



WIDE RANGE DC-DC HYDROGEN STACK CONVERTER.

UP TO 1000W INPUT, CONNECTED IN BOOST MODE (3 Terminal).

SM5446M1: OUTPUT 48.0V at 21A INPUT: 30-46V

- HIGH OUTPUT POWER IN COMPACT SIZE.
- REMOTE ON / OFF CONTROL FACILITY.
- FEATURES 'STACKLIMIT'© CONTROL.
- MANUAL OR PROCESSOR BASED VERSIONS.



Library picture representative of the range. Boost connection allows up to 1000W I/P.

GENERAL DESCRIPTION. A small converter handling up to 1000W from a hydrogen stack, with various dc outputs, model dependent. The converter output is added to the input voltage for maximum efficiency. The output has a constant current limit and the unit can be turned on/off remotely, via a logic compatible / stack voltage control input.

The unit is intended for use with fuel cell stacks, 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 possible stack output.

A fixed output current limit applies, but normally the stack will limit before the current limit is reached. Units may specifically be used for battery charging.

The output impedance of the unit is deliberately degraded to permit parallel use, with reasonable load sharing.

Power input and output is via 5mm female terminal posts, underneath the raised base of the unit.

SPECIFICATION.

INPUT VOLTAGE: 27V to 46V.

The 'STACKLIMIT'© is variable by potentiometer, from minimum input to 55% of maximum input, see text.

OUTPUT:

Voltage (10% Load): - Nominal + 100mV $\pm$ 50mV.

Line Regulation: - $< \pm 0.05V$ for a 10% input change.

Load Regulation: - $< -0.1V$ for a 10% to 90% load change.

Low Frequency Ripple: - Less than 100mV pp.

Current Limit: - Nominal plus 10%, $\pm 7\%$.

On/Off Control: - The unit will draw less than 0.1mA until 3V - 84V is applied to the control input.

GENERAL:

Protection: O/P current limit and input fuse

Size: 247mm x 103mm x 63mm.

Weight: 1400 grams.

Storage Temp Range: -40 to +70C.

Operating Temp Range: -40 to +45C.

Manufacture: Made in UK.

CAUTION: This adaptor is supplied based on 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. We reserve the right to change the specification without notice.

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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.