

AD	AD Series (AC-DC power supplies)
115/230	115/230Vac input
12	12Vdc output
108	108 watts continuous output (9 amps at 12Vdc)



for use in offices, *on ships and* oil rigs

Choose *your* AC-DC Converter

	12Vcd	24Vcd	48Vcd	Power	Size
Product Codes for AD Series	AD 115/230-12 036	AD 115/230-24 036	AD 115/230-48 036	36 watts	165 x 87 x 59mm (6.5" x 3.43" x 2.32") 675g (23.8oz)
	AD 115/230-12 072	AD 115/230-24 072	AD 115/230-48 072	72 watts	165 x 87 x 59mm (6.5" x 3.43" x 2.32") 675g (23.8oz)
	AD 115/230-12 108	AD 115/230-24 108	AD 115/230-48 108	108 watts	165 x 87 x 59mm (6.5" x 3.43" x 2.32") 675g (23.8oz)
	AD 115/230-12 168	AD 115/230-24 168	AD 115/230-48 168	168 watts	215 x 87 x 59mm (8.46" x 3.43" x 2.32") 900g (31.7oz)
	AD 115/230-12 240	AD 115/230-24 240	AD 115/230-48 240	240 watts	255 x 87 x 59mm (10" x 3.43" x 2.32") 1150g (40.6oz)

Common Characteristics

Input voltage range	Auto-Select, 85-135Vac and 170-265Vac, 47-440Hz
Output voltage options	13.6 Vdc, 27.2Vdc or 54.4Vdc, as ordered. Worst case limits are +/-4%
Output noise	<50mV pk-pk at continuous load
Power conversion efficiency	Typically 85%
Isolation:	
Between input and case/output Casework to ground	1.5kVac/3.0kVac rms Connected directly to mains input ground
Mean time between failures	>100 Years (HRD4)
Normal operating temperature	-25°C to +30°C to meet this specification table +30°C to +70°C de-rate linearly to 0A
Storage temperature	-25°C to +100°C
Max case temperature	70°C at full load with 25°C ambient
Operating humidity	95% max, non-condensing
Casework	Anodized aluminum
Connections:	IEC-320 C14 socket, C13 terminated cordset
Input	6.3 mm push-on blade terminals
Output	Stud with crimp eyelet, adjacent to input
Ground	
Output indicator	Red LED adjacent to output terminals
Mounting method	'Click 'n' Fit' mounting clip or rubber feet
Safe area protection:	
Over current	Limited by current sensing circuit, may be run in parallel
Over heat	Limited by temperature sensing circuit
Output over voltage	Protected by independent shut down circuit
Transients	Protected by filters and rugged component selection
Catastrophic failure	Protected by internal input and output fuses
Approvals	89/336/EEC The General EMC Directive 73/23/EEC The Low Voltage Directive 93/68/EEC The CE Marking Directive
Tested to	EN50081-1, EN50082-1, EN55014-1, EN61000-3-3, EN60950, EN60945 UL1950, CSA950-95, FCC Class "B", VDE0805
Markings	CE



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