

Change your view in a campervan

HOW TO GUIDE

Install Your 12v Compressor Fridge

TOOLS REQUIRED:

- Drill / Driver
- 20mm Spade Cutter
- Wire Crimping Tool

COMPONENTS REQUIRED:

- 12v Compressor Fridge (we stock around 12 makes and models)
- In-Line Fuse Holder (if connecting directly to leisure battery) (EL-FH-S)
- 1m-5m 0.3mm, 44 Strand Cable (EL-WR-44R-1)
- 1 x LED Rocker Switch (EL-RS-LED)

Most small to medium campervans will have a 12v compressor fridge fitted, whereas larger campervans and motorhomes are more likely to have a 3 way fridge installed. This comes down to many factors including size and design requirements. The table below shows advantages and disadvantages of 12v compressor fridges.

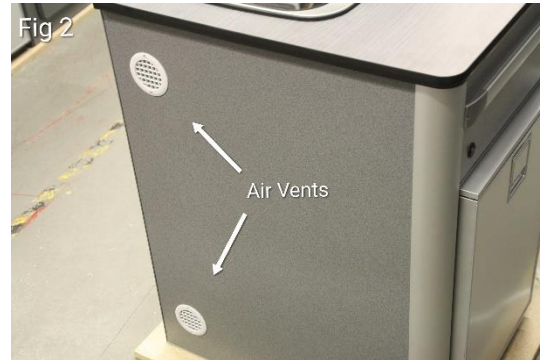
PROS	CONS
<ul style="list-style-type: none"> ▪ Efficient to run on 12v up to 10 times more efficient than a 3 way fridge ▪ Cools quickly and maintains cooling even with high ambient temperatures ▪ Easy to install, no need for external vents ▪ Can still work efficiently when not level, even on a 1 in 4 gradient ▪ Can also work indirectly off 240v when fitted in conjunction with a Power Management System ▪ Very easy to install- connection of 2 wires only 	<ul style="list-style-type: none"> ▪ Limited to 2-3 day power off leisure battery unless solar or 240v hook-up are engaged ▪ Moving parts means that although quiet, they are noisier than 3 way fridges ▪ More suitable for smaller capacity, up to 80 litres

INSTRUCTIONS

Your compressor fridge is quite straight forward to install but there are a few points to consider prior to installation.

Allow adequate ventilation behind the fridge, we usually allow approximately 30-40mm clearance behind the fridge for air movement when fitting compressor fridges. There also needs to be an air gap above the fridge at the front to allow warm air to escape. ①

Additional air vents to the side of your furniture both high and low will also benefit the efficiency of the fridge. ②



Your fridge can be connected directly to your leisure battery, or to a power management system. In both instances we recommend that the fridge is run through an isolation switch. This allows the thermostat to be set inside the fridge, the fridge on/off is then controlled by the in-line switch. The small switches we install also have a small led light on them, this gives a clear indication that the fridge is switched on ③. The fridges are quiet, and it is easy to leave then running by accident once your trip is completed.

FRIDGE CONNECTION (ASSUMING AN ISOLATOR SWITCH IS FITTED)

The cable used to connect the fridge needs to have a cross section of 3-6mm, depending on the length of the cable run to the power supply. This is to avoid any voltage drop between the power supply and the fridge. The fridge has a low voltage battery protection built into its electronics, this means that the fridge will cut out and stop working if the voltage drops below 11.8 volts.

Even a small voltage drop along the cable can mean that the fridge is cutting out earlier than it should do and not utilising the full extend of the battery's stored power. In the worst instances of voltage drop then the fridge won't start up at all. For most fridge installations in a small campervan a cable size of 0.3mm, 44 strand cable is adequate.

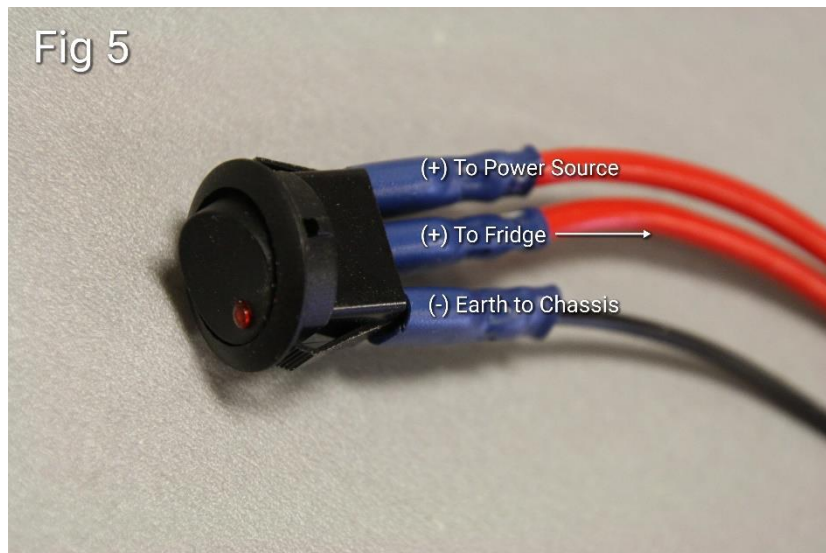
The back of the fridge has 2 wires, red (+) and black (-).

The black (-) cable can be run to suitable earth point on the van chassis close to the back of the fridge ④ Make sure you sand any paint away around the Earth Point to allow a good connection.

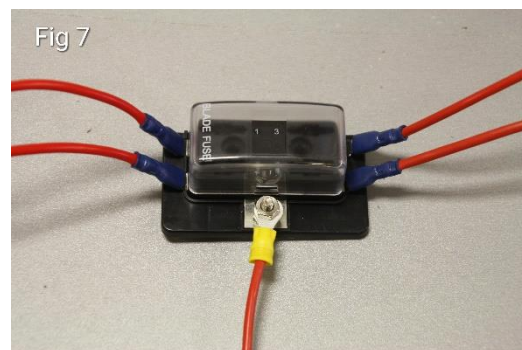


N.B. It will be easier to allow extra length on both (+) and (-) cables so that they can be connected while the fridge is outside of its housing, the fridge can then be carefully slid back in place and secured.

The red (+) cable on the back of the fridge is extended and run to the back of the isolation switch. The connections for the isolation switch can be seen below ⑤ Use insulated spade crimps for connectors.



From the back of the isolator switch the cable is routed to a power source (either a leisure battery or power management unit). If it runs through a power management unit then there will be built in fuse already present. However, if the plan is to run the fridge directly from the leisure battery then an in-line fuse will need to be fitted, this can be either a single fuse holder ⑥ or a multiple fuse box if other 12v items are also being run from the leisure battery ⑦



A fuse size of 10 amps is suitable.

Once the installation is complete then the fuse should be installed, and the fridge tested. Turn the thermostat to its maximum setting (cold), you should hear and feel the fridge start up. The fridge should have chilled down in about 20 minutes. If the ice box is opened, then there should be frozen condensation on the ice box inner housing. At maximum setting the fridge will be able to chill to approximately -12 degrees Celsius within the icebox. A usual setting for efficiency is at around 50% of maximum setting, this should maintain the main compartment of the fridge at 4-5 degrees Celsius.

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