

# PDS Design Solutions LTD

THE CUSTOM POWER SPECIALISTS . DESIGN . DEVELOPMENT . TEST . MANUFACTURE

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## 400 WATT DUAL I/P VOLTAGE DC-DC CONVERTERS

OUTPUT	12 AND 24V INPUT	24 AND 48V INPUT
5.0V at 76A (380W)	SM5140	SM5150
9.0V at 44.0A	SM5141	SM5151
12.0V at 33.3A	SM5142	SM5152
15.0V at 33.3A	SM5143	SM5153
18.0V at 26.6A	SM5144	SM5154
21.0V at 23.8A	SM5145	SM5155
24.0V at 19.1A	SM5146	SM5156
48.0V at 8.4A	SM5147	SM5157
13.8V at 29.0A	SM5148	SM5158
27.6V at 14.5A	SM5149	SM5159



- **VERY HIGH CONVERSION EFFICIENCY.**
- **HIGH OUTPUT POWER IN COMPACT SIZE.**
- **REMOTE ON / OFF CONTROL.**
- **PROGRAMABLE OUTPUT VOLTAGE.**
- **PROGRAMABLE BACK-OFF FOR FUEL CELL USE.**

**GENERAL DESCRIPTION:** A rugged converter, generating a range of DC outputs from a wide range BATTERY source.

The unit has a high impedance input for remote on/off control.

The input and output are ohmically isolated, making installation very simple. The converter is isolated from chassis to 100V.

The unit is packaged in a powder coated folded metal box. Input and output is by 5mm studs on the underside of the unit. Flanges at each end raise the unit for cooling and ease of mounting.

**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.

### SPECIFICATION:

#### INPUTS

Nominal Voltage:	<b>12V and 24V or 24V and 48V</b> Battery by model.
Input Voltage Range:	-11.7% of LOW to +16.7% HIGH
Power, No Load:	< 7W across range.
Efficiency (approximate):	>85%, 12V output and above.
Low Battery back-off:	Nominal - 20%, but programmable.

#### OUTPUTS

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 10mV pp.
Current Limit: -	Nominal plus 10%, $\pm$ 7%.
On/Off Control: -	The unit will draw less than 0.1mA until voltage (3V to 72V) is applied to the control input.

#### GENERAL

Protection:	Over-current and short circuit output limit plus input fusing.
Size:	247mm x 103mm x 63mm.
Weight:	1200 grams.
Storage Temp Range:	-40 to +70C.
Operating Temp Range:	-40 to +40C.
Manufacturer	Made in UK.

We reserve the right to change this specification without notice.

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