

## Introduction



I have tried different methods of control for starting the fuel burning heater on cars over the years, aftermarket equipment with a separate remote plipper, homemade GSM controllers integrating a Webasto timer and latterly Landrovers own remote climate kit. Whilst all have their merits, I wanted a solution that enabled me to control the heater over distance, i.e. from the train to return to a warm or defrosted car, so I needed something like my homemade GSM unit. The Altox solution did this and far more.



There are two versions of the Altox controller the entry level without GPS, this has the options to control the heater by SMS text messages, simply "START" and "STOP", by voice call to the number of the sim card you have installed, by APP, both Apple iOS and Android and an Altox web based App, so it's far from basic !!!!!

The enhanced offering comes with the GPS GLONAS enabled controller, this is the one I have installed, all of the same function as the entry level, but with the additional benefit of being able to track the module and hence the car in real time on mapping software, for those used to Apple iPhones, it's a bit like find my friends, but with the ability to review the trace of the car for the last month or so on the maps. Importantly this can be turned on and off via text message, should you not want the other half knowing where you are.

Besides all that trick stuff, the Altox module is the only Fuel burning heater controller that allows you to read errors of the heater and also clear them. This is usually only possible to arrange with additional hardware.

The functionality included in the unit makes the ALTOX GSM module really unique in the market.

The installation of the ALTOX module is quite simple, in a Discovery 4, you will need to have the parking heat settings enabled, there are a number of sponsors on the Disco3.co.uk and Disco4.com forums that can do this for you if it was not enabled at the factory and you do not have the suitable diagnostic tool yourself, I myself am one.

With the cars settings enabled, there is really no need to fit the optional internal temperature sensor that Altox has, with the CCF set the heater will run for the prescribed time as set by the heater, this is adjustable for 10 to 120 minutes and the interior fans will blow the warm air around the cabin.

Landrover fit Webasto heaters in their range, so you will need the Webasto variant of the Altox controller, for the extra few £'s and the enhanced functionality I'd recommend the GPS version

