

CP4

4 Channel HD Recorder



Installation Guide

Model #: CP4S-NA

v1.0.1

WARNING: SmartWitness installations should be performed by a qualified individual or installation professional only. Working with a vehicle's power system can be dangerous to both you and your vehicle. This installation is intended only to be a guide since vehicle designs and power/input sources can vary significantly from vehicle to vehicle.

All cellular-enabled CP4 devices must use the installation wizard for proper onboarding and activation, please visit m2minmotion.com/getstarted to register your DVR.

1. Overview








The SmartWitness CP4 is the world's smallest 4 channel LTE-enabled vehicle recorder. CP4, an in-vehicle drive recorder, offers commercial vehicle owners an effective risk reducing means to aid in the investigation process, decrease collateral damages associated with car accidents, encourage safe driving, monitor driving behaviors, and enhance the overall safety on the road. CP4 features 4 camera inputs for connecting 1, 2, 3, or 4 cameras. A 6-Axis G-Sensor, Microphone, SD card (up to 256GB capacity), panic button, cellular modem, & GPS receiver are included. CP4 is powered up on vehicle ignition and automatically begins recording. Various camera options are available, making the amount of possible CP4 system combinations nearly endless.




CP4 is small, lightweight, easy to use, and simple to install compared to other complex and expensive mobile DVRs. CP4 can be easily installed inside a glove box or purchased with a locking case to prevent unauthorized access to the recorded data. An LCD monitor is not required for use but can be added to provide added visibility in and around the vehicle for added security and safer operation.

► Features

Recording Features	
1080p recording on channel 1. 720p recording on channels 2~4.	256GB SD storage capacity, record up to 270 hours of footage on 4 camera setup.
Various camera options: wide angle, weatherproof, infrared, dome, side view, rugged, reverse cameras, etc.	Dual Record mode (Continuous + Event). Optional Audio Recording.
Connects directly to vehicle ignition power, automated operation.	Tamper-Resistant locking case available; Key required to access SD card Data.
GPS data records full time to provide location data, vehicle speed, and accurate time/date.	Three 12V alarm input triggers for advanced event recording.
Delay power shutdown feature enables recording for up to 24 hours after ignition off.	Built-in temperature logic for improved performance in high-temp environments.
Adjustable Resolution & Frame Rate. Built-in G-Shock Sensor and Gyro (adjustable sensitivity).	Auto SD card format feature. CP4 automatically detects SD error/corruption and auto-formats itself and begins recording again.

► **Package Contents**

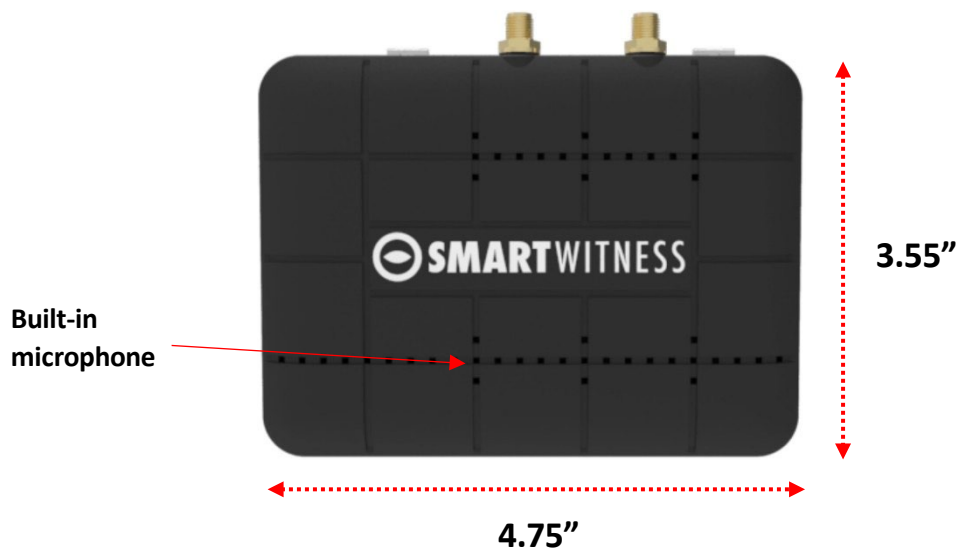
Product Name	Image
CP4 Vehicle Recorder SD and SIM cards pre-inserted (if applicable)	
Power Cable BAT(+), IGN+, BAT(-)	
Remote Controller (Panic Button) with 3M adhesive	
Video Output Cable and I/O triggers	
Camera Input Cable (4x input)	
GPS Antenna Module	
Audio Microphone	

Torx Screw (x2) and Torx screwdriver	
Mounting Bracket and 4x self-tapping screws	
2x LTE Stubby Antennas	

