

CHARGER PLUS HARDWIRE KIT

english

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USER MANUAL

V 1.1

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SAFETY INFORMATION

WARNING: Failure to follow these safety instructions could result in fire, device or other property damage. Read all the safety information below before using.

Handling

Handle your device with care. Your device can be damaged if dropped, burned, punctured, crushed, or if it comes in contact with liquid. If your device is damaged, do not continue using it, as it may cause injury. Use the correct input voltage. Do not spray cleaning products on the device. Remove the device if the device emits an unusual smell or if there is smoke. If the product is damaged or the power supply is cut due to an accident, video may not be recorded.

Installation

If you are having issues with installation, please contact professional assistance. GRDIAN is not responsible for incorrect wiring and damages due to incorrect installation.

Once installed check to see if other electrical equipments are operating correctly. Incorrect installation may lead to damage, fire, electrical shock or short circuit.

GRDIAN is not responsible for any installation and uninstallation costs of the product regardless of the product's warranty status.

DO NOT replace fuse other than the original rated capacity. Danger of fire will exist.

GRDIAN is not responsible for the car's battery life and warranty.

DO NOT install with the vehicle turned ON. Only install with the electrical system on.

Repairing

Do not attempt to repair the device yourself. Doing so will void the Warranty, damage your device or may cause injury. If your device is damaged or is defective, contact GRDIAN.

Choking hazard

Some accessories may present a choking hazard to small children. Keep these accessories away from small children.

IN THE BOX

BEFORE INSTALLATION PLEASE CHECK FOR THE FOLLOWING

- CHARGER PLUS**
- COMPONENT WIRES (ACC+, BATT+,GND)**
- CIGARETTE SOCKET**

WHAT IS THE CHARGER PLUS?

The GRDIAN Charger Plus is a power management device that keeps your dash cam continuously running after your engine is turned off. The Charger Plus monitors your vehicle's battery status and cuts power off to prevent battery discharge. The Charger Plus comes with low voltage protection settings, timer protection and over current/surge protection.

FEATURES

LOW VOLTAGE PROTECTION

The Charger Plus will monitor your voltage status and cut-off the power if the voltage drops below the configured value.

TIMER PROTECTION

Set the amount of time you want to keep your dash cam on by configuring the Charger Plus timer setting.

OVER CURRENT/SURGE PROTECTION

The Charger Plus will detect abnormal over current status and cut off power to prevent any damage to your dash cam device. Additionally the Charger Plus has built-in extra fuse box (2A) to have extra protection if anything goes wrong as incorrect installing or short circuit.

COMPATIBILITY

The Charger Plus is 100% compatible with all GRDIAN products and also compatible with other dash cam brands. It is universally compatible with other dash cams. Please note not all dash cams have a Parking Mode feature.

MULTI INPUT POWER DC 12V/24V

Automatically detects voltage input whether your vehicle is running DC12V or 24V.

GETTING STARTED

BEFORE YOU BEGIN

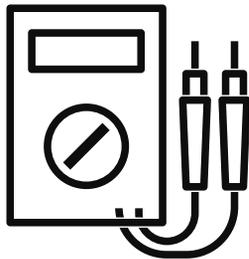
PLEASE TAKE THE TIME TO THOROUGHLY UNDERSTAND EACH STEP. SKIPPING A STEP MAY CAUSE DAMAGE TO YOUR DEVICE AND TO YOUR VEHICLE. GRDIAN IS NOT RESPONSIBLE FOR MISUSE AND IMPROPER INSTALLATION. PLEASE CONSULT YOUR CAR TECHNICIAN IF YOU ARE UNCOMFORTABLE INSTALLING YOUR DEVICE. GRDIAN CANNOT PROVIDE TECHNICAL SUPPORT REGARDING YOUR VEHICLE OR SUGGESTIONS BEYOND THIS GUIDE. **YOUR VEHICLE'S ELECTRICAL SYSTEM SHOULD REMAIN COMPLETELY OFF FOR THE DURATION OF THE INSTALLATION UNLESS SAID OTHERWISE.**

WARNING

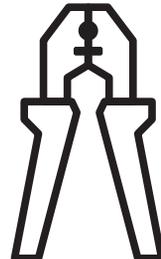
Improper installation and handling may cause serious damage to your vehicle. GRDIAN is not liable for any mishandling and damages resulting from this guide. Install at your own discretion. Consult your car technician if you continue to have issues. GRDIAN cannot provide help, instructions or recommendations beyond this guide. Please follow each step accordingly to ensure safe installation.

