SmartDrive™ SR4 Installation Guide

- ✓ Generic
- ✓ Mercedes Actros/Antos Variants 2014 onwards

- ✓ SR4, 2 Camera

15th August 2018

Rev 1.0

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Generic - SR4 - Mercedes Actros/Antos 2014 onwards

Vehicle Data

This document applies to the

Yodel

Mercedes Actros/Antos Variants

2014 onwards

Please ensure you review all pages before performing the SmartDrive install

Refer to the SR4 Installation Guide for additional installation details

Only mount in approved locations described in this document. When that is not possible, contact SmartDrive for an approved alternative.

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Component Locations

Forward-facing Camera

Reverse the camera in bracket and fix to the screen, left of the centre sensors. Ensure the lens sits inside the wiper sweep. There are some considerable variations actual position across the Actos.

Cab-facing Camera

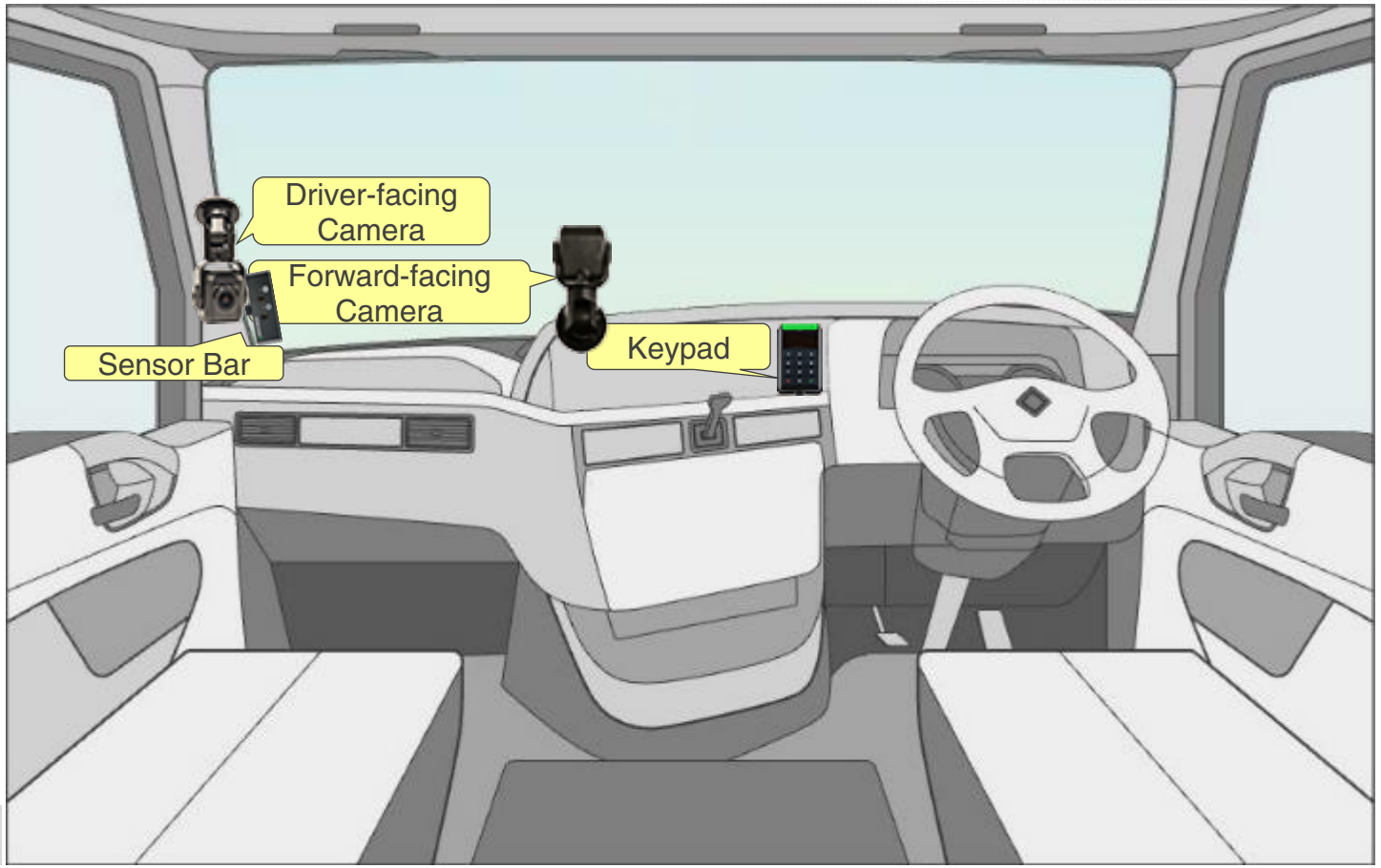
Just below vent attached to the A pillar.

Sensor Bar

Bottom near side corner of the screen.

Keypad

Lower right of radio.



Refer to detailed slides within for mounting instructions

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Controller, DLC Wiring Harness information and Wiring Locations

Controller

Mounted under nearside dash top panel

ECU/Power Wiring Harness

NA/Hard wire

Constant Uninterrupted Power (red wire)

Left stud on main fuse board (nearside)

