REVCAMUK
Reversing cameras UK Ltd

Instructions for our 12V/24V systems

Introduction

We'd like to thank you for your purchase of one of our 12V/24V kits. In order to get the most out of your kit and protect it we recommend reading the instructions fully before you start your installation. Please check the system for damage in the post or omissions and inform us within 7 working days.

Safety and Installation Precautions

If you are not using a cigarette lighter to connect to the electrics then we recommend disconnecting the negative terminal of your vehicles battery. Be aware this may reset your clocks/computer/radio code.

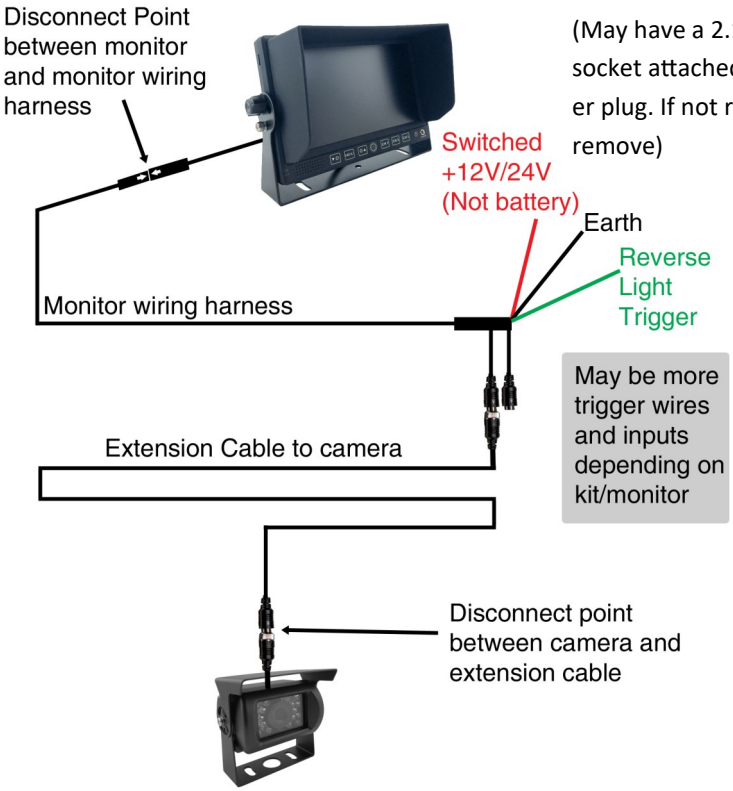
The TFT panel of the monitor is delicate and pressing the front can cause the thin glass sheet inside to crack. If this happens a black area will form around the line of the crack. Be careful not to apply pressure to the front of the monitor.

Modern vehicles now have very complex electrical systems. In order to reduce fuel consumption many vehicles use smart battery charging. This can mean the voltage applied to the battery terminals can rapidly fluctuate and go beyond the normal voltage ranges you would expect. **UNDER NO CIRCUMSTANCE TAKE YOUR POWER DIRECTLY FROM A BATTERY.**

Can I fit myself?

This system is designed to be installed by anyone that is fairly competent with working with basic DC electrics and is handy with a soldering iron and a multimeter. If you are at all worried about any of the steps we recommend finding a local fitter, the best people to approach are auto electricians, tow bar fitters, In car entertainment installer and car alarm specialists.

Basic Wiring Diagram For single camera kit



The above diagram shows the basics of how your kit will be laid out. If you have ordered a trailer link or more than one camera then the setup will be slightly different. If using the trigger wire and it only has one then ensure the camera cable is in Channel 2. If your monitor has more than one trigger wire then they should be labelled channel 1/2/3 etc so you can choose which trigger you wish to put to which camera channel.

Tools you may need

Insulating tape/ Heat Shrink

Cable conduit (especially if running a cable along the chassis)

Solder and soldering iron

Low amp wire to extend the reversing light trigger wire if connected.

Sikaflex 512 adhesive/sealant (useful on motorhomes to avoid drilling holes)

Self tapping screws to camera bracket and monitor

Drill to make holes to get cables through body/cupboards etc

Recommended Installation Sequence

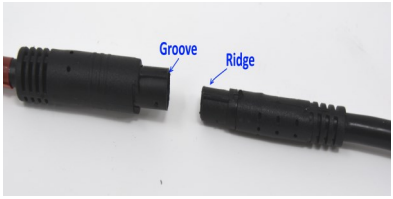
We advise you test the monitor and cameras in situ running the cable as close to the proposed cable run as possible. Check with the engine on and try the car radio to check for interference. Look for interference on the monitor.

We recommend you fit the monitor first and check its operation. Without a camera attached you should get either a blue screen or the channel number should be visible in the first 10 seconds. You can then try the camera and cable before fitting them to make sure they are fully working.

