CUSTOM POWER DESIGN

ELECTRONICS CONSULTANTS PROVIDING CUSTOM DESIGN, DEVELOPMENT, TEST & SUPPORT

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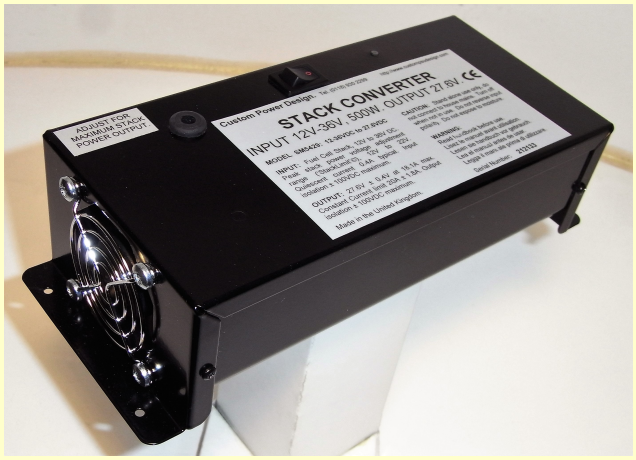
HYDROGEN STACK DC-DC BOOST CONNECTED CHARGERS.

UP TO 1KW OUTPUT, WITH WIDE STACK VOLTAGE RANGE.

Model Number Selection (other input and output voltages available).

OUTPUT	INPUT: 12-36V	18-48V	24-60V	30-84V
27.6V 18.1A (24V Bat.)	SM5680	----------	----------	----------
41.4V 12.1A (36V Bat.)	SM5681	----------	----------	----------
55.2V 9.2A (48V Bat.)	SM5682	SM5692	----------	----------
69.0V 7.2A (60V Bat.)	----------	SM5693	SM5703	----------
82.8V 6.0A (72V Bat.)	----------	SM5694	SM5704	SM5714
96.6V 5.2A (84V Bat.)	----------	SM5695	SM5705	SM5715
110.4V 4.5A (96V Bat.)	----------	----------	SM5706	SM5716
124.2V 4.0A (108V Bat.)	----------	----------	SM5707	SM5717
138.0V 3.6A (120V Bat.)	----------	----------	----------	SM5718

- **HIGH OUTPUT POWER IN COMPACT SIZE.**
- **UP TO 1KW TOTAL OUTPUT IN BOOST MODE.**
- **FEATURES 'STACKLIMIT'© CONTROL.**
- **REMOTE ON / OFF CONTROL FACILITY.**



Library picture representative of range. Boost connection can double power output.

GENERAL DESCRIPTION. A small converter converting up to 500W 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 1000W 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 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 possible 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 5mm female terminals, under the base.

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% to 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 and input fuse.
Size:	295mm x 133mm x 88mm.
Weight:	2400 grams.
Storage Temperature:	-40 to +70C.
Operating Temperature:	-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 5680-993.

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.