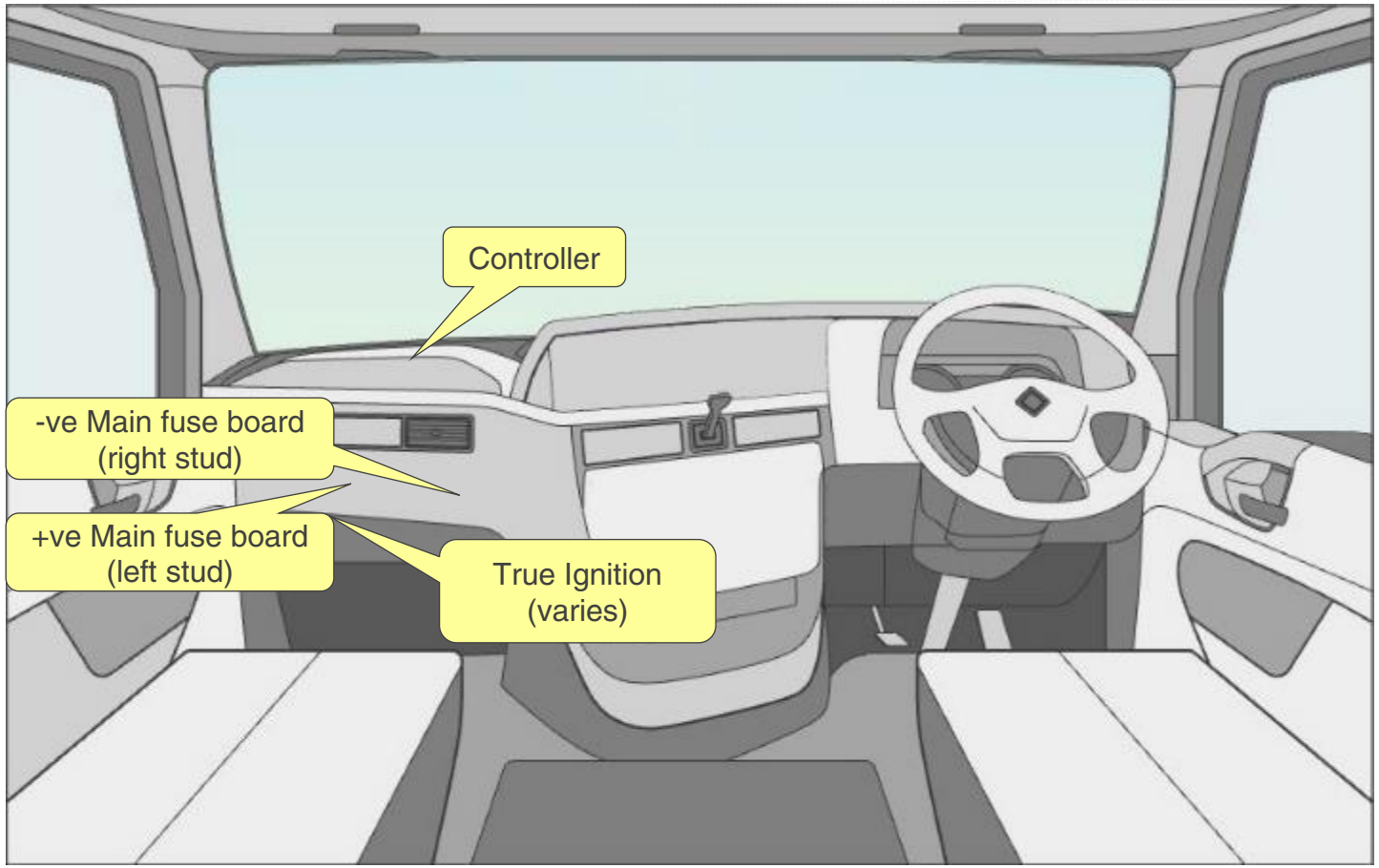
True Ignition (orange wire)

Nearside of fuse board (Note there are variations to this point, see power page)

Chassis Ground (black wire)

Right stud on main fuse board (nearside)

Refer to detailed slides within for mounting instructions



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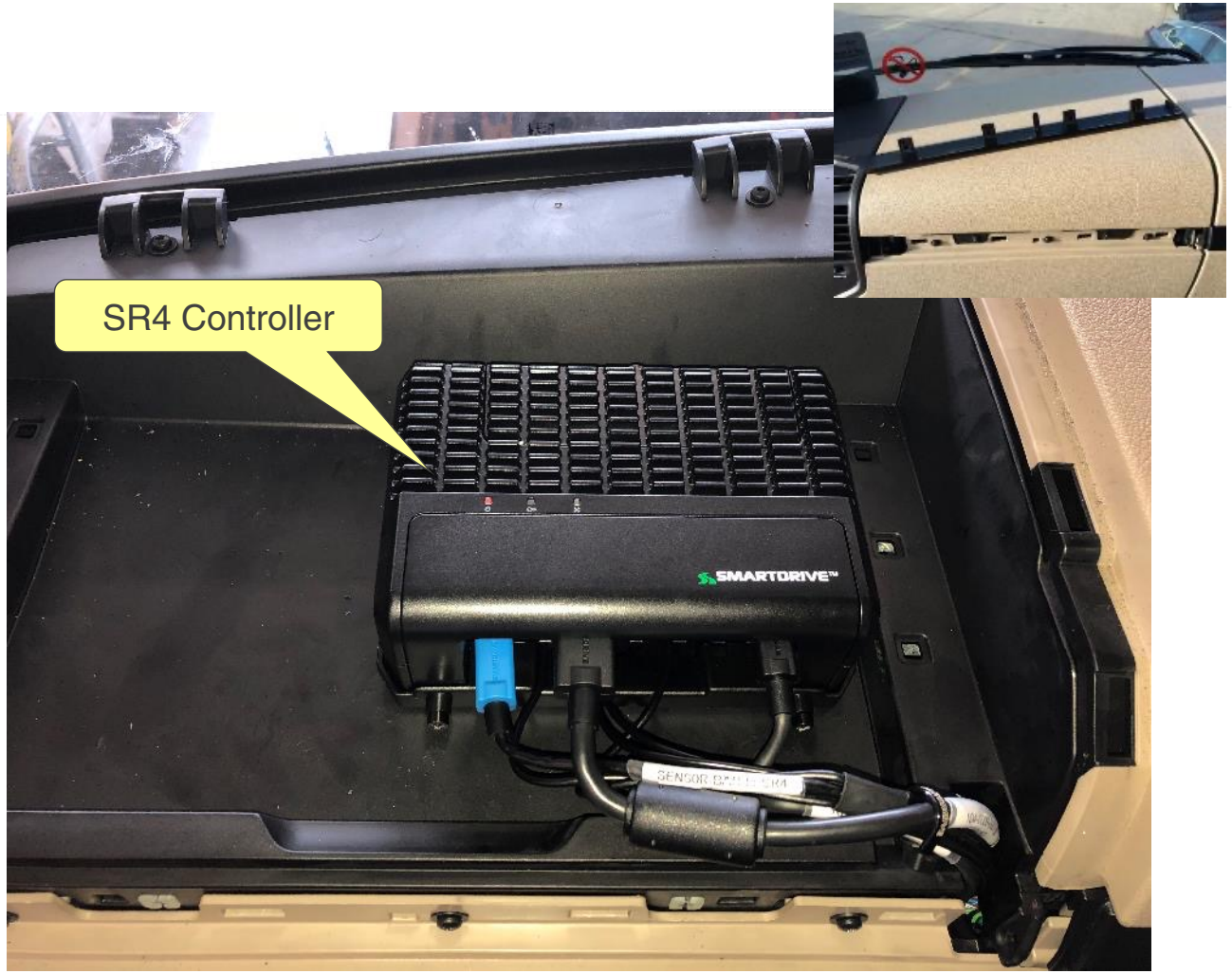
Controller Installation

Mounting Location

Near-side, under the top dash panel

Details

Securely mount the SR4 Controller with short form self-tapping screws. All of the SmartDrive cables will need to be run to this location..



