

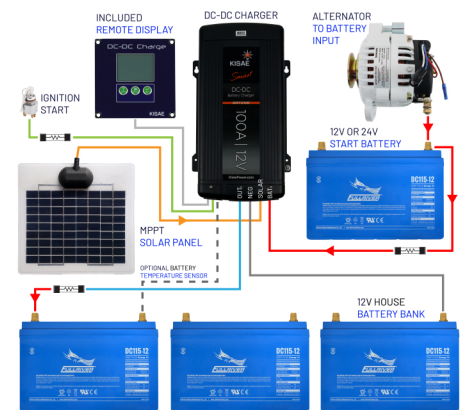
MERLIN 100A 12V DC-DC CHARGER

The Merlin DC-DC charger was designed as an easy to install solution to Smart Regenerative Charging Systems (SRCS). The unit acts like a battery charger, however it uses DC power instead of AC power. They provide the ability to charge batteries from two input sources; either via a PV solar panel(s) when stationary or via from the engine/alternator while driving. This 100A charger is designed to charge more battery banks at a faster rate, allowing you to keep up with the increasing demand for onboard power from larger battery banks.

Smart Regenerative Charging Systems (SRCS) do not charge batteries in a conventional manner. Instead of the vehicle alternator operating continuously, it only switches on during peak load periods; Upon coasting and over-run, energy is harvested from the brakes, fly-wheel, drive-shafts and other moving parts. In order to make the system operate properly, battery state of charge and charge voltages are kept low-meaning that conventional charging systems cannot operate in all charging scenarios.

The Merlin DC-DC Charger is the perfect solution. The unit acts like a battery charger, however, it uses DC power instead of AC power. When the engine is running, the unit will switch on and deliver smooth, regulated power to the auxiliary batteries on board. The unit is smart enough to know if the engine battery is too low for charging and is not affected by stop start devices (a real problem for charging when vehicles are driven in congested areas).

- **Multi-stage charging algorithms** (bulk, absorption, float) for gel, flooded and AGM batteries and equalisation for flooded batteries.
- **MPPT solar regulator** allows you to provide maximum power from PV solar panels to the battery.
- **Solar Input** to trickle charge Alternator Input battery.
- **Advanced protection** from reverse polarity, overcharge, overheating, and output short circuit.
- **Effortless installation** as a result of the mounting brackets and simple design.



PART #	04-6006
RATING	100A, 12V
DC OUTPUT	
OUTPUT CURRENT (MAXIMUM)	100A
OUTPUT VOLTAGE RANGE:	
CHARGE	13.5 - 15.5V
FLOAT	13.0 - 13.8V
EQUALISE	15.5V
CHARGING CONTROL	5 STAGES
DC OUTPUT BANK	ONE
EFFICIENCY	> 90%
BATTERY TYPE PROGRAMMES	GEL, AGM, FLOODED, LITHIUM
PARASITIC CURRENT	< 500 uA
EFFICIENCY	> 90%
DC INPUT (BATTERY/ALTERNATOR)	
DC INPUT RANGE	10.5 - 32VDC
DC INPUT NOMINAL OPERATION	13.2V FOR 12V CHARGING SYSTEM 26.4V FOR 24V CHARGING SYSTEM
ENGINE START CONTROL: ON	DC INPUT FROM BATTERY/ALTERNATOR
ENGINE START CONTROL: OFF	DC INPUT FROM PV INPUT
MAXIMUM INPUT CURRENT	100A
DC INPUT (PV INPUT)	
DC INPUT RANGE	14.5 - 55VDC
MAX INPUT CURRENT	80A MAX
DC INPUT NOMINAL OPERATION	17.5VDC FOR 12V PV PANELS CONNECTED IN PARALLEL 35.0VDC FOR DUAL 12V PV PANELS CONNECTED IN SERIES
MPPT TRACKING EFFICIENCY	> 98%
DC OUTPUT PROTECTION	
REVERSE POLARITY	YES (SHUTDOWN), AUTO RESET
DC OUTPUT SHORT CIRCUIT	YES (SHUTDOWN), AUTO RESET
OVER CHARGE	YES (SHUTDOWN), AUTO RESET
OVER TEMPERATURE	YES (DE-RATED AND SHUTDOWN)
COOLING	FORCE AIR VENTILLATION
TEMPERATURE SETTING	HIGH, NORMAL, LOW (NO BATTERY TEMP. SENSOR CONNECTED)
BATTERY TEMPERATURE SENSOR PORT	RJ12 (OPTIONAL BATTERY TEMPERATURE SENSOR USE)
DIGITAL DISPLAY PORT	RJ12 (REMOTE PANEL USE)
DISPLAY PANEL	
DIGITAL DISPLAY	LCD DISPLAY WITH BACK LIGHTING (VOLTAGE, CURRENT, STATUS, ERROR CODE)
COMMUNICATION	CANBUS
ENCLOSURE	
DC INPUT CONNECTION	HARDWIRE
DC OUTPUT CONNECTION	HARDWIRE
SIZE	
WEIGHT (KG)	3.23
DIMENSION (MM)	356 X 205 X 97
REGULATORY COMPLIANCE	
MARKINGS	CE, E-MARK
CONFORMANCE	LVD, EMC
EMI/EMC	CE EMC/ TESTED TO E9-09