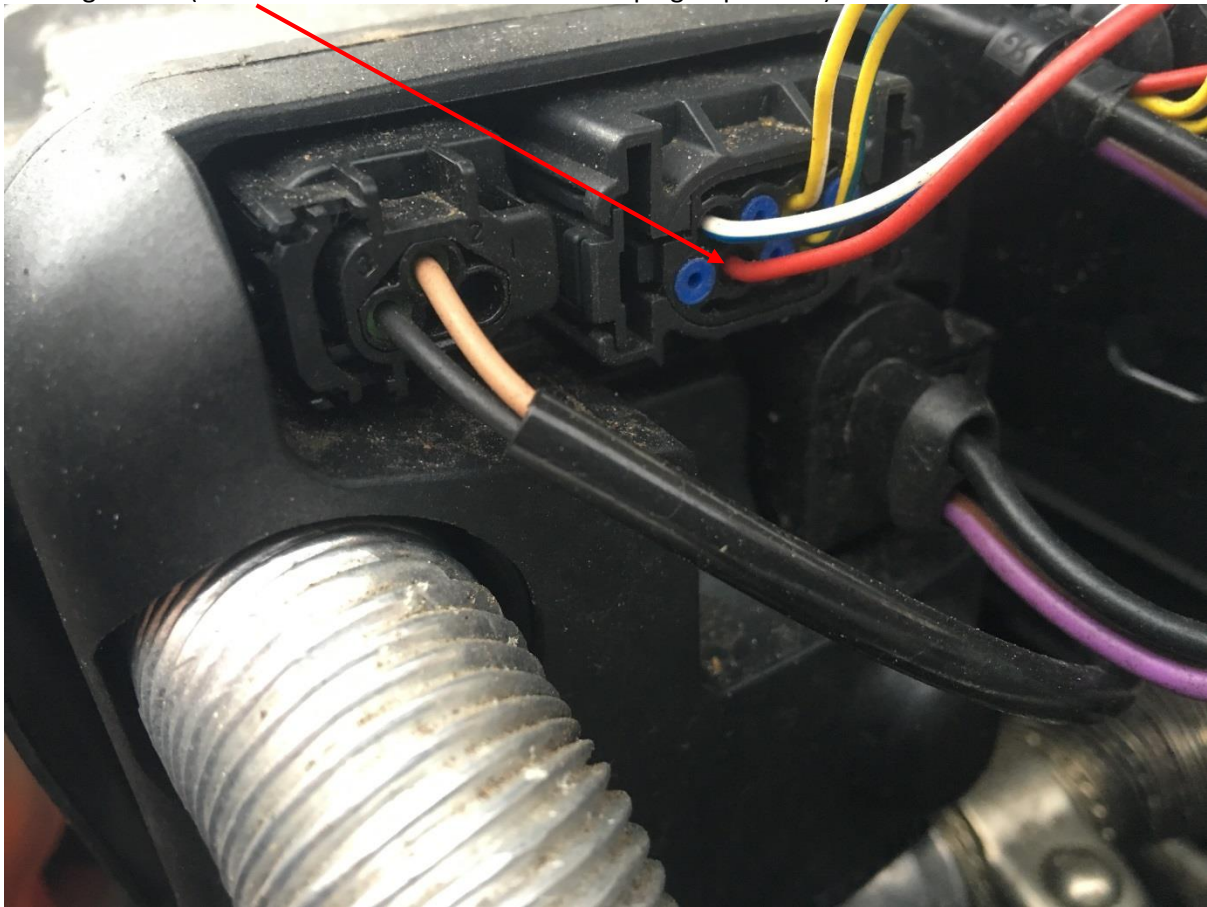
### Installation

*It is possible to link the Altox unit directly into the wiring that is provided for the OEM remote kit in the rear of the car, I have traced the wiring and need to source the correct plug for this. This makes the installation a very simple plug in option. Initially I have left my Landrover remote kit in place.*

To install you will need a 12v feed, fit an additional in line fuse, or a piggy back to a permanent live in the fuse box



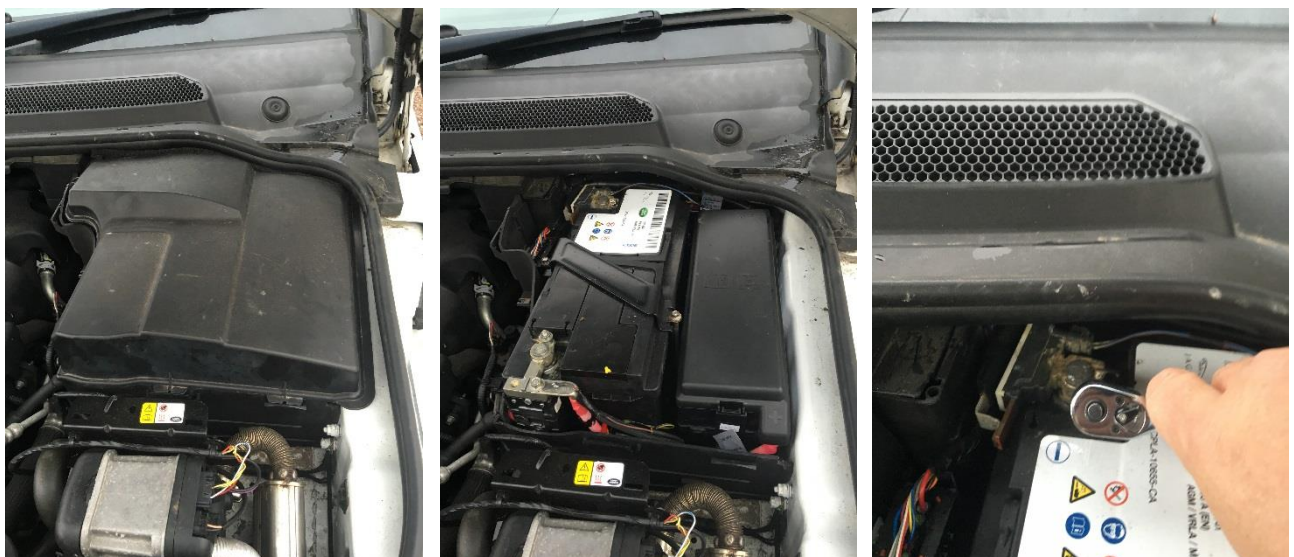
A connection to the cars chassis for the ground or earth, and to run a wire to pin 2 of the fuel burning heater (the red wire toward the front of the plug as pictured)