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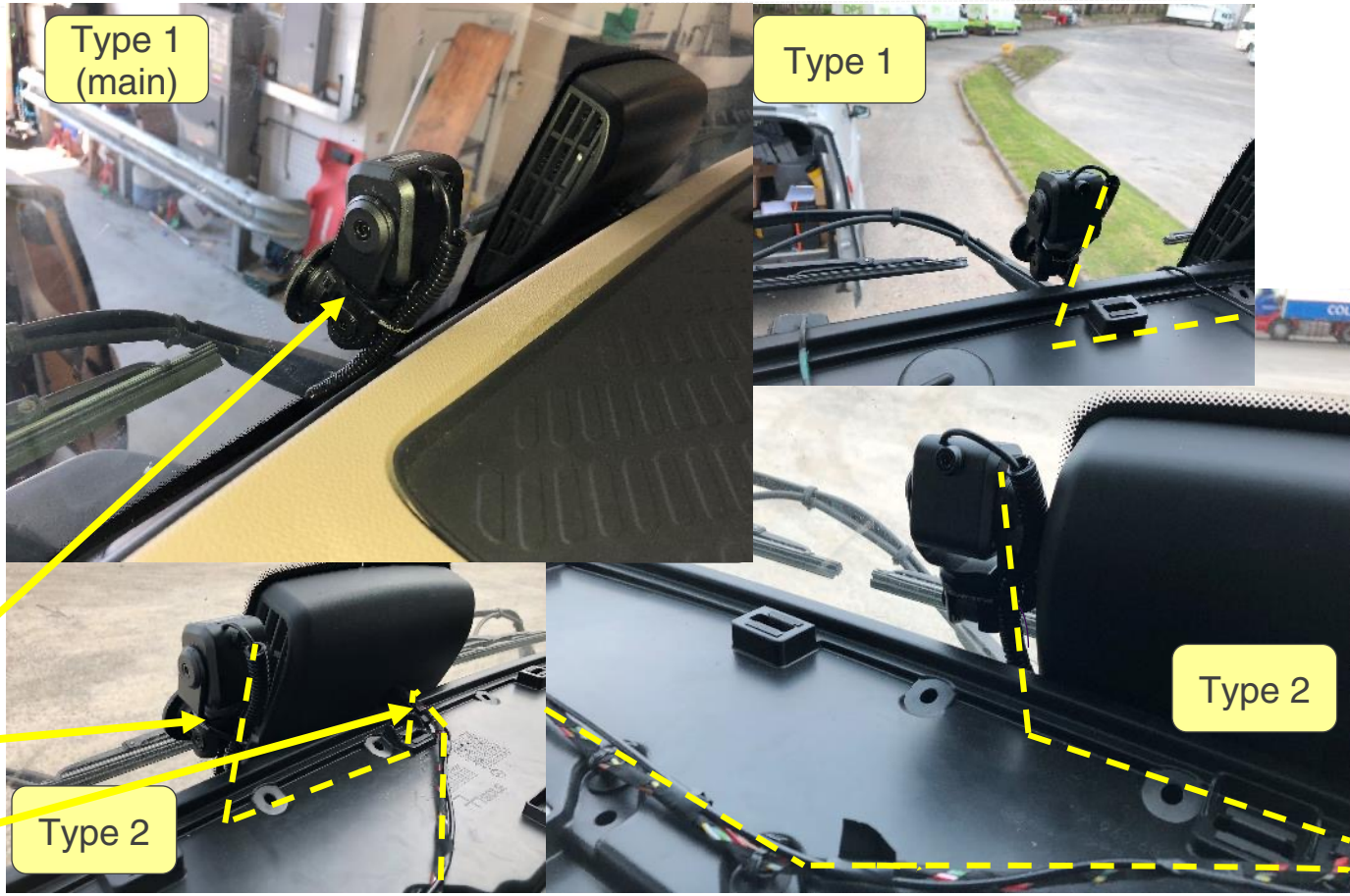
Forward-facing Camera Installation

Mounting Location

Reversed camera in bracket for correct image orientation and mounted to the screen to the left of the sensors just in wiper sweep. Slight variations in tractor units, however "type 1" is expected as the main fitment.

Details

1. Remove the two camera screws and reverse the orientation so the cable comes out from the top.
2. Before removing the adhesive backing, check to make sure the camera fits properly.
3. Using an alcohol pad clean the windshield and wipe dry with a lint-free clean cloth.
4. Press firmly on camera bracket for 10 seconds to ensure adhesion.
5. Adjust the camera angle slightly down of the horizon to capture to allow capture of road and traffic signals/signs but not too much sky
6. Run camera cable down and across to where the sensor cable goes into the top dash. Ensure the cable is secured to prevent the cable being caught in the dash trim clips.
7. Secure cable to the camera with a SmartDrive cable tie.
8. Run the cable across to the controller, following the dotted yellow line as shown and use the gap in the centre of the dash to bring cable through into the under dash.



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Cab-facing Camera Installation

Mounting Location

The camera is mounted with the sticky pad and two small self tappers as shown.

Caution of the cables running beneath the panel!

Details

1. Mount the Cab-facing camera on the A pillar as shown with two self tapping screws and use of the adhesive pad.
2. Angle the lens towards the centre of the cab as this will capture the entire cab and driver.
3. Use a SmartDrive cable tie to secure the cable to the bracket.
4. Make a small slot in the panel where the speaker vent is to allow the cable to pass.
5. Run the cable to the controller.

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Forward-facing Camera – Field of View Adjustment

