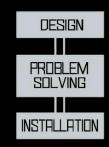


## 12V to 12V Charging Systems



Туре	Notes	Supplier	Cost	Advantages	Disadvantages
Voltage Converter /Reducer					Not needed
VSR/DVSR (Voltage Sensing Relay)	ie Bep 12v Digital Voltage Sensitive Relay (DVSR) Digital -125amp	smartmarine burnsco	\$99 \$114.99	Relatively cheap and simple to install	Doesn't fully charge and condition batteries.
EvenCharger					Not intended for 12V to 12V system
12v Battery Charger - DC-DC In Vehicle	Ridge Ryder 12v Battery Charger - DC-DC In Vehicle, 20 Amp	Super Cheap Auto	\$164		
Alternator	Alternator plus regulator  i.e ZM4 an adjustable multi-stage regulator for your alternator	http://www.smar tregulator.co.nz	\$260	Could use own or have separate alternator.	Modification of existing alternator is needed.  Best suited to 80A+ alternators
230V Inverter Charger				May already have parts.	Battery charger would need to rated at 10%of battery capacity. Need Pure Sine Wave Inverter
Power Train PTCT20A DC to DC charger 20 amps 12 volt		<u>Cellpower</u>	\$220		
Battery to Battery Charger	i.e Sterling B2B BB1230 BB1260	http://www.rbcs hop.co.uk/ Sterling Power Australasia	£328 A\$595.30	30A and 60A model Fully programmable for range of batteries AGM, LiFePO4, Gel,lead acid.	Needs to be brought in from UK/Aus (-vat + gst on items over \$400 inc

				(On 13.3V, off 13.0V (x2, 24V) Regenerative braking mode to 12.2V (x2 for 24V) Will work with modern energy saving alternators.	shipping) No built in solar regulator
In-Vehicle DC to DC Charger	i.e REDARC BCDC1220 BCDC1225D BCDC1240D BCDC1250D	Redarc Redarc Redarc Redarc	\$622 \$700.33 \$899 \$995	(9V-32V) 20A 25A 70Ah-200Ah 40A 200Ah+ 50A - soft start - extra charging stage	D Series have MPPT Solar Regulator plus Green Priority - will select solar first over alternator and lithium charging
DC to DC Battery Charger	CTEK D250SA 20A Dual with optional 120A Smart Pass	Mr Positive  RVWorldStore	\$509and \$525 respectivel y	Will work with modern energy saving alternators.  12v lead-acid batteries including; Wet, MF, Ca/Ca, Gel and AGM.	Includes MPPT Solar Regulator  Older model D250S is 20A rated and older model Smart Pass is 80A rated