CUSTOM POWER DESIGN

ELECTRONICS CONSULTANTS PROVIDING CUSTOM DESIGN, DEVELOPMENT, TEST & SUPPORT

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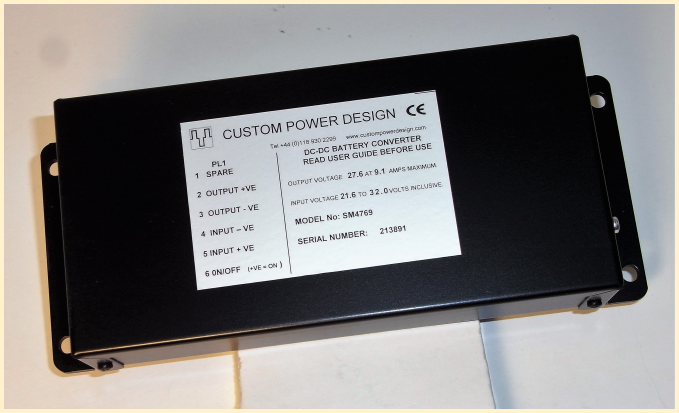
HYDROGEN STACK DC-DC BOOST CONNECTED CHARGERS.

UP TO 500W OUTPUT, WITH WIDE STACK VOLTAGE RANGE.

OUTPUT	INPUT: 12-36V	18-48V	24-60V	30-84V
27.6V 18.1A (24V Bat.)	SM5640	----------	----------	----------
41.4V 12.1A (36V Bat.)	SM5641	----------	----------	----------
55.2V 9.2A (48V Bat.)	SM5642	SM5652	----------	----------
69.0V 7.2A (60V Bat.)	----------	SM5653	SM5663	----------
82.8V 6.0A (72V Bat.)	----------	SM5654	SM5664	SM5674
96.6V 5.2A (84V Bat.)	----------	SM5655	SM5665	SM5675
110.4V 4.5A (96V Bat.)	----------	----------	SM5666	SM5676
124.2V 4.0A (108V Bat.)	----------	----------	SM5667	SM5677
138.0V 3.6A (120V Bat.)	----------	----------	----------	SM5678

- **HIGH OUTPUT POWER IN COMPACT SIZE.**
- **UP TO 500W TOTAL OUTPUT IN BOOST MODE.**
- **FEATURES 'STACKLIMIT'© CONTROL.**
- **REMOTE ON / OFF CONTROL FACILITY.**



Library picture representative of range.

GENERAL DESCRIPTION. A small converter converting up to 250W from a hydrogen stack, with various dc outputs. The positive input and the negative output are connected, adding the converter output to the battery voltage. In this 'BOOST' mode, the output adds to the stack voltage, allowing up to 500W output. The voltage between stack negative and output positive is regulated for float charging.

The unit is intended to use fuel cell stacks for input, where maximum power is available at a well- defined stack voltage, typically 45% of the stack's open circuit voltage.

By setting the **'STACKLIMIT'**© of the converter to this voltage, the unit will start to fold back with high load, balancing the stack at maximum stack output, maximising charge power.

A fixed output current limit applies, but normally the stack will limit before the current limit is reached.

Connection is by 6.34mm spade terminals at one end.

SPECIFICATION.

INPUT VOLTAGE: See model listing above.
The **'STACKLIMIT'**© or 'brown out' is varied by potentiometer, from minimum input voltage to 55% of maximum input, see text.

OUTPUT:

Voltage (10% Load):	Nominal + 100mV ±50mV.
Line Regulation: -	< ± 0.05V for 10% input change.
Load Regulation: -	<-0.1V for 10% - 90% change.
Low Frequency Ripple:	Less than 100mV pp.
Current Limit: -	Nominal plus 10%, ± 7%.
On/Off Control: -	The unit will draw less than 0.1mA until +3V to +84V is applied to the control input.

GENERAL:

Protection:	O/P current limit with input fuse.
Size:	295mm x 133mm x 88mm.
Weight:	820 grams.
Storage Temp Range:	-40 to +70C.
Operating Temp Range:	-40 to +45C.
Manufacturer	Made in UK.

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 maker. Do not use for aviation or marine applications without written agreement. Do not use for life dependent applications. We reserve the right to change the specification without notice.

Document 5640-993.

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.