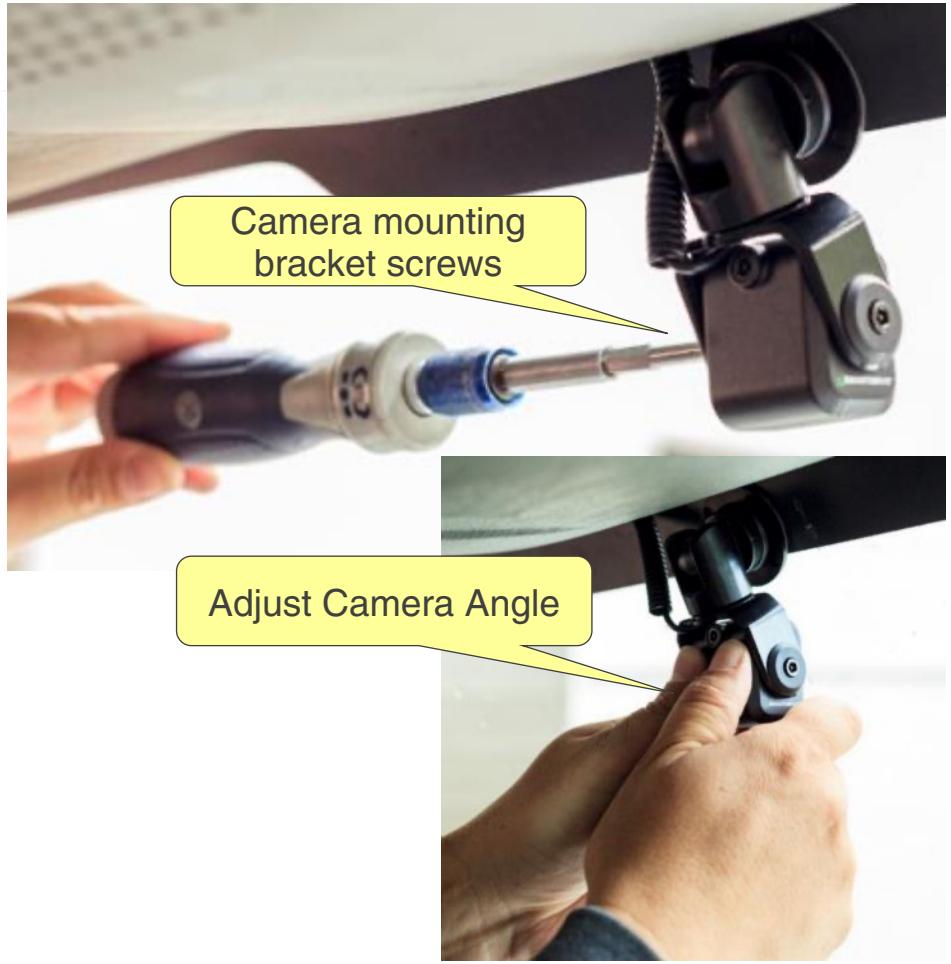
Use the proprietary M4 security wrench

1. Loosen the camera bracket screws located on the Forward-facing camera mounting bracket shaft

2. Adjust the camera angle by rotating and/or tilting the camera slightly down to capture the view of the horizon to see an unobstructed view of the road and traffic signals/signs in front of the vehicle

   Note: It is not required to remove the camera from the mounting bracket to complete this adjustment

3. Tighten camera bracket screws when the proper camera angle placement is achieved



Note: These are stock images, not specific to this vehicle nor the reversed camera requirements as shown on the previous slides for the forward facing camera.

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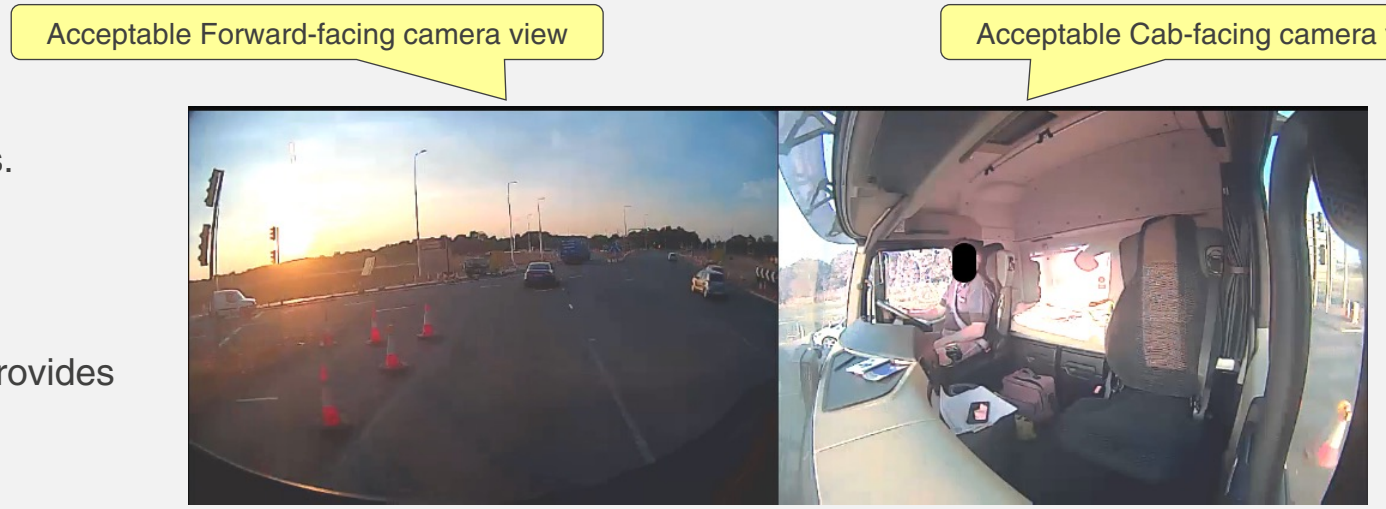
Acceptable Camera Views

Acceptable Forward-facing camera view:

View of horizon to see road and traffic signals/signs.
Lens would normally point out horizontally
and very slightly down.

Acceptable Cab-facing camera view:

The camera placement is ideal if the field of view provides an unobstructed view of the driver's face, chest, both shoulders, waist, and both hands.



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Sensor Bar Installation

Sensor Bar Location

Passenger bottom nearside screen as shown.

Details

1. Clean the windshield with an alcohol pad and wipe dry with clean cloth (note: do not use shop rags which have grease even when clean)
2. Remove the baseplate from the sensor bar. *DO NOT lose the screws.*
3. Press firmly on the baseplate for 10 seconds to ensure it adheres properly to the windshield.
4. Install the sensor bar and secure screws until tight
5. Run sensor bar wires down A pillar to the Controller location

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Keypad Installation

Mounting Location

Lower right of the radio and right of the climate control panel.

Details

1. Mount Keypad bracket and secure the bracket with 1 self-tapping screws at the bottom in the gap of the coin tray.
2. Insert Keypad into mount
3. Cut off the right edge of the climate control panel to allow cable run without damage to the cable
4. Run the length of the keypad cable behind the dashboard to the controller location.