TOOLS NEEDED FOR SETUP

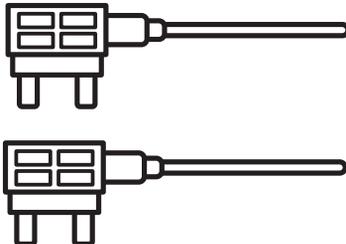
**MULTIMETER
(NOT INCLUDED)**



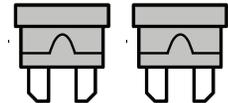
**CRIMP TOOL
(NOT INCLUDED)**



**ADD-A-FUSE
(NOT INCLUDED)**



**FUSE
(NOT INCLUDED)**



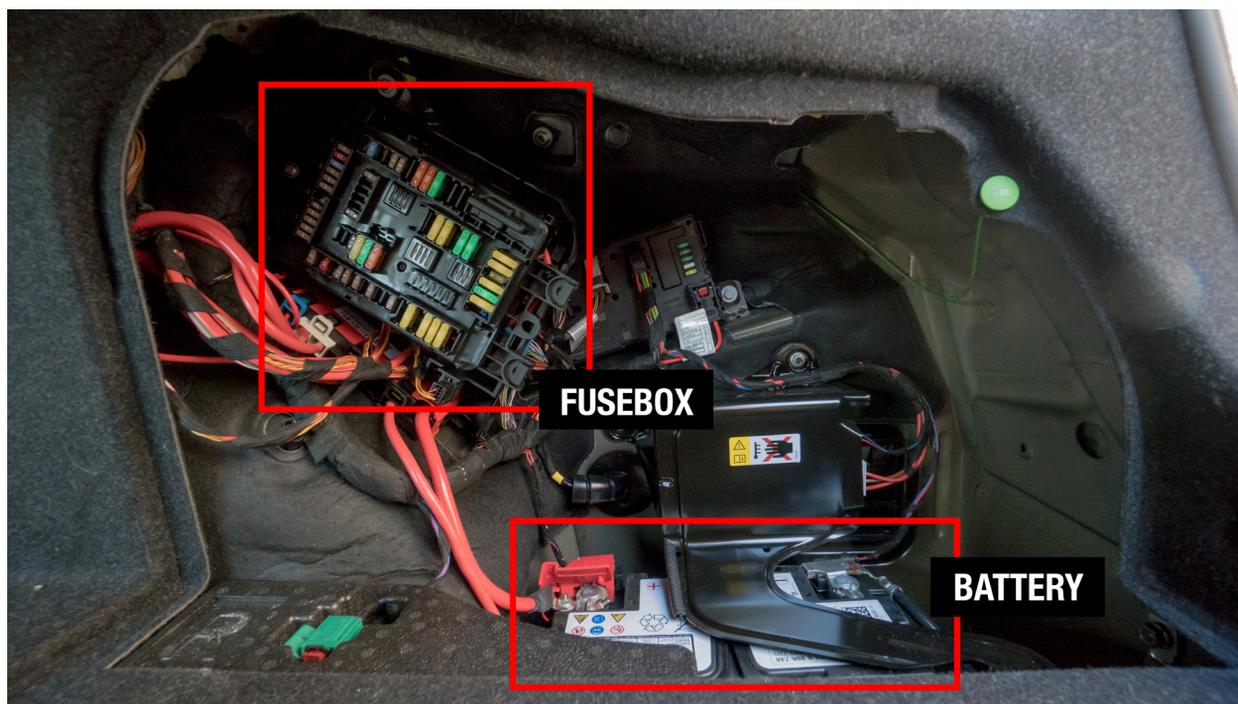
STEP 1: LOCATE YOUR FUSE BOX & BATTERY

LOCATE YOUR FUSE BOX

Locate your fuse box using your Fuse Box Diagram. This information can usually be found in your vehicle's User Manual or from your manufacturer's website.

LOCATE YOUR BATTERY

Once you have located your fuse box, find your battery. The battery is usually located next to the fuse box.



