FALCON™
WORLD CLASS TECHNOLOGY

7” Reversing / Rear View Mirror Monitor & Wireless Camera

User Manual

Benutzerhandbuch

Congratulations on the purchase of your new Falcon 7" Digital mirror monitor & wireless camera kit

This guide will take you through the process of installation and set up

Please note it is important for you to retain your receipt for proof of purchase for help and assistance.

For more information on our product range please visit www.falcontechnology.co.uk

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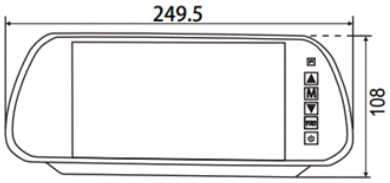
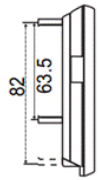


Front View

Right View



Bracket Size

Display Device	Color TFT-LCD
Size	7" Digital Screen
Operation Frequency	2400 ~ 2483.5MHz
Receiving Sensitivity	≤-86dBm(1MHZ QPSK MD300RE)
Resolution	800×(RGB)×480
View Angle (LR/UD)	L/R: 70/70 U/D: 50/70
Contrast Ratio	500:1
Luminance(cd/m²)	450
Response Time (ms)	25
Load Dump	DC 12+87V/400ms
Operating Temperature	-20℃～+60℃
Storage Temperature	-30℃～+80℃
operating voltage range	USB-5V （5W Max）
Dimension (L x W x T)	249.5X108X39mm
Transmission Power	18dBm with Power control
Camera	Color CMOS Camera
Image Pick-up Device	1/3" Color CMOS
Picture Elements	NTSC:960(H)X480(V);PAL:960(H)X480(V)
Horizontal Resolution	600 TV Lines
Minimum illumination	0 Lux At Night （IR LED ON)
View Angle	120°
Waterproof rating	IP69K
Shockproof Rating	10G
operating voltage range	DC11~32V
Dimension	106(W) x 75(H) x 70.4(D) mm

Package contents

Thank you for the purchase of your Falcon 7" Digital mirror monitor & wireless camera, please see below the list of contents.

			
Mirror Monitor	12V Adapter	Camera	Camera Antenna
			
Camera Bracket	Camera Base	Power Switch For Camera	Power Switch For Camera
			
Inline Fuseholder & Fuse	Scews & Caps x 4 Allan Key	Scews & Caps x 4 Allan Key	Adhesive

1. Mirror monitor (Monitor with 2 metre power cable to USB connector)
2. 12 volt to USB adapter
3. Camera (Digital wireless transmitting camera & 5m power cable)
4. Camera Antenna (Digital camera antenna)
5. Camera Bracket
6. Camera Base
7. Cable entry gland (Single cable entry gland)
8 Power switch and female spade connectors x 3 (Power switch for camera)
9 Inline fuse holder and fuse (in line fuse for camera power connection)
10. Screws & caps Caps x and Allen key
11. Adhesive
12. User manual (User manual)

ASSEMBLING THE CAMERA

Place the camera within the camera bracket and pass the self-tapper screw through the black cap hole and screw the bracket to the base in the pre-drilled holes, then close the cap. Repeat this for both holes.
Place the camera within the camera bracket using the 4 bolts. Line them up to the 2 holes either side of the bracket or tighten using the Allen key.
Screw the antenna on the back of the camera
Now the camera is built and ready to install.

MOUNTING THE CAMERA

Look for a position where the camera base can sit flat on the back of your vehicle and clean the area ensuring it is free of dust or residue. Place the base and make with around the base with a pencil or washable ink.

Cut and place tape around the marked out area, now apply the adhesive with in the marked and place the camera base with in the area. **Leave for 1 hour.**

After one hour remove the tape around the camera base and clean up any excess adhesive with Isopropyl Cleaning Alcohol or similar.