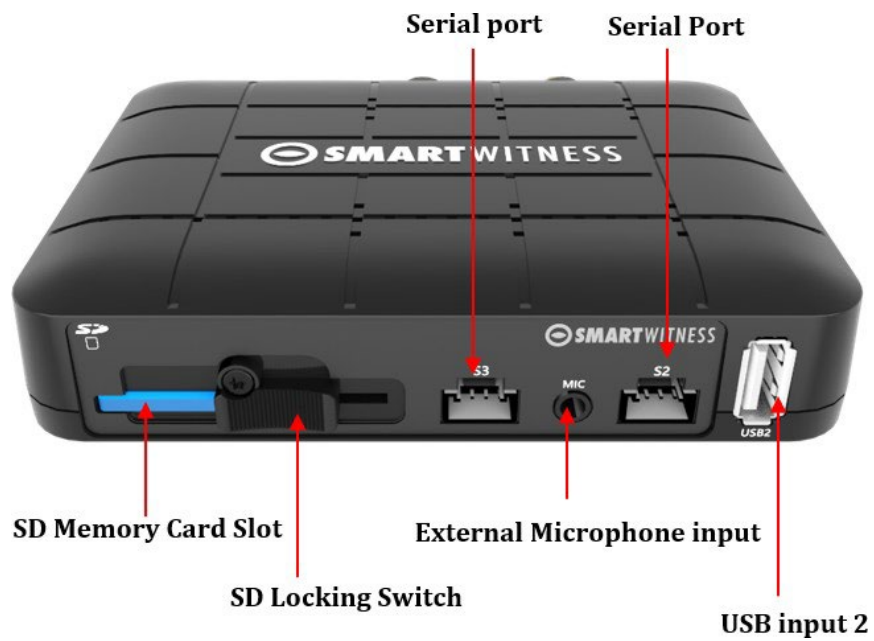
2. CP4 Hardware Overview

Watch 360° Hardware Overview Video here: <https://youtu.be/cLmUPGLnqSM>

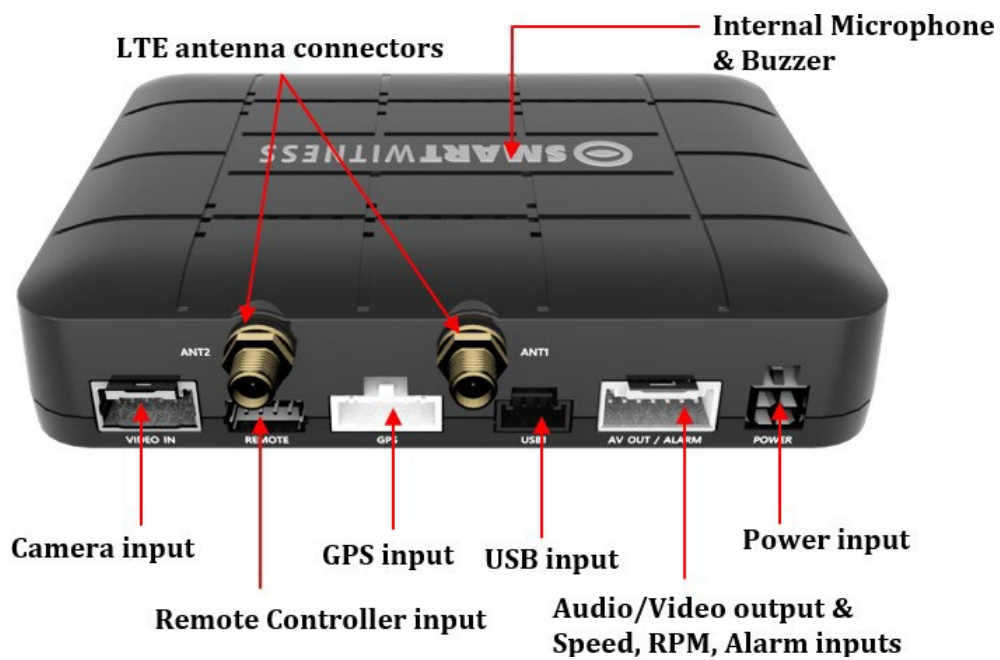
► Dimensions



► **Front View**



► **Rear View**



3. Installation:

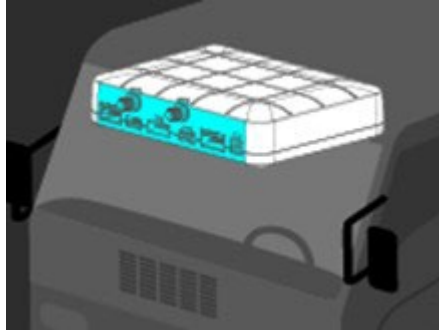
Park the vehicle on a flat service. Turn off the engine before installing the CP4.