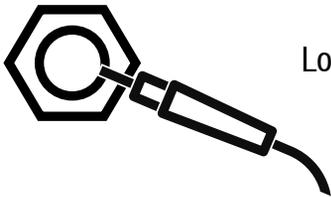
STEP 2: LOCATE A GROUND POINT

LOCATING A GROUND POINT

Grounding your wire is crucial to the safety of yourself and your vehicle in the event of a short circuit. The chassis of your vehicle generally makes a good ground. However, vehicles today are built with a combination of metals, spot welds, glued together uni-body panels and isolated chassis components. Therefore, we cannot assume that a good ground will automatically be on the chassis.

In most vehicles you should be able to locate an obvious ground near the fuse box. Your owner's manual may even tell you where the factory ground is. If you are unable to locate a ground point, we'll show you how to locate a ground. There are 2 ways to test your ground point.

TESTING YOUR GROUND POINT



Locate a secure bolt on your chassis. Use your multimeter to test.

CONTINUITY TEST [SET MULTIMETER TO 200 OHMS \gg]

1. Set your multimeter to **Continuity Test** or **200 ohms**.
2. Using the **black** lead, touch the **negative** (–) terminal of your vehicle's battery and then place the **red** lead on to your **ground point**. Your multimeter should beep if it is a complete path. If it does not beep, look for another ground.

RESISTANCE TEST [SET MULTIMETER TO $\rightarrow|+$]

1. Set your multimeter to **Resistance Mode** or **Diode Check**.
2. Using the **black** lead, touch the **negative** (–) terminal of your vehicle's battery and then place the **red** lead on to your **ground point**. A good ground point should read less than .2 ohms.

STEP 3: DETERMINE WHICH FUSES TO USE

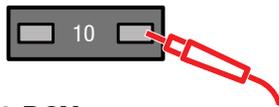
CONSTANT & SWITCHED FUSE

BEFORE YOU BEGIN

- **Make sure your vehicle's electrical system is completely turned OFF before you start.**
(Some vehicles may require a couple of minutes of standby for it to completely shut down)
- Avoid connecting to fuses over 10A. Use fuses 10A or lower.
- **DO NOT** connect to a fuse relative to car safety (brake lights, cooling fan, TCS, SRS, TPMS, Fuel Pump, ALT, ECU, etc)

NOTE: Some vehicles maintain their electrical system/power a couple minutes after shutdown. We recommend opening your doors/trunk for access into your vehicle later. Some vehicles may require up to ~30 minutes before it completely turns off. Upon returning, avoid opening/closing any doors or turning on anything. A good indicator of when a vehicle is completely off is when the cabin lights turn off.

LOCATE A CONSTANT FUSE



1. Set your multimeter to **20 DCV**.
2. Use the **black** lead to touch your **ground point**.
3. Place the **red** lead on both ends of the fuse. The multimeter should read **~12V**.

LOCATE A SWITCHED FUSE



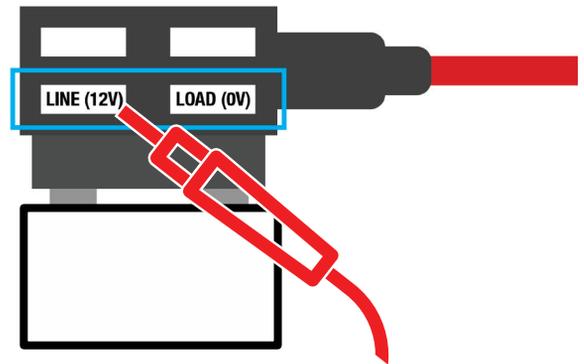
1. Set your multimeter to **20 DCV**.
2. Use the **black** lead to touch your **ground point**.
3. Place the **red** lead on both ends of the fuse. The multimeter should read **~0V**.

STEP 4: LINE AND LOAD SIDE

LINE AND LOAD SIDE

In this step we will be checking to see which side of your constant and switched fuse is line and draw.