As the unit has an open sim card slot, it's advisable to locate it away from any sources of moisture, although the battery box looks an ideal location with easy access to power and the heater, in reality it will be subjected to changes in temperature and as a result potential condensation etc. as the seasons change. So I decided to install the controller in the cabin behind the knee panel knowing that there was a suitable grommet in the bulkhead to pass the wires through back into the engine bay.

Power is taken direct from the cranking battery with an inline fuse (1 Amp) to protect the module.

Safety first, before working on the cars electrical circuits, it's advisable to disconnect the battery, this is best done by disconnecting the earth terminal and placing it out of the way



To remove the knee panel simply locate hand hold at the top and pull it down toward the foot well, the unit will be located behind the panel to the right



Once hinged to 90 degrees the panel can be pulled away and put somewhere safe, next get a Philips #2 screw driver and undo the two screws that hold the trim panel above the foot pedals



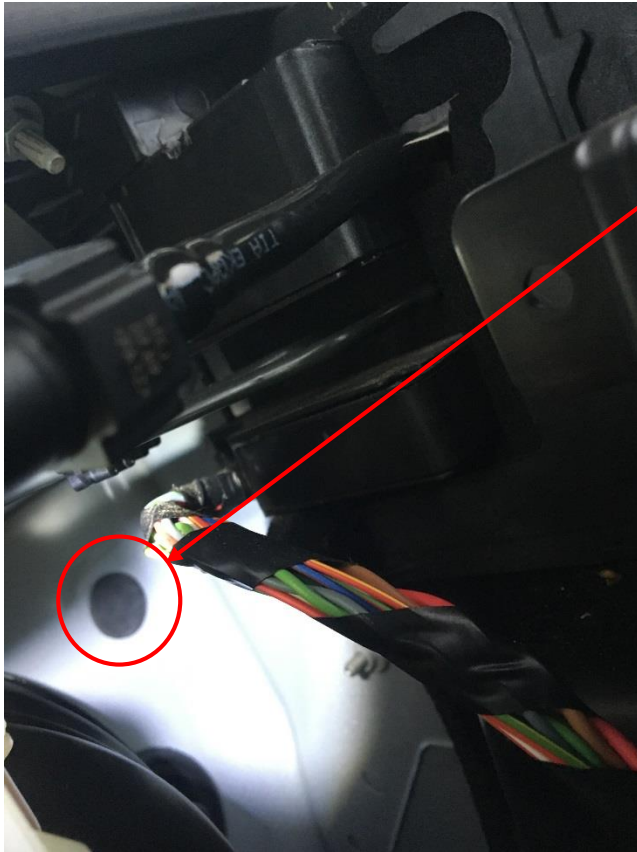
With the screws removed there is a push in clip holding the carpeted end by the central tunnel, pull this way



Then finally before removing the panel, disconnect the foot well light, again put this panel somewhere safe out of the way.

You now have all of the access you require to fit the unit in the cabin, if you wish you can remove the main light control panel to give access from above, this is held in place with the metal push clips like the knee panel and carpet trim so grab hold of it and give it a good steady pull.

With the bonnet open remove the plastic cover to the spare battery box, looking to the right of the brake fluid reservoir you'll see a grommet in the bulk head that is there for the clutch on manual cars, this makes an ideal route for additional cables, as there is no risk of damaging any wires but using the main loom route.



