THUNDER

CONGRATULATIONS ON YOUR PURCHASE OF YOUR 10 AMP SOLAR REGULATOR

For your personal safety read, understand and follow the information provided in this instruction manual and on the solar panel.

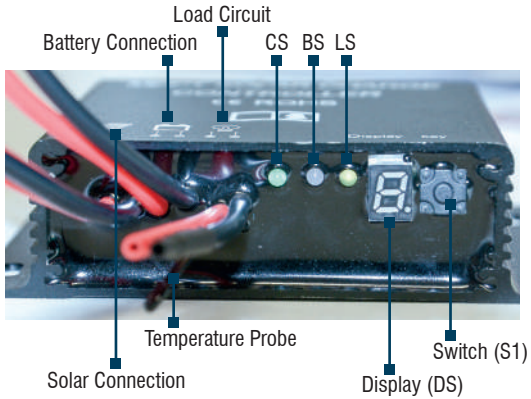
Connection to your Weekend Escape

SPECIFICATIONS

RATED CURRENT	10A	OPERATING TEMPERATURE	-20°C to 60°C
RATED VOLTAGE	12V/24V	STORAGE TEMPERATURE	-30°C to 70°C
OPEN CIRCUIT OF SOLAR PANEL	25V	DIMENSIONS	105mm(L) x 81mm(W) x 29mm(D)
LOW VOLTAGE DISCONNECTION (LVD)	10.6V/21.4V	MOUNTING HOLE SPACING	51mm x 95mm
FLOAT VOLTAGE	13.75V/28V	WEIGHT	0.4kg
LOW VOLTAGE RECONNECTION (LVR)	12.6V/25.2V	BATTERY TYPE	Wet Cell rechargeable only
NO LOAD CURRENT	≤25mA		

INSTALLATION

1. Ensure the regulator is mounted as close to the battery as possible.
2. For best results use at least **6mm** automotive cable.
3. Connect the cables from the battery to the connector labelled **Battery**. Then connect the solar panel cables to the connector labelled **Solar**. The **Load Circuit** wires can be used to power a device directly off the regulator.



INDICATORS AND SETTING INSTRUCTIONS

LED INDICATORS

CS: Charging status indicator
Off: The solar panel is not connected or there is not enough light.
On: Solar panel is connected, battery is charging.
Flicker: Battery is fully charged.

BS: Battery status indicator
Red flicker: Battery low-voltage protection is on.
Red On: The battery power is low, load circuit will soon be closed.
Orange On: Battery power medium.
Green On: Battery is fully charged.
Green flicker: Battery is fully charged. Charging circuit is closed.

LS: Load status indicator
Off: Load circuit is closed.
On: Load circuit is open.
Flicker slowly: Load current is too high, load circuit will soon be closed.
Flicker quickly: Short circuit protection or overload protection is activated.
The system will attempt to restart every 30s until the fault is rectified.

SETTING INSTRUCTIONS

1. Press and hold the control button **S1** (for up to 3 seconds), release when **DS** starts to flash.
2. Press **S1** until the required function is shown on **DS**.
3. **DS** will stop flashing 5s after **S1** is pressed, the function shown on **DS** is now set.

FUNCTION DESCRIPTIONS

H: Manual load control
In this mode the load circuit can be turned **On** or **Off** by pressing **S1**. The decimal point shows the state of the circuit, if the decimal point is showing (**H.**) the load circuit is **On**, if the decimal point is absent (**H**) the circuit is **Off**.
Note: This function will not override low voltage, overload or short circuit protections.

0: Pure charging
This function will completely shut off the load circuit.

C: Constant load
This function will keep the load circuit open at all times.
Note: This function will not override low voltage, overload or short circuit protections.

L or D: **Night control**
In this mode the load circuit will turn **On** when at sunset (10s after solar input ceases) and turn off at sunrise (1m after solar input restarts).

1-9 & 0.-3.: **Shutdown delay**
In this mode the load circuit will turn on at sunrise and shut off at a predetermined time after sunset. The number chosen will be the time, in hours, that the load circuit will stay on after the solar input ceases. For a 10 to 13 hour delay use **0. to 3. Delay time**