With the add-a-fuse inserted, test the line and load side with your multimeter. **The bottom left slot should read 12V while the bottom right slot should read 0V.**



HOW TO DETERMINE LINE AND LOAD SIDE

1. Turn on **ONLY** your vehicle's electrical system.
2. Set your multimeter to **20 DCV**.
3. Remove either your constant or switched fuse. (You will repeat the steps for the other fuse)
4. Insert your add-a-fuse into the empty fuse slot.
5. With the **black** lead touching your **ground point**, test for **line side** by placing the **red** lead on the bottom **left** slot of your add-a-fuse. It should read **12V**.
6. With the **black** lead touching your ground point, test for **load side** by placing the **red** lead on the bottom **right** slot of your add-a-fuse. It should read **0V**.
7. If the above is the case, you have located the line side of your fuse and have placed your add-a-fuse correctly. If not, remove and place the add-a-fuse in reverse. Repeat steps 6 & 7 to test. Test both slots again to make sure the **left** bottom slot reads **12V** and the **right** bottom slot reads **0V**.
8. Repeat steps above for the other fuse.

STEP 5: SETTING UP YOUR ADD-A-FUSE

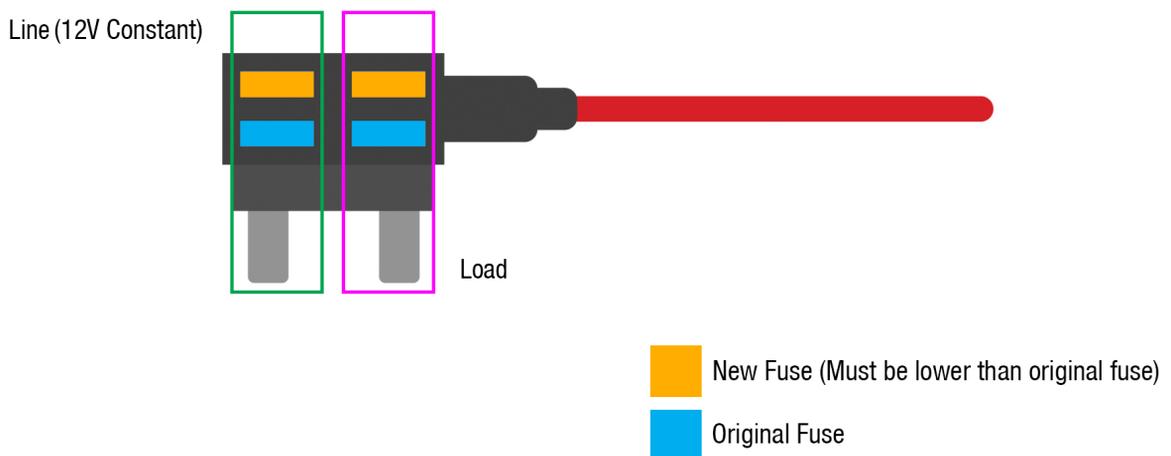
SETTING UP YOUR ADD-A-FUSE

ADD-A-FUSE

Your add-a-fuse will have 2 slots.

The **original** fuse should be inserted on the **bottom**, while the **new** fuse should be inserted at the **top**. It does not matter what direction you place the fuse.

NOTE: When inserting, the **new fuse** should be a **lower value** than the **original** fuse. For example, the original fuse is 10A. The new fuse should be less than 10A. **DO NOT** place a same value amp.



STEP 6: CONNECT YOUR ADD-A-FUSE

CONNECTING ADD-A-FUSE TO THE CHARGER PLUS

Make sure your vehicle's electrical system is completely **OFF** for this step.

CRIMPING YOUR WIRES

BATT+ (YELLOW)

Insert and attach the **BATT+** wire to your **add-a-fuse** by using a **crimping tool**. Once attached, plug the add-a-fuse into your **constant** fuse slot. Make sure to insert the add-a-fuse in the right direction with the line side to line side as determined in Step 4.

ACC+ (RED)

Insert and attach the **ACC+** wire to your **add-a-fuse** by using a **crimping tool**. Once attached, plug the add-a-fuse into your **switched** slot. Make sure to insert the add-a-fuse in the right direction with the line side to line side as determined in Step 4.

ATTACHING YOUR GND WIRE TO YOUR GROUND POINT

GND (BLACK)

Wrap the **GND** wire to your **ground point** and secure it by bolting it down.



Unscrew the ground point and wrap the GND wire around.
Bolt down to secure.

STEP 7: TEST THE CONNECTION

TEST THE CONNECTION

Your vehicle's electrical system should be completely **OFF**. Before connecting, we recommend setting your voltage setting to the lowest value (11.6V/23.6V).