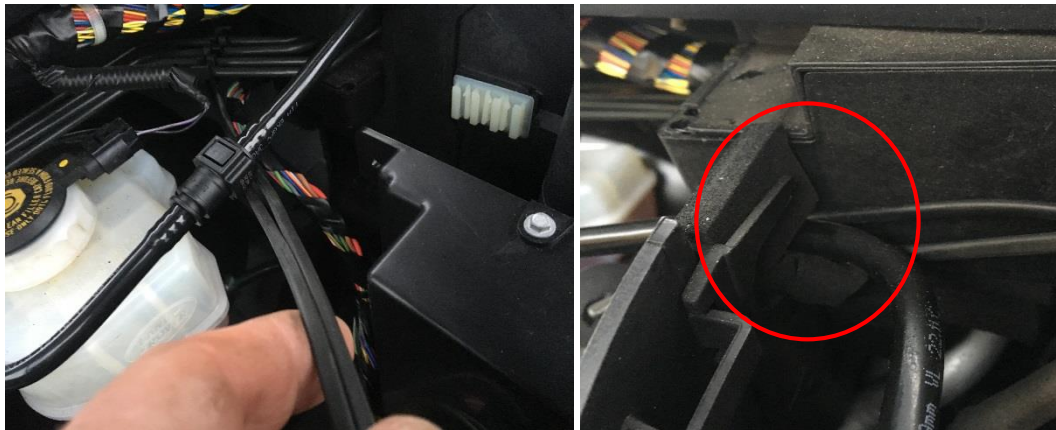
Grommet for clutch cable

Remove the grommet and push a tool through, I have a range of tools that I use for routing cables, but a Philips screw driver is ideal, you will need to pierce the sound insulation on the inside of the cabin, so it needs a firm push, with this through return to the cabin and look up behind the dash to locate the tool