- The SD card and SIM is usually pre-inserted, but if it's not, you should be notified by the service provider and have been provided SIMs/SDs separately.



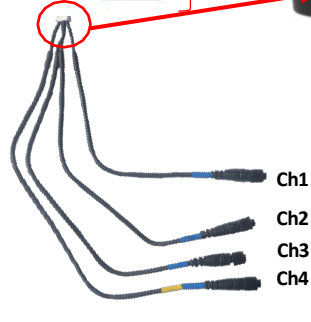
Find installation location for recorder and locking case (if applicable).

- The default axis adjustments by device position is set as shown below.



- ▶ Install all the interior and exterior cameras with 3M dual sided adhesive or hard mounting screws (confirm with customer as to the desired installation method).
- All the four cameras will be connected to the CP4 recorder via the **Camera Input Cable**. Make sure you have (1) bag of adapters for the GX12 to the camera input cable (SKU ACSWAGX12 – 4 per bag).

Ch1: 1080p
Ch2: 720p
Ch3: 720p
Ch4: 720p



ACSWAGX12 adapter to GX12

- ▶ Install remote control onto dash next to the steering wheel and within reach of the driver.



- ▶ Run camera cable(s) and secure in headliner and or other area so no cables are exposed. Use provided wire clips if necessary.
- ▶ Connect all cables to CP4 Recorder. Secure the windshield mounted camera cables into the headliner and down the A-Pillar.
- ▶ **Route the GPS cable and LTE Antenna cable (if applicable) up the side panel and on the dashboard**, in view of the windshield (so it can have a view of the sky to acquire GPS signal).
 - Activate the product in an area without large buildings to improve GPS reception.
 - The temperature ranges for optimum operation of the GPS receiver in your car is -10 ~ 50°C.

GPS reception may be impaired under the following circumstances

- 1) If there is an object at the end of the GPS antenna
- 2) If your vehicle has metallic elements on the windshields
- 3) If equipment generating electromagnetic waves that interfere with the GPS signal is installed in the vehicle e.g.: Other GPS devices such as a certain type of wireless activated alarms, MP3 and CD players and camera alarms using GPS.
- 4) If you are using a receiver connected by cable, electric interference can be avoided by simply changing the location of the receiver (antenna).
- 5) On heavily overcast or cloudy days, if the vehicle is in a covered location such as under a bridge or raised roadway, in a tunnel, an underground roadway or parking area, inside a building or surrounded by high-rise buildings.
- 6) If GPS signal reception is poor, it may take longer to locate your current position when the vehicle is moving than when it is stationary.



CP4 GPS antenna properly installed on the Vehicle Dash

Optional

OBDII Plug-in-Play Power Connector w/ IGN ON (4 channel DVR)

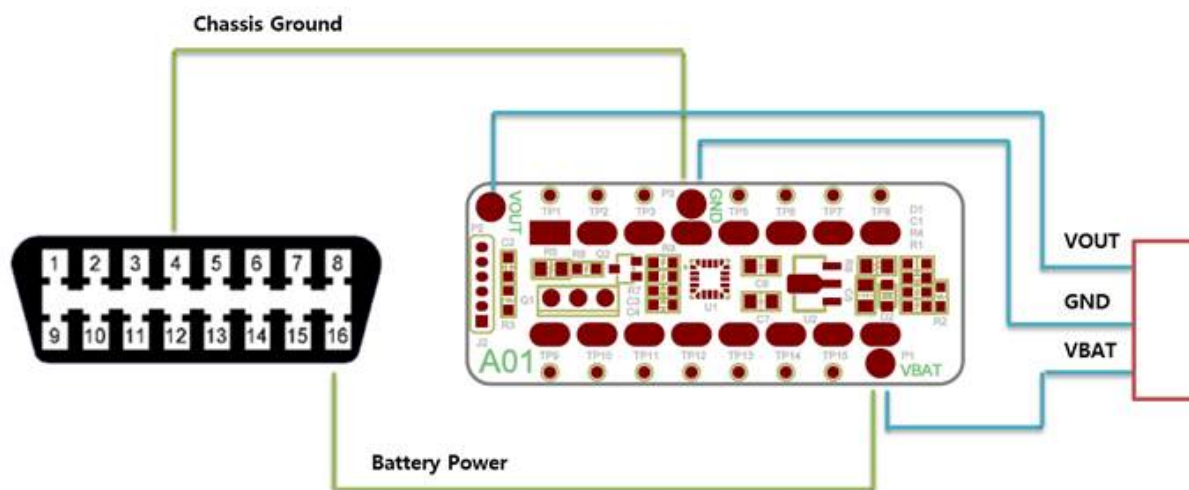
INT1-PC-OBD OBDII Power Connector with Ignition ON Identifier for 4 Channel DVR

OBD-ADPT-CP4 INT1-PC-OBD Adapter Cable for 4 Channel DVR [REQUIRED FOR USE WITH INT1-PC-OBD]

There are only two active pins on the OBD connector, this is standard to all vehicles:

- Pin 16: Bat+
- Pin 4: Ground

Here's a pinout showing the PCB connections on our Voltage identifier board (which is built-in to the OBDII connector).