Remove any swarf and clean around the hole thoroughly so the antenna and the adhesive can bond correctly with the surface. If the surface area is metal apply some petroleum jelly or paint around the hole to prevent corrosion.

EVALUATION OF CABLE ENTRY

Firstly consider where and how to bring the cable into the van. If you have a solar panel already on the roof you may wish to consider removing the cable entry gland for the solar and using the solar gland to pass the twin cable of the camera through, If you do not have an existing cable entry gland on the roof then plan the position where you will be able to make a 12 volt connection inside the van.

Note - The12 volt feed will need to work when towing so make sure you source a permanent 12 volt feed. If you do have a solar panel then you could get a feed from the solar regulator if not plan a route to the leisure battery.

PREPARATION FOR DRILLING CABLE ENTRY HOLE

Mask the panel area around the hole position to protect the paintwork. Drill the hole and then increase the hole diameter to approx. 8mm. Remove any swarf and clean around the hole thoroughly so the antenna and the adhesive can properly adhere to it. If the surface area is metal apply some petroleum jelly or paint around the hole to prevent corrosion.

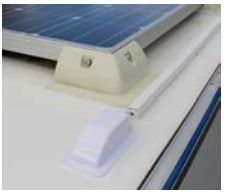
SET UP & FIXING THE CAMERA

After one hour the camera base should now be firm with the adhesive applied when mounting the camera. On the camera base remove the caps either side of the base and use the 2 self-tappers to further fix the base to the roof of the van. You may wish to apply some of the adhesive over the screws and then fix the caps back to the base.

Undo the 5 metre cable that is connected to the camera and map out the cable run from your cameras position to the hole in the roof.
We suggest you use a 15mm x 15mm self-adhesive trunking to map the route to the hole and enclose the camera cable in the trunking and pass the cable through the cable entry gland and pass the cable through the hole in the roof.

Mark around the cable entry gland with a pencil or washable ink and map out the area with insulation tape. Apply the Adhesive inside of the mapped out area and place the cable entry gland with in the mapped out area. Leave for one hour to dry.

Run either side of the trunking on the roof insulation tape, run a bead of the adhesive along the trunking to prevent water getting under the trunking to loosen the self-adhesive. Run a wet finger along the bead pushing the adhesive under the trunking.



Leave for 1 hour
We also suggest closing the opening and closing end of the trunking with the adhesive to seal from water or wind.

After one hour remove the tape around the cable entry gland and the trunking and clean up any excess adhesive with Isopropyl Cleaning Alcohol or something similar.

Remove any swarf and clean around the hole thoroughly so the antenna and the adhesive can bond correctly with the surface. If the surface area is metal apply some petroleum jelly or paint around the hole to prevent corrosion.

CONNECTING POWER TO THE CAMERA

Inside the van evaluate your route to your power point.

Evaluate the location of where you wish to position your power switch mark and drill a 20 mm hole.

Pass the cable through the hole where and cut the cable with 200 mm of flexibility strip back the 2 cut ends so you have 2 x red positive cables and 2 x negative cables.

Put the 2 negative cables together and crimp a female spade connector on then slide on the brass pin in the below diagram the left pin marked 20A.

Add a female space connector to the red cable that is coming down from the camera and slide on to the pin marked DC (Digital Camera) the pin on the right.

Add a female spade connector to the red which will be connected to the power supply and slide on to the middle pin marked 12 Volt

CONNECTING THE POWER TO THE POWER

Press the spring loaded clips on the back of the monitor and present the back of the monitor to your rear view mirror placing the top clips on the top of the rear view mirror.

Release the spring loaded clip when on the rear view mirror
Plug the monitor power plug to a USB point or use the 12 volt to USB adapter

POWERING UP THE SYSTEM

Turn on the Camera by pressing the power button the red LED light will light up on the switch

Turn on the mirror monitor

MONITOR MENU OPERATION

1. Falcon Digital camera with 5 metre power cable
2. Power button to the Falcon mirror monitor
3. V1/V2 button changing channel also used as a select button in the menu's
4. Scroll down button in the menu's
5. Menu button
6. Scroll up button in the menu's

PAIRING CAMERA's

Firstly, make sure the camera power switch  is in **OFF** position

Press the power button ⏻ to turn the monitor

Press the MENU button M on the Monitor

Move to the Pair button by using the up ▲ or down ▼ button then press the **V1/V2** V1/V2 to select this function the pairing process with now start.