1. Connect the **Cigarette Socket** to the **OUTPUT** terminal of the **Charger Plus**.
2. Connect the **Component Wires** to the **INPUT** terminal of the **Charger Plus**.
3. Once connected, the Charger Plus should turn on. A **RED** indicator should light up.
4. Turn on your vehicle's electrical system. If installed correctly, the Charger Plus should turn on and the indicator should turn **GREEN**.
5. Insert your cigarette charger into the Cigarette Socket. Tape down to make sure it is secure.

NOTE: If the Charger Plus is not green, make sure you installed your Charger Plus correctly. Remove the Input Connection, make sure your vehicle's electrical system is completely OFF. Re-establish connection by re-inserting the Input Connection and turning your vehicle's electrical system ON.

CHECKLIST

- Make sure you are using a **Constant** and **Switched** Fuse. Refer to **Step 3**.
- Make sure the **BATT+ (YELLOW)** wire is connected to the **Constant** fuse slot. Refer to **Step 6**.
- Make sure the **ACC+ (RED)** wire is connected to the **Switched** fuse slot. Refer to **Step 6**.
- Make sure your **GND** wire is properly connected to a ground point. Refer to **Step 2** and **6**.
- Make sure your add-a-fuse is correctly inserted in the right direction. Refer to **Step 4**.
- Remove the Input Connection. Make sure your vehicle's electrical system is completely OFF. Insert the Input Connection back in, and turn on your vehicle to test.

VOLTAGE PROTECTION SETTING

The Charger Plus will cut off power output to the dash cam when the voltage drops below the set threshold. Set the voltage setting based on your car's battery status.

HOW DO I SETUP A VALUE THAT FITS MY VEHICLE?

1. Make sure your vehicle's electrical status is **OFF**. Check the voltage value of your vehicle by using your multimeter. Set the multimeter to **20 DCV**. Use the **black** lead to touch your **ground point** and place the **red** lead on your fuse. Note the voltage.
2. Set the Voltage Protection Setting based on your findings. For example: If the multimeter detects 12.2V, you may set the voltage setting to 12–11.8V or at least 0.2V lower.

NOTE: Make sure you set the correct voltage setting or your dash cam may keep rebooting. Once installed, check the camera if it is operating normally. If your dash cam keeps rebooting you may need to set a lower threshold. If you continue to have issues, have your battery checked by a professional.

TIMER SETTING

The Charger Plus will cut off power output to the dash cam with the built-in timer. Easily set the amount of time you want your power on by adjusting the timer setting.

PRODUCT SPECIFICATIONS

MODEL

Charger Plus

WEIGHT

3 oz

DIMENSIONS

63.5 x 38 x 25.4mm (2.5 x 1.75 x 1in)

YEAR RELEASED

2019

INPUT INTERFACE

ACC (Red)

GND (Black)

BATT (Yellow)

Cable length (5ft)

OUTPUT INTERFACE

Cigarette Socket

Cable length (5ft)

FUSE

NA

INPUT

12V/24V, 1100mA

RATED OUTPUT VOLTAGE

12V/24V

OUTPUT CURRENT

Rated Current 1A, Max 2A

STANDBY CURRENT (LEAKAGE)

NA

CUTOFF VOLTAGE SETTING

11.6V – 12.5V (11.6, 11.9, 12.2, 12.5)

23.6V – 24.5V (23.6, 23.9, 24.2, 24.5)

OUTPUT RECOVERY VOLTAGE

NA

OUTPUT CUT-OFF TIMER SETTING

2 hours, 4 hours, 6 hours, 12 hours, 24 hours, Always On

OPERATING TEMPERATURE

-20°C to 75°C (-4°F to 167°F)

PROTECTION

Low Voltage Protection

Timer Protection

Over Current/Surge Protection

WARRANTY

Warranty is limited to 1 year (12 months) from the date of delivery. Valid proof of purchase is required to obtain warranty services. Warranty is only valid where the product is sold. If purchased from other than GRDIAN.COM receipt is required.

CUSTOMER SUPPORT

SUPPORT

GRDIAN is dedicated to providing the best possible services and products. To reach out to our support team, please visit: www.grdian.com/contact-us

MESSAGE US

We make ourselves available to you on different social media platforms. You can reach out to us on [Twitter](#), [Facebook](#), and [Instagram](#).

For more answers to commonly asked questions, see grdian.com/support.

TRADEMARKS

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