



AUTO SWITCH COMBINATION RELAY (REFRIGERATOR AND BATTERY CHARGER)

This combination caravan relay automatically senses battery/alternator condition and load demand, and switches current from the car's battery to the caravan's battery, fridge and internal lights via its own split charge relay. Sensing is automatic and does not require the use of a separate lead from the ignition switch.

The relay has been constructed to not only handle 30 amp loads, but it will also handle smaller loads from conventional caravans and still sense and process the load correctly.

FITTING INSTRUCTIONS

- Do not connect unit to the mains. Suitable for 12v negative earth vehicles only. For safety, disconnect car battery before fitting the Unit.
- The relay should be fitted in a dry ventilated space, in a position providing protection from physical damage and close to the socket. (usually in the boot of the vehicle)
- Route a cable, preferably 35/0.3 minimum stranding, (2.5 sq mm) from car battery or fuse box to boot, fitting an inline 15a fuse & holder, but removing the fuse at this stage.
- If the device is to feed a caravan with one of the heavy load fridges, use two cables, plus a 30a fuse & holder, a second parallel 12v input is available for this purpose.
- Offer up the relay to the various cables and make secure connections through the terminal block according to the chart below.
- For 13 Pin connectors (ISO11446) when a single heavy duty switched output is required relay terminals 6 and 2 should be "bridged" with both connected to the same output (Pin 10 Grey wire)

Relay Terminal	12S (ISO3732) Connection
12v	First 35/0.3 (2.5 sq mm) cable from car battery
12v	Second 35/0.3 cable from car battery (Recommended for 30a loads)
6	12S Socket - Pin 6. Red Lead (Switched Supply)
4	12S Socket - Pin 4 Green Lead (Constant Supply)
2	12S Socket - Pin 2 Blue Lead (Switched Supply - original UK caravan system)
0v	Suitable earth, minimum 16/0.2 thin wall preferably to chassis with ring terminal

Relay Terminal	13 Pin (ISO11446) Connection
12v	First 35/0.3 (2.5 sq mm) cable from car battery
12v	Second 35/0.3 cable from car battery (Recommended for 30a loads)
6	Socket - Pin 10 Grey Lead (Switched Supply)
4	Socket - Pin 9 Orange Lead (Constant Supply)
2	Socket - Pin 10 Grey Lead (Switched Supply)
0v	Suitable earth, minimum 16/0.2 thin wall preferably to chassis with ring terminal

- Secure the relay to the harness or similar preferably using a cable tie, such that there is adequate ventilation to allow dissipation of heat from the unit.
- Insert the inline fuse (s) and test.
With the engine off, the unit should remain unswitched.
With the engine on, the unit should turn on after a suitable delay of approx. ½ min.
If a load simulation jig is available, test to ensure unit stays on under load.

Troubleshooting

Relay will not turn on with engine running	Insufficient voltage caused by faulty battery or alternator
Relay cycles under load	Faulty car battery Faulty electrical connections Excessive length or insufficient gauge of supply leads Single supply lead only used instead of double Excessive load – Discharged Leisure Battery or short
Long delay before turning off	Battery maintaining voltage. Normal with new battery

Note

These instructions are applicable to all installations, including pre and post 1998 caravans with standard or heavy load fridges.