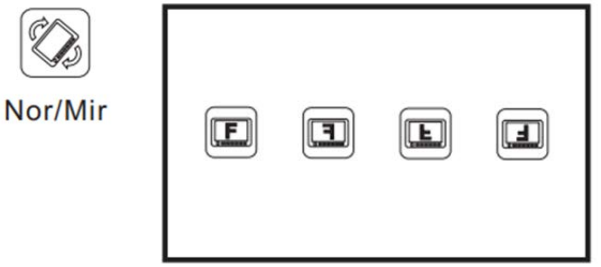
The Green light on the monitor will flash when in PAIRING MODE
The Pairing will start and you will see the count down from 50 seconds down 

When the 50 second PAIRING time has finished you will see the camera image appear on screen 

PAIRING A SECOND CAMERA
If you are adding a 2nd camera to the system follow the procedure above when the monitor is in pairing mode put power **ON** to both cameras, the monitor will then PAIR to both cameras. The cameras will be then visible either in **V1** or **V2**.

Pressing the **V1/V2** button 3 times will take you to split screen when then you can see both cameras at the same time in split screen. 

CHANGING THE CAMERA IMAGE



As the system is designed as a reversing camera the system is set as default to a mirror image therefore with the camera fitted on the back of the van looking at the monitor on the mirror monitor it will give a true perspective.

If you wish to change the mirror image to a true image or turn the image upside down this is possible as below

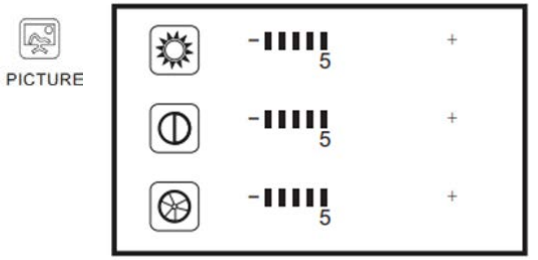
Press the power button to turn the monitor

Press the MENU button M on the Monitor

Move to the Screen rotation button Nor/Mir by using the up ▲ or down ▼ button, then press the **V1/V2** V1/V2 to select this function.

A above the options available to either rotate the image upside down or from left to right (mirror or true) using the up ▲ or down ▼ button, then press the Menu button M to save your selection and exit.

IMAGE SETTINGS



The settings can be changed as below

- **Brightness**
- **Contrast**
- **Colour**

Press the power button ⏻ to turn the monitor

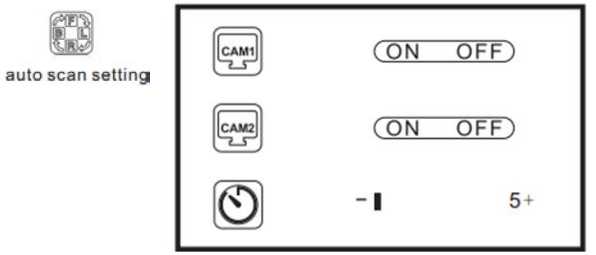
Press the MENU button M on the Monitor

Move to the Picture set up button PICTURE by using the up ▲ or down ▼ button, then press the V1/V2 V1/V2 to select this function.

Use the up ▲ or down ▼ button to select **Brightness**, **Contrast** or **Colour** then press V1/V2 V1/V2 to select the option of choice.

Using the up ▲ or down ▼ button to increase or decrease the settings, to save and exit press the Menu M button.