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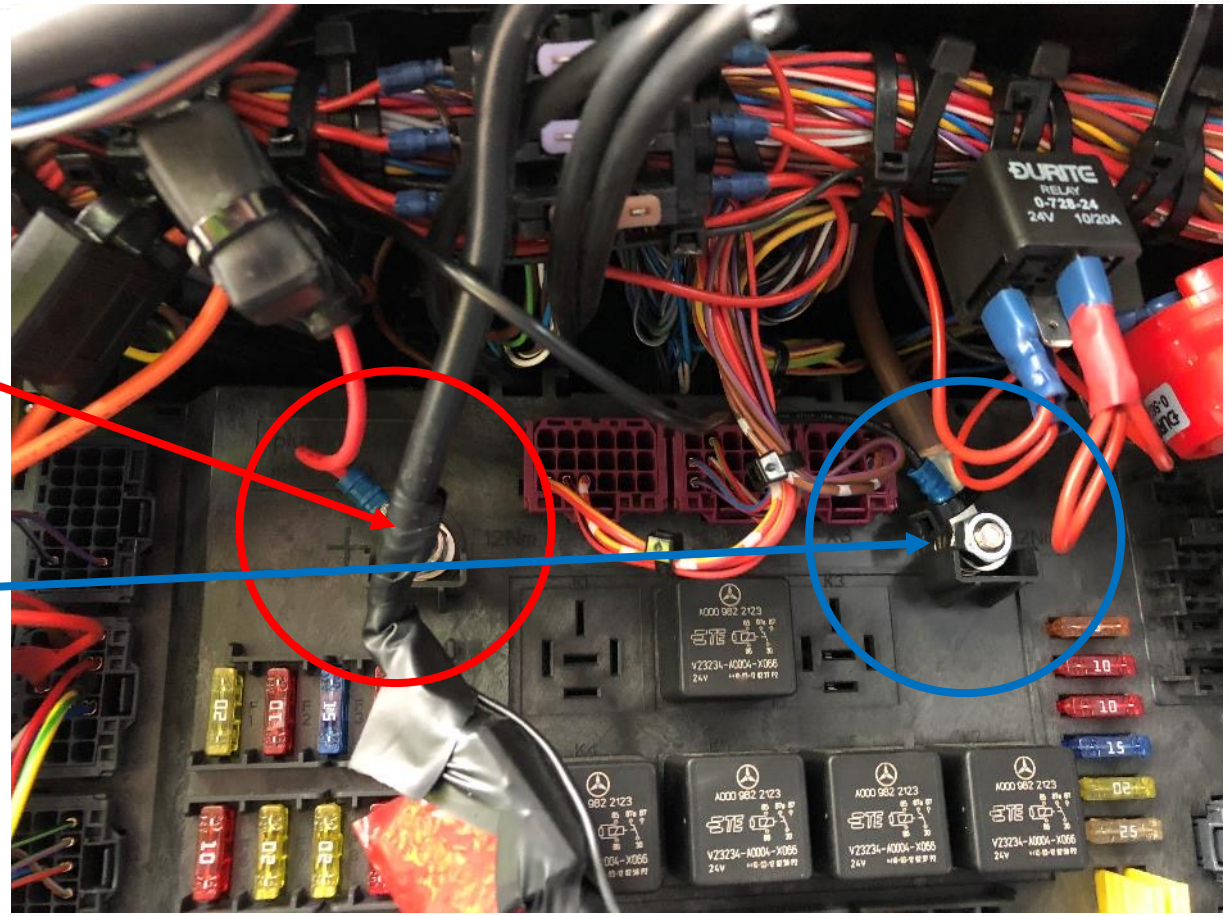
Permanent feed (red) and Chassis Ground wire (black)

Connection location/instructions

Permanent constant feed is connected via a ring terminal to the stud to the left of the nearside fuse panel as shown.

Negative earth feed is connected via a ring terminal to the stud to the right of the nearside fuse panel as shown.

A Digital Multi-meter must be used to verify and check correct feeds.



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True Ignition Wire Connection (orange) *LOCATION 1 – X7 PLUG*

Connection location/instructions

Fuse box is behind the near side dash

1. **Locate the X7 plug location the left of the fuse panel.**
2. **Add a PIN to the block from pin 2 on the X7 location.**
3. **If a cable is already connected connect by poke & wrap method.**
4. **Alternative connections are available (see next page).**
5. **A Digital Multi-meter is used to confirm true ignition as this vehicle has known variations in connectivity.**

Details

Test connection with a Digital Multimeter to verify source is 24 volt switched ignition

How to locate True Ignition with a Digital Multimeter:

1. With the vehicle off your meter will show zero volts
2. With the key in the Run position your meter will show 20 to 26 volts
3. With the vehicles starter cranking your meter will show 20 to 26 volts
4. With the engine running your meter will show around 24 volts

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True Ignition Wire Connection (orange) - *ALTERNATIVE LOCATION 2 LOOM*

Connection location/instructions

Fuse box is behind the near side dash

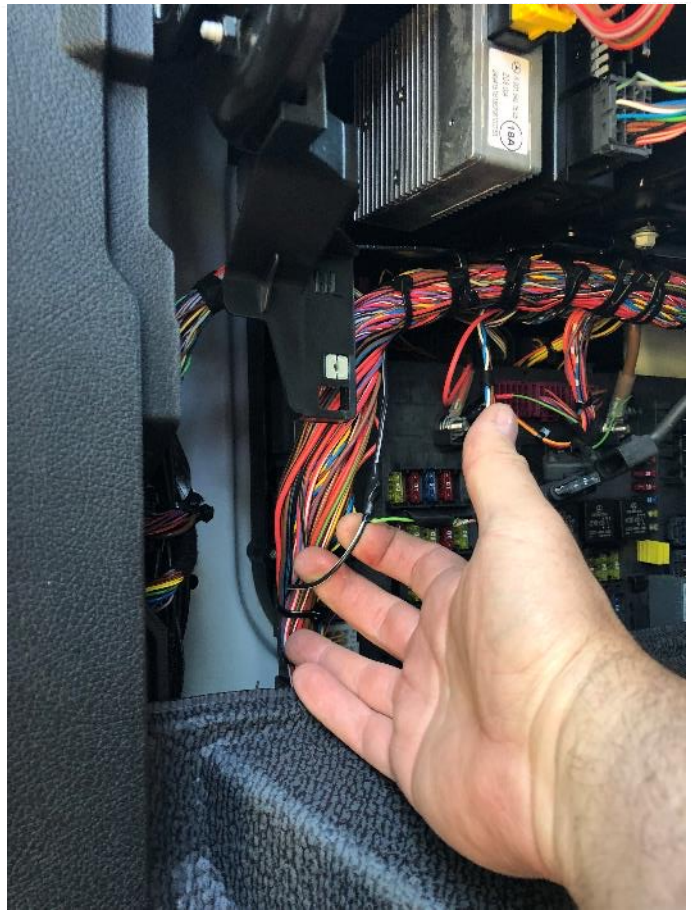
1. **If location 1 is not active the use the alternative location.**
2. **Locate the black/white cable in the nearside loom and connect by poke and wrap method.**
3. **A Digital Multi-meter is used to confirm true ignition as this vehicle has known variations in connectivity.**

Details

Test connection with a Digital Multimeter to verify source is 24 volt switched ignition

How to locate True Ignition with a Digital Multimeter:

1. With the vehicle off your meter will show zero volts
2. With the key in the Run position your meter will show 20 to 26 volts
3. With the vehicles starter cranking your meter will show 20 to 26 volts
4. With the engine running your meter will show around 24 volts



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True Ignition Wire Connection (orange) – *ALTERNATIVE LOCATION 3/4*