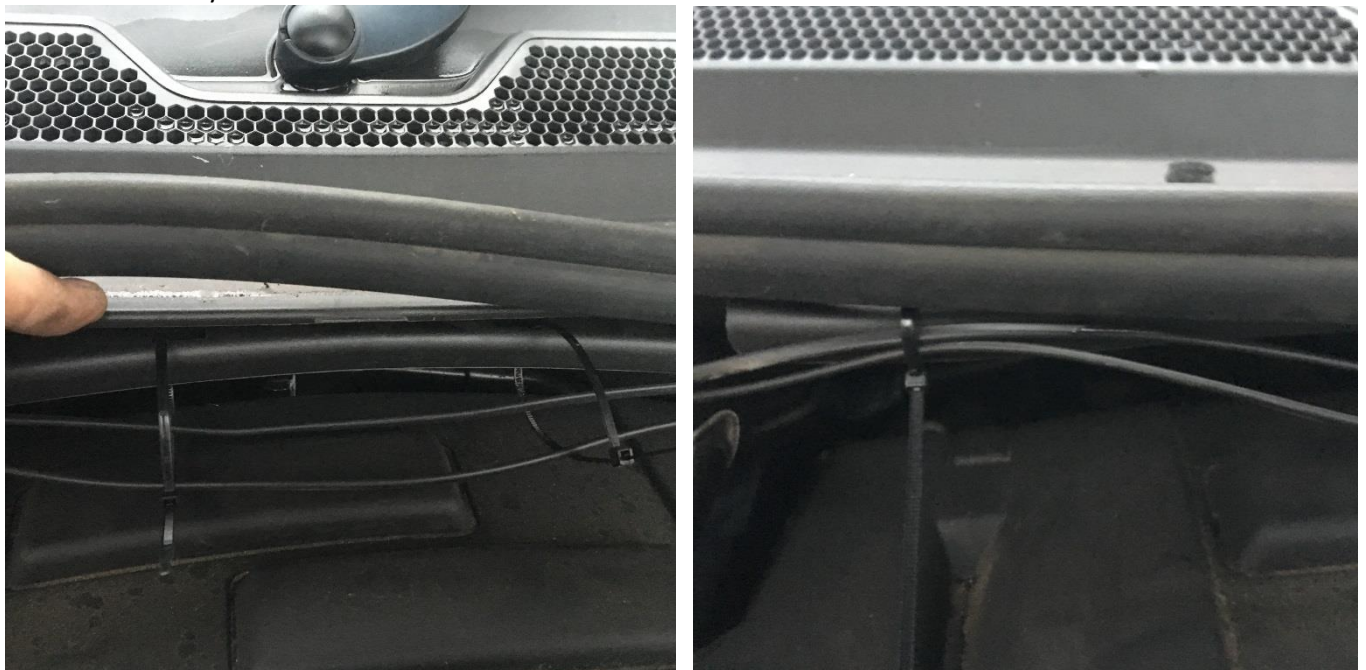


You need to pass 3 wires, so a length of small gauge 3 core cable is ideal, as I have a large roll of 2 core that I use for other installs, I'll be using 2 lengths of that, one for the power feed, and a single wire from the second length for the trigger wire. Attach the wire using electrical tape and carefully withdraw them back in to the engine bay, once through disconnect from the tool and route them

across the engine bay to the battery side, be sure to exit and enter the battery boxes through the foam seals for a nice tidy look.



Above the engine at the rear is a cable tray, simply attach the cable to this with cable ties to keep it out of harm's way.

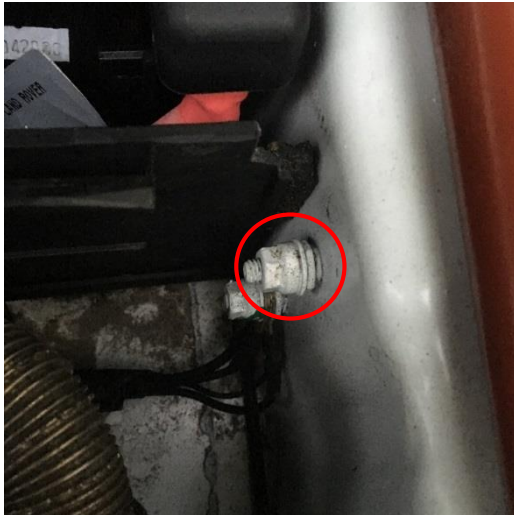


### Electrical connections

I think it's preferable where possible to make solder joints on connections and seal them with heat shrink, however you can if you wish use crimp connectors the choice is yours.

Start by adding the inline fuse to the wire you will connect to the battery +ve, to the other end of this add a ring terminal that we will attach to the battery terminal screw. The ground or earth cable is best attached to the car chassis and not the battery, Landrover provide a perfect terminal adjacent to the battery box, so add another ring terminal to the ground wire for connection to the earth stud.





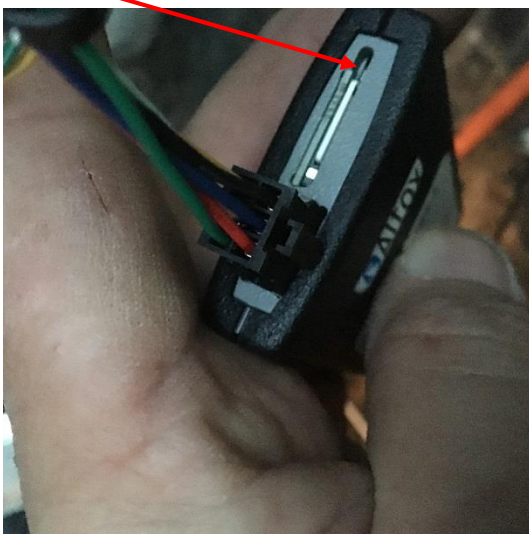
For the trigger wire I have used an inline crimp fitting as I do not want to cut the vehicle wiring loom, (future owners may wish to use the OEM remote system). These types of inline crimps are great for adding a wire and are pretty well sealed once complete, to the trigger wire add the appropriate male connector.

Now back to the cabin, again I prefer solder joints so I will connect the red 12v +ve, the black ground and the blue trigger wires to my extension cable using a soldering iron and heat shrink. With these all in place tidy up your wiring and turn your attention to the Altox unit.

