

# THUNDER

## CONGRATULATIONS ON YOUR PURCHASE OF YOUR THUNDER ELECTRONIC BATTERY ISOLATOR

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



*Connection to your Weekend Escape*



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# SPECIFICATIONS AND RECOMMENDATIONS

## SPECIFICATIONS

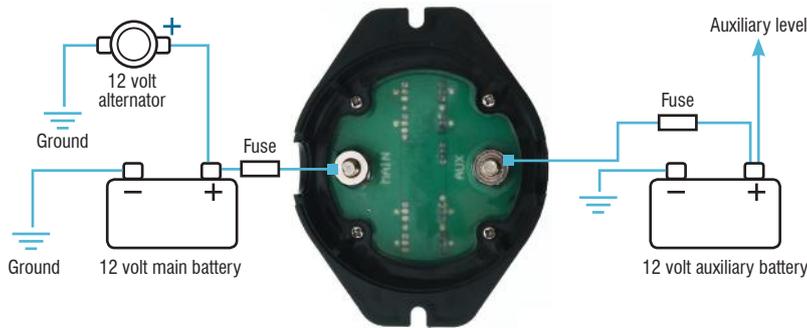
CONNECT VOLTAGE	9.2-16.0 Volts	MAXIMUM CONTINUOUS CURRENT	100 Amps
ISOLATE VOLTAGE	9.0-15.8 Volts	MAXIMUM INRUSH CURRENT	400 Amps
VISUAL ALARM VOLTAGE	9.0-15.6 Volts	STANDBY CURRENT	0.04 Amps
DELAY	1-255 seconds	MAXIMUM TEMPERATURE	80°C
MOUNT (C-C)	100mm	DIMENSIONS	110mm(L) x 90mm(W) x 72mm(H)

## CABLE AND FUSE RECOMMENDATIONS

LENGTH	CABLE	FUSE OR CIRCUIT BREAKER	LENGTH	CABLE	FUSE OR CIRCUIT BREAKER
0-1 metre (no override)	8 B&S	60 Amps	0-1 metre (with override)	4 B&S	100 Amps
1-3 metres (no override)	6 B&S	60 Amps	1-3 metres (with override)	2 B&S	100 Amps
3-6 metres (no override)	2 B&S	60 Amps	3-6 metres (with override)	0 B&S	100 Amps

# INSTALLATION

1. Ensure auxiliary battery negative post is properly grounded to vehicle.
2. Using the appropriate cable and fuse/circuit breaker, connect the terminal marked 'main' to the positive terminal of the main or starting battery.
3. Using the appropriate cable and fuse/circuit breaker, connect the terminal marked 'aux' to the positive terminal of the auxiliary battery.
4. On the main body of the battery isolator there are two removable grommets to accommodate different size cable/lugs; remove or keep as required. With the cables firmly connected, press the base cover into place. This can be made more secure/water resistant by using a small amount of silicone. Position the battery isolator and screw into place.
5. Use the screws on the top of the battery isolator to connect to:
  - (i) Connect the terminal marked 'NEG' to earth with the supplied black cable.
  - (ii) To create a remote override switch (optional), connect the terminal marked '2' to one terminal of a momentary switch, and the other terminal to earth. Ensure you use a minimum of 3mm<sup>2</sup> automotive cable. This feature will allow the auxiliary battery to assist with starting if the main battery power is low.
  - (iii) To create a remote indicator light (optional), connect the terminal marked '1' to one terminal of an LED warning light, and the other terminal to earth. Ensure you use a minimum of 3mm<sup>2</sup> automotive cable.



**THUNDER**

# SETTINGS

There are no correct or incorrect settings for the battery isolator, the set points are entirely dependent on the user and the required end result. The main objectives are to protect your main cranking battery from being overly discharged (disengaging at a reasonable voltage) and, under extreme circumstances being able to utilise charge in the auxiliary battery to start a vehicle if the main battery has failed.