Connection location/instructions

Fuse box is behind the near side dash

1. **If other locations are not active/available use the alternative locations.**
2. **Locate the WHITE plug at the bottom of the fuse panel, below the carpet vinyl floor line and WHITE cable via poke & wrap OR locate the BLUE plug at the bottom of the fuse panel on the right, below the carpet vinyl floor line and BLACK/WHITE cable via poke & wrap.**
3. **A Digital Multi-meter is used to confirm true ignition as this vehicle has known variations in connectivity.**

Details

Test connection with a Digital Multimeter to verify source is 24 volt switched ignition

How to locate True Ignition with a Digital Multimeter:

1. With the vehicle off your meter will show zero volts
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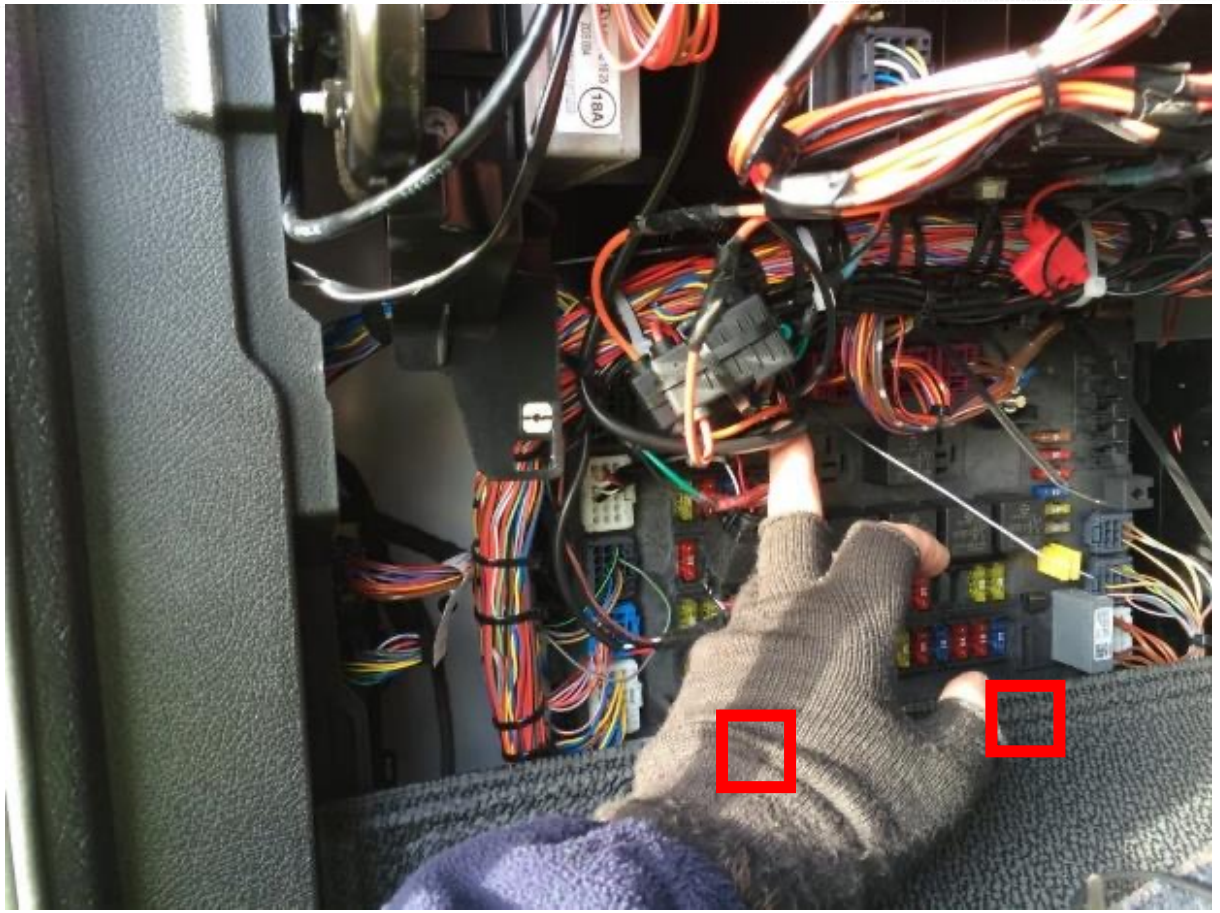

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Controller Connection Ports: DLC/Power, Analog Power, Keypad, Sensor Bar, GPS, Wabco Camera, GPS, Remote Push Button

DLC (not used on this installation) connector and Power

Plug the main power and DLC connector to the **ECU/PWR** port

Analog Power (optional, not part of the installation)

Connect the 360 power connector to the **ANALOG PWR** port

360 Analog 4-port power cable included in Analog First Camera Kit

The Keypad

Connect the Keypad connector to the **KEYPAD** port

The Sensor Bar

Connect the Sensor Bar connector to the blue **SENSOR BAR** port

The Wabco Camera (optional, not part of this installation)

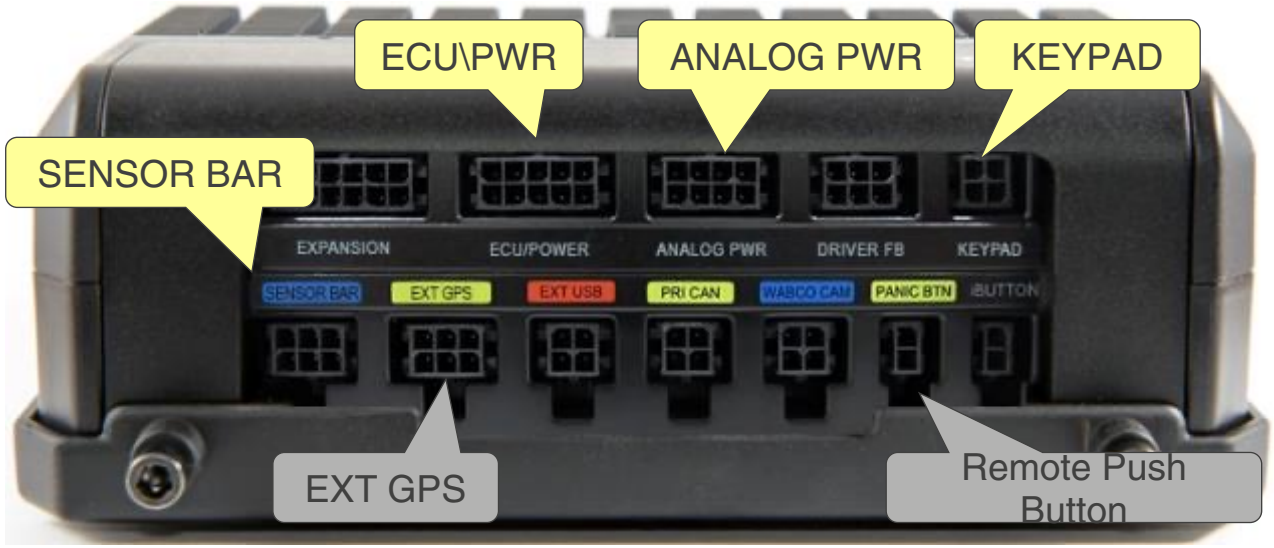
Connect the Wabco camera connector to the blue **WABCO CAM** port