You need a mid-sized sim card, these are generally known as micro sims (not the tiny nano sim used in many smart phones). Ensure that the sim has credit applied and there is no sim pin lock applied. I have a Tesco mobile sim, any sim card except 3 (Three) will be fine, oddly the 3 network is too good and does not have a "2G" or GPRS network, operating on 3g and above only.

In the box you'll find some double sided "Velcro" attach this to the back of the unit

With the sim card in place you are ready to connect everything up, start by plugging in the Altox unit , do not at this point mount the unit as you need to check the sim connect to the network there is an LED in the sim slot (pictured to right of the card)



Back to the battery box, connect the trigger wire to the red wire (pin2) on the heater plug, connect the red +ve to the battery terminal, and the ground to the chassis, with all of these in place and tools out of the way, reconnect the battery negative terminal.



These are the wires that you need to connect to get the unit working and utilise the main functions

If you want to fit the additional temperature sensor and instant start button that come with the module there is some additional wiring.

The instant start button is also an LED indicator to show the heater is working, as the fan control illuminates in a Discovery 4, this doesn't really add anything and if using the App as I do, then you can see the heater status. If installing in other cars such as the Discovery 3 then this would be a useful visual "tell" that the heater is running

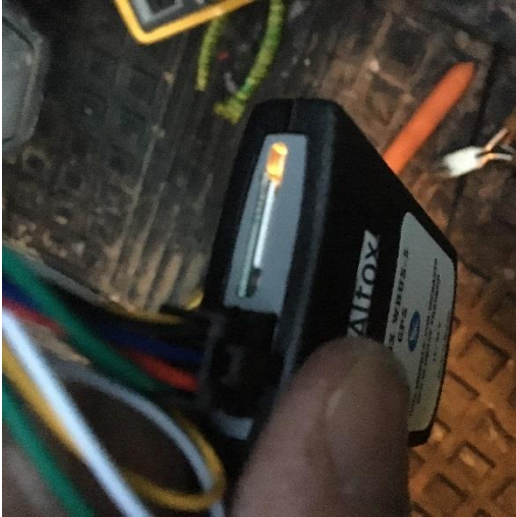
### **Additional connections**

The black wire of the temperature sensor and the black wire of the instant button need to be connected to ground, join them to the black wire of the Altox loom.

The green wire of the temperature sensor and the green wire of the instant button need to be connected to the Input IN, the green wire of the Altox loom

The yellow wire of the instant button is for the LED this needs to be connected to the Analogue output AN yellow wire of the Altox module.

With everything connected check the status light on the unit, there is a yellow LED in the sim card slot, this needs to be blinking rapidly, there is a pattern of 5 blinks pause, 5 blinks etc. to show its connected to the mobile network, if its slower then the sim has not connect to the network or has no signal.



Once happy peel the adhesive backing off the Velcro and stick the unit on the back of the knee panel, to keep dust etc. out I have mounted the unit with the sim slot and wire facing down



### Setting up the module

Now you can just set up the module as described in the manual.

I initially called the unit from my mobile that registers the mobile number in the unit's memory for future control, it can store 3 numbers, so hand if you want two mobiles and the home phone to trigger the heater. Then I tried the text option by texting **stop** to the unit, then finally to set up the App you need the device ID, this is obtained by texting **settings2** to the unit, it will reply with a text containing 15 digit number that you need to enter into the applications setting on the app menu

**Summary**

The unit is very well made and comes well packaged, the functions are simple to use, anything App drive usually is, but the interface is simple clear and easy to follow.

I can now

- Start the pre-heater of my car from my home, desk, train etc. and don't have to worry about the distance by either App, text or voice call whichever is easiest
- Monitor the status of the heater
- Adjust the run time of the heater in really cold weather
- I can track my car online on a map or via SMS command
- Can use the diagnostic feature to see if there is any error at the heater

I really can't recommend this module enough it's packed with great techy features and performs it task well