Once the camera and cable are installed plug them into the monitor making sure the locating arrows are aligned. If the monitor goes off when a camera is plugged in then it is a sign of an issue with the cable. Very rarely a cable can get damaged in installation and the monitor going off is an indication of this. If this happens turn the power off and locate the fault as soon as possible. Leaving it on will cause damage to the monitor. If a fuse blows then this is again an indication of a fault situation. Investigate the cause of the fault before changing the fuse. Use a maximum fuse rating of 3 amps.

Installing the Monitor

There are two parts to the monitor. The monitor itself and its wiring loom. **Be careful when plugging in the monitor to its wiring loom to line up the locating arrows. On some connectors there is a ridge and groove to locate it.**



The power supply to the monitor should be controlled by the ACC switch. There should be sufficient cable to reach a suitable power supply. If connected to a power supply that is “live” when the engine is started the camera can go into a fault situation that does not clear until the power is reset.

The red wire is the 12v or 24v positive feed. The black wire is the earth (negative) and should be connected to a suitable earth point. **Never connect directly to a vehicle battery as this is a significant fire risk.**

Some of our monitors have a round 2.1mm DC socket designed for a cigarette lighter plug to fit, if this isn’t required please remove.

Connecting the trigger wires are optional. The camera view can be controlled using the channel controls on the monitor. If connected always use a low amp fuse (max 1 amp) as close to where you connect to the vehicle electrics as possible. If your vehicle uses CANBUS to control its lights or has LED bulbs then using a professional auto electrician will be best.

After installing the camera and cables it is wise to start the monitor without the camera cable attached. If the monitor goes off when you plug the cable in then that indicates a fault in the cable and it should be disconnected immediately. Typical faults include a cable shorting out on a sharp edge of metal or internal damage to the cable as it has been fed through the vehicle body. If the monitor is left on in a fault condition it will be damaged.

On vans a grommet can be used to get the cable through the dash to the monitor. In the picture it shows one of our camera grommets. This was split to the centre with a sharp blade so it fitted over the cable. The advantage of doing this is the cable is not crushed between the dash and the vehicle body

Fixing the Monitor Bracket

We have a few different types of bracket depending on monitor, some of our monitors come with the side mounting points and have a "U" bracket which would need drilling down.

All our dash monitors come with a central channel to the rear, which allows a variety of dashboard mounts as well as suction mounts (temporary fitting only) to be used. The central channel dash mounts have a self adhesive base which will stick the bracket down and have holes should you wish to screw the bracket down.

Installing the Camera

When selecting a location for the camera make sure you chose a position that does not impede access or operation of the vehicles rear doors, tail gates or hydraulic lifts. A high location looking down will always give a better view than one lower down.

It is wise to try the location of the camera first to ensure you have the view you require. We find Duct tape ideal for temporary fixing, although you should always take care to ensure the camera cannot drop.

When mounted low the camera will need regular cleaning with a damp cloth. We find waxing the camera body (not the front glass) helps preserve the finish of the camera and prevent "white rust" which can be a problem when the camera is exposed to salt on the road in winter. Electrically isolating the camera as much as possible also helps. To do this a rubber washer and plastic fixing bolts can be used. This helps prevent cathodic action which occurs when you mix two different metals with salt and water.

If you are mounting the camera on the roof, check the camera is positioned so there is nothing obstructing the view. If mounted too far forward it can become impossible to see the rear bumper Always measure carefully to ensure the camera is central. Double check everything before drilling holes. On the bracket style cameras they can be fixed with bolts or self tapping screws. On a motorhome to reduce the number of holes through the skin you can use a motorhome adhesive. Glue the bracket in position and use tape to hold it there for 24 hours. After that the camera can be installed. **Some brackets are reversible to aid getting the angle of tilt the camera needs.**

If using the cable grommet then always drill a hole smaller than the inner diameter of the grommet. This is to ensure a good seal.

The IP rating of the camera will not withstand direct spray from a high pressure cleaner. If you do use one be careful to protect the camera. The most common cause of water getting into a camera is cable damage. Be careful not to cut the outer sheaf of the cable on the sharp metal of the hole drill for the cable entry point as this will invalidate the guarantee.

TWIN LENS ONLY NOTES-

To adjust the angle of the cameras you will first need to separate the camera, to do this please remove the screws to the side. Then carefully remove the hood from the top of the camera using light pressure to bend slightly whilst doing so. Then bend the lower bracket slightly to allow the 2 cameras to pop out. There will be an angle locking ring in the centre of the two cameras, adjust the cameras to suit your purpose and then put together the way you would like it.

Please remember you will probably need the cameras off whilst fixing the bracket to the vehicle so it is best to reconstruct on the vehicle (remember which way is up so one or both cameras aren't upside down.

The cameras should have silver stickers on the back of them indicating which camera is wide angle, and which is narrow angle.

Wide Angle should point down towards the ground to act as a parking camera.

Narrow Angle should point backwards down the road to act as an always on rear view camera.

Installing the Cable

Running the cable is usually the most time consuming operation. It can be run either fully in the vehicle or along the underside.