External GPS (optional, not part of this installation)

Connect the GPS Puck connector to the yellow **EXT GPS** port

The Remote Push Button (optional, not part of this installation)

Connect the Remote Push Button to the yellow **PANIC BTN** port



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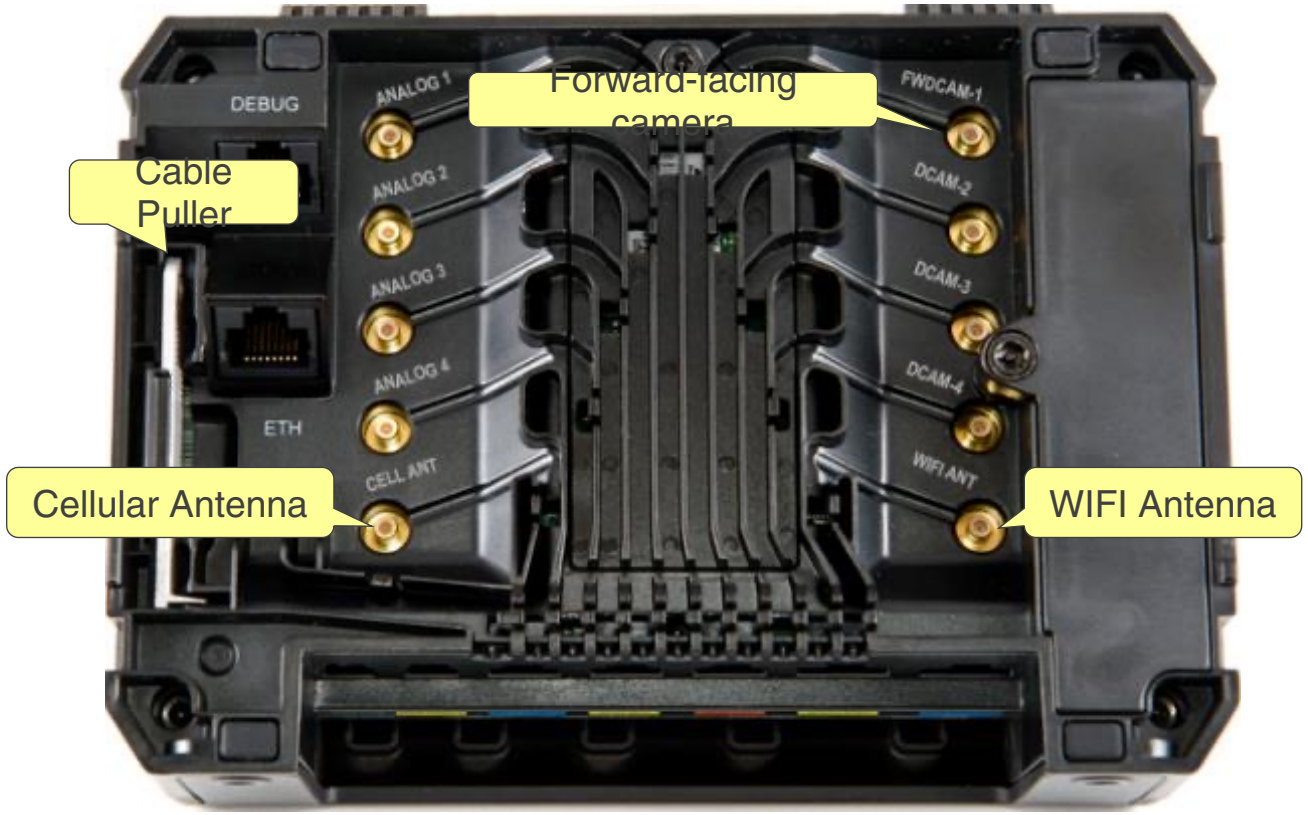
Controller Connections: Forward and Cab-facing cameras and Sensor Bar (Cellular and WIFI)

Connection instructions

1. Forward-facing Camera (FWDCAM-1 port)
2. Cab-facing Camera (DCAM-2 port)
3. Reserved (DCAM-3 port)
4. Other Digital Camera (DCAM-4 port) (optional, not installed on this vehicle)
5. Cellular Antenna (CELL ANT port)
6. WIFI Antenna (WIFI ANT port)



Details

Connect all cables to their ports and route through the strain relief channel. Use mounting tray for securing the Controller

Please take extra care when routing and tying up the camera cables as kinks or tight cable ties may create video failure

Depress the SMB coaxial connector until it clicks (locks) in place then route the cable in the strain relief channel

Should you need to remove a cable, use the cable removal tool

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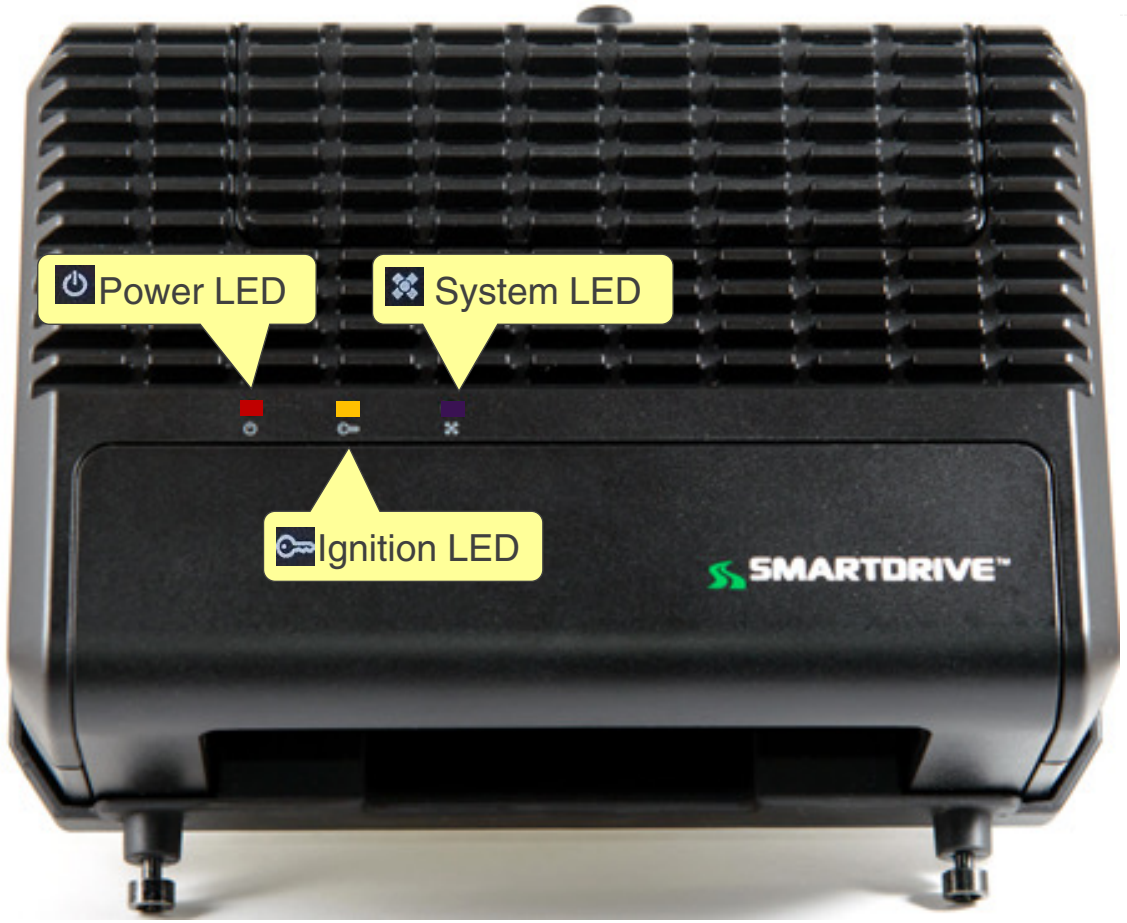
System Verification