AUTO-SCAN SETTINGS



Auto scan is ideal for a 2 camera installation where you wish the monitor to automatically switch between camera 1 and Camera 2. The time can be set between switching from a 5 second time to 45 seconds delay.

Press the power button ⏻ to turn the monitor

Press the MENU button M on the Monitor

Move to the Auto Scan Setting button auto scan setting by using the up ▲ or down ▼ button then press the V1/V2 to select this function. **First you must turn on each camera to auto scan**

SETTING UP CAMERA 1

Using the up ▲ or down ▼ button, select the **camera 1** if you wish to set in Auto scan mode then press V1/V2 V1/V2 to select the camera. Select ON or OFF press V1/V2 V1/V2 to save and exit

SETTING UP CAMERA 2

Using the up ▲ or down ▼ button, select the **camera 2** if you wish to set in Auto scan mode then press V1/V2 V1/V2 to select the camera. Select ON or OFF press the V1/V2 V1/V2 to save and exit
Setting the switching time

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SETTING THE SWITCHING TIME

Using the up or down button select the CLOCK then press the **V1/V2** Using the up or down button to set the switching time between 5 and 45 seconds press then press the **V1/V2** to save then press **MENU** button to exit.

VIEWING SELECTION

You can manually switch between Video 1 and Video 2 by pressing the V1/V2 button pressing the button will switch between the options below

1. **Camera SCAN auto switching between camera 1 & 2 at the programmed switching time.**
2. **Camera 1**
3. **Camera 2**
4. **Camera 1 & 2 Split screen**

OTHER FUNCTIONS

PARKING GUIDELINES

Parking guidelines car a useful especially if you are using the camera mainly for reverencing. To switch this function on follow the guide below

Press the **POWER** button to turn the monitor

Press the **MENU** button on the Monitor

Using the up or down button. Move to the function set Function set button. Press the **V1/V2** to select this function Using the up or down button Move to the Guidelines set button Press the **V1/V2** to select this function Using the up or down button to select **ON** or **OFF** Press the **V1/V2** to save then press **MENU** button to exit.

SWITCHING BETWEEN NTSC AND PAL 

This is not a function that if often needed only when we are selling to countries that use a different format to **PAL** in Europe most cameras are **PAL.**

SCREEN AMBIENT LIGHT SENSOR ON / OFF 

This function when switched will automatically adjust the brightness of the monitor when the ambient light changes.

Press the power button ⏻ to turn the monitor

Press the **MENU** button M on the Monitor

Using the up ▲ or down ▼ button. Move to the 

Function set button. Press the **V1/V2** V1/V2 to select this function

Using the up ▲ or down ▼ button. Move to the  Ambient light set button Press the **V1/V2** V1/V2 to select this function Using the up ▲ or down ▼ button to select **ON** or **OFF** Press the **V1/V2** V1/V2 so save then press Menu button M to exit.

TROUBLESHOOTING

No Signal
If you do not have a picture on your monitor when powering up check you have turned the camera on.
Make sure the power light is on at the switch, if not check the connections of the in line fuse.
Out of the Gift box the camera and monitor are PAIRED, however if for any reason the camera loses connection to the monitor they can be reconnected in the menu by selecting PAIR. See below the process.

Picture back to front
If you power the camera up and look at the camera pointing at you and looking the mirror you will notice that the images left to right are out of perspective, that is due to you not have in the true fitted position. Turn the camera away from you and point as if fitted to the back of your van then look at the monitor and now you will see a true perspective.

Moisture in the camera housing
Should for any reason moisture gain entry to the camera housing there is a moisture release plug on the back of the camera. Only when the weather is dry release the screw and turn the camera on creating warmth and releasing any moister to exit via the moisture release hole.

Advice

Cleaning the camera
Cleaning the camera is possible with a damp cloth cleaning the lens with a glass cleaner is also recommended.
Please do **NOT** use a hose pipe or high pressure water at the camera as if this causes damage, this will invalidate the warranty.

For any further support please email **support@falcontechnology.co.uk**

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