



CUSTOM POWER DESIGN

ELECTRONICS CONSULTANTS PROVIDING CUSTOM DESIGN, DEVELOPMENT, TEST & SUPPORT



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A DIVISION OF SMET LTD

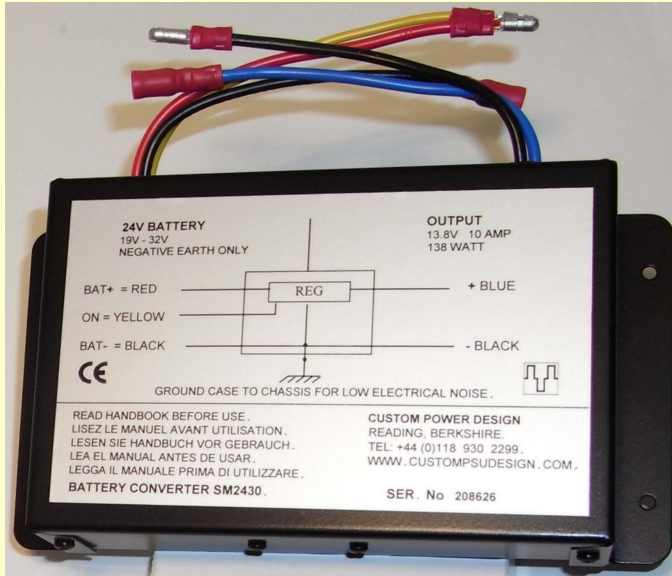
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24V TO 12V BATTERY CONVERTER:- 138W.

MODEL SM 2430 13.8 VDC OUTPUT AT 10A.



- VERY HIGH CONVERSION EFFICIENCY.
- HIGH OUTPUT POWER IN COMPACT SIZE.
- CHARGE A 12V BATTERY FOR HIGH PEAK LOADS.
- REMOTE ON / OFF CONTROL.
- OUTPUT OVERVOLTAGE CROWBAR PROTECTION.

GENERAL DESCRIPTION. A small highly efficient converter, generating 13.8 volts DC, capable of powering most 12 volt battery vehicle equipment when supplied from any battery producing 19-32 Volts. The input and output share a common zero volt return (connected to case), making installation very simple.

The specification, given in detail opposite, allows for up to 138 watts (10 amps) of continuous power to be used, with operation allowed in current limit. The unit incorporates an electronic relay to turn it on/off remotely, driven by a control input (max. voltage 38V).

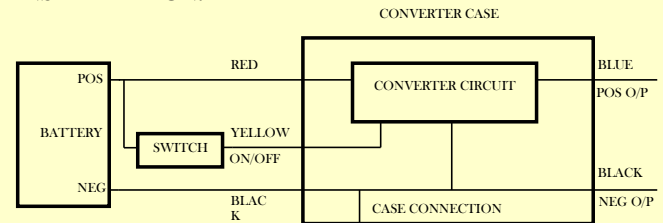
Power input and output is via short flying leads (100mm) terminated in 4mm bullet crimp connectors. The RED lead connects to source battery positive and the BLACK input lead to battery negative. The on/off input is a YELLOW lead terminated in a bullet connector. Positive output is taken from the BLUE lead (positive) and the BLACK output lead (negative). Note that the BLACK output lead is supplied for convenience; normal output return is via system chassis.

The unit is packaged in a metal box measuring 39mm high by 94mm wide by 142mm long, with mounting flanges at each end, increasing overall length to 172mm. Weight is 0.6Kg.

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. The negative input lead is connected to case and output ground making the unit suitable only for negative earth systems.

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

INSTALLATION.



FIXING:- Four 3.5mm diameter-fixing holes are available on the mounting flanges, with centres of 160mm by 60mm, symmetrically placed.

The converter employs switched mode conversion, which generates some electrical noise. In sensitive installations, to minimise interference, it is advisable to ground the unit directly on the system chassis.

SPECIFICATION.

INPUT:- 19V to 32V DC continuous, 19V to 38V for 10 seconds. This covers general 24V Battery systems.

INPUT FUSE:- 10A automotive blade (RED).

NO LOAD OUTPUT VOLTAGE:- 13.8 VDC +/- 0.1V.

LINE REGULATION:- Less than +/- 0.1V for a 6V static input change.

LOAD REGULATION:- Less than 0.2V for a 0.5A to 6A static change.

LOW FREQUENCY RIPPLE:- Less than 50mV pp.

MAXIMUM OUTPUT:- 138W (10A) continuous. Operation in current limit is allowed to facilitate 12V lead acid battery charging.

CURRENT LIMIT:- 11.A +/-0.7A falling to 5A +/- 2A shorted.

OVERVOLTAGE PROTECTION:- Limits at 16.5V +/- 1.5V, by SCR crowbar.

ON/OFF CONTROL:- The unit draws less than 1mA until a positive voltage between 19V and 38V is applied to the control input (yellow lead).

SIZE AND WEIGHT:- 39mm by 94mm by 142mm. 0.6Kg.

TEMPERATURE RANGE:- -20C to +50C operating, -40C to +70C storage.

Made in the United Kingdom.

SMET Ltd. manufactures a large range of Battery Converters and Battery to 230V/115V AC Mains Inverters.

TECHNICAL SUPPORT: Because of the specialist nature of our units, all questions should be directed to SMET Ltd. on +44 (0)118 983 1222. Call if you are not sure about your application, or visit our web site for help.

We reserve the right to change the specification without notice

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