Once the Controller is powered up, use the 3 LEDs on the top of the Controller to verify proper operation

- ✓ **Power LED**
  - Solid **red** when control is receiving external power
  - OFF when not powered
- ✓ **Ignition LED**
  - Solid **orange** when ignition is on
  - OFF when ignition is off
- ✓ **System LED**
  - OFF when the controller is shut down
  - ON **green**, awake and running with constant power
  - **BLINKING green, awake and running ONLY on the controllers internal battery. Action: Rewire to obtain constant power.**



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Diagnostic Mode and QA Verification

Diagnostic Mode

The user can **initiate Diagnostic Mode** by pressing the green button on the keypad 5 times in 10 seconds.

The SR4 Controller will reboot after the test is complete.

If the test finds any problems, it will display the fault code on the keypad. If there is more than one code, the keypad cycle between each fault code.

Refer to slide 22 to understand the fault code and follow the instructions to resolve the problem.

After correcting all fault codes, rerun the Diagnostic mode until the keypad displays all Zeros (000000). You need to have all zeros before calling Tech Support for QA verification.

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SR4 Diagnostic Mode Fault Codes

Keypad Code	Code Description	Action
000000	**Diagnostic Mode** has completed with no faults	N/A
400000	**Cellular Modem Fault**	Replace Controller
000400	**Extended Storage Media Fault**	Replace Controller
000004	**Audio Fault**	Replace Controller
000040	**Bluetooth Fault**	Replace Controller
000002	**Analog Camera Capture Circuit**	Replace Controller
000020	**Wi-Fi Modem Fault**	Replace Controller
040000	**Sensor Bar fault**	Replace Sensor Bar
000200	**External GPS**	Replace GPS Puck
004000	**Forward-Facing Camera** enabled but not working	Troubleshoot camera connectivity
002000	**Interior-Facing Camera** enabled but not working	Troubleshoot camera connectivity
000001	**Analog camera** enabled and not detected	Check analog camera connections
000010	**Wi-Fi Wireless** signal found, but unable to connect to SmartDrive	Verify in coverage and proper Wi-Fi setup
200000	**Cellular Wireless** Signal not found	Verify in coverage
000100	**No GPS Signal**	Verify vehicle is outdoors with good line of sight to the sky
020000	**Sensor Bar not found**	Troubleshoot Sensor Bar connectivity, if connected replace Sensor bar
010000	**Ignition currently off**	Verify ignition is turned on. If it is verify proper wiring.

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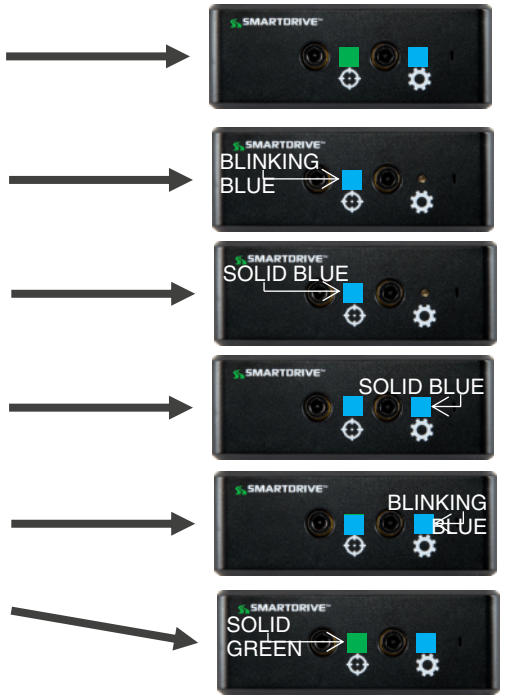
Create a manual event

Before calling SmartDrive Technical Support, create a manual event and ensure it has recorded and offloaded using the below LED Sensor Bar Observations.

- SYSTEM BOOT - Installer will observe the controller has completed booting (**all 3 LED's on the controller are solid red, orange, and green**)
- SYSTEM READY – The SmartRecorder System is ready to record when the **sensor bar light** **LED 1 is solid Green** and **LED 2 is solid BLUE** (good cell)

- EVENT TRIGGERED - Create a manual event by pressing the green button on the Keypad – **LED 1 Blinks Blue** while the event is recording
- EVENTS STORED - Once the event has completed recording **LED 1 turns Solid Blue** indicating there is an event stored and awaiting offload
- CONECTING - When the SR Connects to the SmartDrive network **LED 2 turns Solid Blue** indicating a connection has been made
- OFFLOAD - When the SR begins to offload **LED 2 Blinks Blue** indicating that the SR is currently offloading
- OFFLOAD COMPLETE - **LED 1 will return Solid Green**



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SR4 QA Validation

Complete Post Installation Verification Check with SmartDrive Technical Support:

- *After a manual event has been created, the event MAY take up to 10 minutes to be visible to our QA Specialists in the event player*
- *Please wait 10 minutes BEFORE calling Technical Support to allow time for the event to offload*
- *Then call Technical Support to do a QA checkout*

Technical Support Call In:

Call Toll free number **+44 (0) 800 047 0968 - Option 1**

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