



# CUSTOM POWER DESIGN

ELECTRONICS CONSULTANTS PROVIDING CUSTOM DESIGN, DEVELOPMENT, TEST & SUPPORT



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A DIVISION OF SMET LTD

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## POWER ADAPTORS (DC TO MAINS CHOPPERS). (Very high DC voltage input).

Model	Input	Output (Nominal)	Model	Input	Output (Nominal)
SM2941	160VDC	115VAC	SM2940	320VDC	230VAC
SM2943	110VDC	115VAC	SM2942	220VDC	230VAC
SM2944	125VDC	115VAC			

**HIGH VOLTAGES EXIST IN THIS EQUIPMENT.**

**USE FULL SAFETY PROCEDURES.**

**WARNING:- There is no isolation between the battery and the output. Isolation/Protection is provided by the safety barrier in the powered equipment.**

### GENERAL DESCRIPTION.

A small chopper/converter generating mains level output, capable of powering most small office or laboratory equipment from a DC supply. The output is produced by inverting or 'chopping' the DC input using an 'H' bridge technique. The actual output voltage is in proportion to the DC input voltage, but the variation is taken care of by the normal regulation of the power supply in the powered equipment.

The output is a stepped odd function square wave AC output of nominally 220V or 110V depending on type and actual input voltage. This output, also suitable for switched mode supplies, is required for machines employing a mains transformer, making it suitable for almost all equipment.

The specification allows for up to 200 watts of continuous power to be used, with short surges up to 300 watts, accommodating disk drive run-up, stepper motor operation, thermal printing etc.

The power outlet is a shuttered IEC socket allowing the use of an IEC mains lead where appropriate. Where this is not the case, RS stock no. 489-251 or equivalent, may be used for the mating connector.

The power input is via short flying leads. The RED lead connects to battery positive and the BLACK lead to battery negative. The EARTH is a GREEN/YELLOW lead.

The unit is packaged in a powder coated diecast box measuring 50mm by 147mm by 95mm. Input wires enter on one small face, and the outlet socket is mounted on the opposite face.

**CAUTION:** This adaptor is supplied on the basis of the user determining the suitability for the purpose for which it is to be used. Do not use in a moving vehicle without the consent of the vehicle manufacturer. Do not use for aviation or marine applications without our written agreement. Do not use for life dependent applications.

**FIXING:** Four M5 threaded fixing holes are available on the mounting face. They are positioned at each corner of a rectangle measuring 63mm by 113mm placed centrally on the lid of the box. Screw penetration must not exceed 12mm.

**WIRING:** The RED lead (POSITIVE) and the BLACK lead (NEGATIVE) should be connected as directly to the supply, without passing through a switch. The DC supply should be fused at 5A to protect input wiring.

**WARNING: Reversal of the battery connections will result in permanent damage voiding the warranty.**

We manufacture a wide range of DC-DC converters, DC-AC (mains) inverters and many other power systems.

We specialise in the custom design of Hydrogen Stack converters up to 10KW.

Made in the UK.

We reserve the right to change the specification without notice.

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