To enter the programming mode please follow these instructions:

PROGRAM INSTRUCTIONS	
1. PRESS "SET"	This will now display the first setting.
2. PRESS "SET"	Display will flash and can be adjusted by using the up/down arrows.
3. PRESS "SET"	This enters the displayed setting.
4. PRESS "UP" ARROW	This moves the display to the next setting.

## Repeat from installation step 2 to continue to adjust all set points.

There are six (6) items that need to be set:

- 1. Connect** - this is the voltage that the battery isolator will connect the two batteries.
- 2. Connect delay** - from 1-255 seconds. This setting decides the delay in time from when the connect voltage is detected until batteries are connected.
- 3. Isolate** - this is the voltage that the battery isolator will disconnect the batteries from each other. This point must be lower than the connect voltage. The default isolation point is 12.8 volts.
- 4. Isolate delay** - from 1-255 seconds. This setting decides the delay in time from when the isolate voltage is met to when batteries are isolated.
- 5. Alarm (visual)** - this point must be set lower than the isolate point. Once this point is reached the battery isolator will display 'b-L' and the optional remote indicator light will begin to flash slowly. The LED will begin to flash fast when the voltage drops more than 0.05 volts below the alarm set point.
- 6. Reset** - the battery isolator can be easily reset to the factory default settings by simply pressing the 'set' button twice This will now display the 'connect' set point. Select the up arrow to move through all settings until all the indicator lights on the left and right are lit and the display shows 'rSt'. Press the 'set' button once. The screen will now show 'yes!'. Using the arrow buttons to move from 'yes' to 'no'. Select 'yes' to reset and press the 'set' button to confirm. The battery isolator is now reset to the factory defaults.

# OPERATION

Once your battery isolator is installed and the set points are programmed it is operational at all times. All functions can be visually checked by either the remote indicator or the LED readout on the unit.

DISPLAY	REMOTE	DESCRIPTION
b1	Off	Main battery is connected to the main stud (only occurs when connecting the battery isolator to the vehicle).
b2	Off	Auxiliary battery is connected to aux stud (only occurs when connecting the battery isolator to the vehicle).
On/Blank	On	Batteries are linked and the auxiliary battery can be charged from the main battery.
Off	Off	The battery isolator has disconnected the circuit.
O-n	Flashing	The remote override has been activated and the batteries are now linked. The batteries are linked for approximately 10 seconds. At the end of this time period the battery isolator will again disengage the batteries.
b-L	Flashing	The battery isolator has detected the auxiliary battery voltage to be lower than the alarm voltage and has disengaged batteries.
b-L	Off	The battery isolator has detected the main battery is lower than the alarm voltage. <b>WARNING: Check all connections to the main battery, if possible check voltage and visually inspect battery. The auxiliary battery can be used to start the vehicle by activating the remote switch.</b>
b-H	Off	The battery isolator has detected an overvoltage (higher than 17 volts). <b>WARNING: Check alternator output if possible. If the auxiliary battery is connected to an alternate power supply (solar or charger) check output from supply.</b>
b-N	Off	Voltage lower than 8.8 volts detected. <b>WARNING: This would indicate catastrophic failure of one or both batteries. Carefully check both batteries before proceeding.</b>
I-P	Off	Indicates main battery open circuit (loose or damaged cabling). Check all connections and wiring to the main battery.
O-t	Off	The battery isolator has detected excessive temperature (+80°C) and has shut down. Unit will reactivate at +60°C.

# REVERSE CHARGING SYSTEM

In a number of situations, the auxiliary battery may need to be connected to a solar input or additional charging system. The battery isolator will recognise that the auxiliary battery is receiving charge and if the main battery is below 12.8 volts and the auxiliary battery is above 13.36 volts and receiving a charge, the battery isolator will open the circuit and allow the auxiliary battery to charge the main battery. The battery isolator will display 'on' and the remote switch LED will turn on.





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