When uncoiling the cable be careful not to let the cable kink. If it does carefully straighten it out—do not pull hard as this can split the inner cores insulation.

The 4 pin video cable and camera should have rubber O rings on them to act as a water seal. Please check before connecting them—we do check, but sometimes they might be missed. Always make sure you have lined up the locating arrows on the plug and socket. When tightening up always hold the male end and turn the locking ring. Holding the female end when tightening the locking ring can strain the core and damage it.

The rubber boot on the connector acts as a second waterproof layer. If you damage it then we do stock spares. Professional fitters often wrap an extra layer of tape around the join just to make sure.

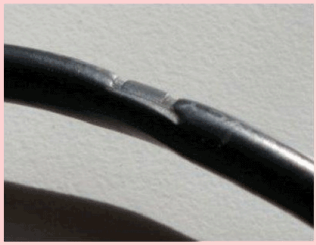
If you have spare cable it is always best to leave it as loose coils towards the rear of the vehicle in a place it cannot get damaged.

When running the cable avoid pulling too hard to get it through spaces.

Secure the cables to prevent any movement which may cause mechanical wear. This is especially true on external cables.

Once you have installed the cable it can all be plugged together and tested. It is always important to do a test with the engine running to see if you get interference on the moni-

We strongly advise against the use of cable ties unless you protect the cable with a good layer of tape in between. The photo below shows how cable ties can cut into the cable. In this case the inner core was damaged which caused the system to fail.



Fault finding

We test all the parts we send out so in theory the kit should work. If you find the system does not work then check to see if you get the AV channel number on the monitor when there are no cameras attached. If you do then your power supply and monitor are OK. If there seems to be no life from the monitor and you used crimp terminals for your power connection then these are usually to blame (try remaking the connection with solder and insulate).

If your monitor works but turns off or goes black when a camera cable is attached then there is a fault in the cable or camera. Try the camera direct into the monitor to identify where the issue is.

If you have no picture when the camera is plugged in again try it direct without the extension cable. If you still get no picture there is a fault in the camera. Also trying the second AV input may help you locate the issue.

THE MOST COMMON FAULT IS CABLE DAMAGE IN FITTING. Look carefully for damage to the cable where it goes through body panels. Also check the cable going into the back of the camera has not come away a that point.

If the system has been in use for some time check water has not got into any joints.

The monitors supplied with this system have both over voltage and limited reverse polarity protection so it would be unusual to break it in installation.

A common problem when bench testing a system is the supply voltage is too low. Over the years a number of working systems have been returned to us as faulty when they were not. It is best to test on a vehicle with the engine running if you do have issues. **Never use a battery charger as your power source.**

On some modern vehicles we have found on rare occasions that the radio can suffer from interference. If you do get radio interference after fitting this system then we have a help sheet to aid identifying the issue. If you email us we can forward you a copy.

Guarantee Details

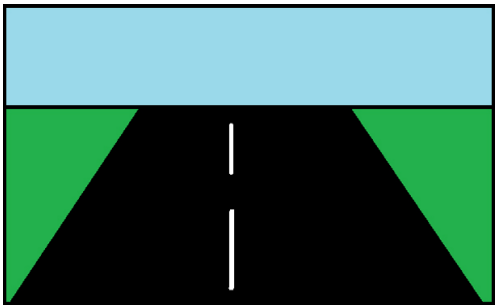
The product is guaranteed for 24 months from the date of purchase provided it is not damaged by accident or in fitting, it has not been adapted or disassembled and that the serial numbers remain on the product.

The guarantee is limited to the product and accessories supplied only and doesn't extend to any third party losses or damages, neither does it cover cosmetic appearance of the camera or monitor. The guarantee does not cover labour costs associated with the products installation or removal for guarantee service.

We are usually able to repair the monitor if it fails after the guarantee period. It is usually a low cost repair providing the LCD panel has not been damaged.

Tips for Camera Angle

When pointing the camera back we recommend you angle down ever so slightly. This stops the camera from auto white balancing to the sky. If you are pointing it so it looks back down the road then ensure that the camera can see more road etc than sky. This will stop the picture from going dark on bright days.



Care of the camera

DO NOT ALLOW A PRESSURE WASH JET TO HIT IT. 1000-3000lb per square inch is beyond the IP rating of all reversing cameras!

Keep the front glass clean using a damp cloth.

If possible wax the camera body on a regular basis. In winter rinse off salt as soon as possible. The combination of salt, steel and alloy can cause corrosion. If you look after the camera it will last for years.

Avoid pointing the camera directly at the sun. The lens of the camera will act like a magnifying glass and can burn the camera sensor. If your vehicle is likely to be regularly parked on a hill which will result in the camera pointing at the summer sun then consider tilting the camera down more.

Do not wax the front glass of the camera. This can lead to poor night vision with IR light being reflected back off the wax.

Touch up any paint chips as soon as possible.

Thankyou and enjoy your kit.