Here are some specs:

- Wattage capacity: 18W
- Working current: 3A
- Voltage: 12~18V
- Delay turn off time: 15 sec
- Start Power supply: >13V
- time-lapse power-off: <13V

► **Camera Channel inputs**

- 4 Channel DVR has some rules on which cameras can be connected to each input (1~4).

Connecting one 1080p camera and 3x 720p cameras

Resolution	FPS
CH1 1080p	15
CH2 720p	10
CH3 720p	10
CH4 720p	10

Connecting 4x 720p cameras

Resolution	FPS
CH1 720p	15
CH2 720p	15
CH3 720p	15
CH4 720p	15

If using D1 (720x480 or VGA) camera, it must be connected to Ch4

Resolution	FPS
CH1 720p	15
CH2 720p	15
CH3 720p	15
CH4 D1	30

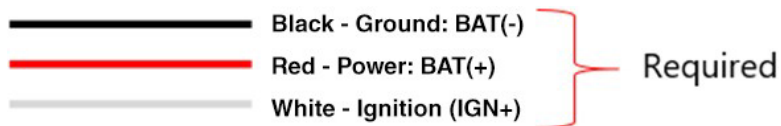


LCD Camera Channel Display
order (Quad View)

4. CP4 Power Cable and Wiring

Make sure the vehicle is off, then connect the required wires to the vehicle, as shown below in the wiring diagram.

► Power Connection



Power Specifications

Input: DC 10-32V, 2000 mA

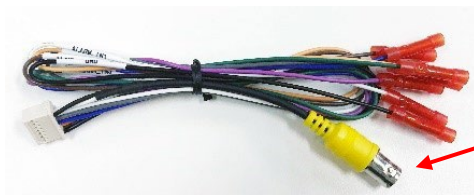
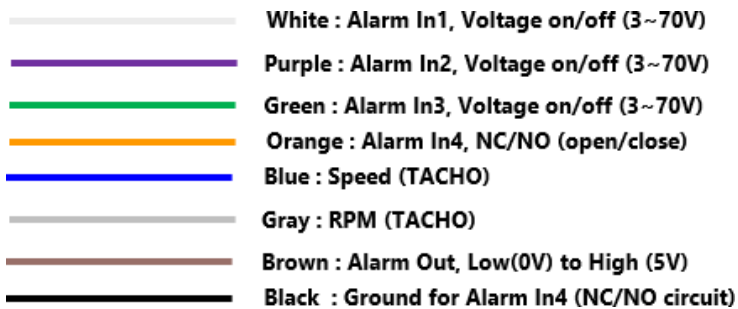
Output: DC5V, 2500 mA



IMPORTANT NOTE

True Ignition source should be used to connect the white wire.

► Video Output Cable & I/O Harness (optional)



Video output for connecting LCD monitor (BNC female)

5. Mounting Bracket Installation

- Place the CP4 inside the mounting bracket and secure to vehicle using the 4 provided self-tapping screws.



6. Locking Enclosure (Optional)

a. Front View (open)



Screw holes for
mounting

b. Rear View (Closed)



Security Lock

Holes for LTE
Antenna Connectors



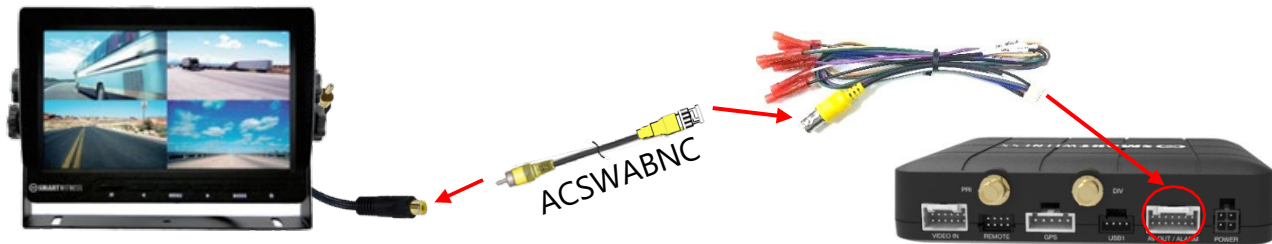
Foam padding for securing
cables and tension relief

7. Connecting LCD monitor with Video Output cable (optional)

The following displays can only be seen when a monitor is connected.

1. Connect BNC/GX12 cable (SKU: ACSWABNC)
2. LCD monitor should be installed in the cab.
3. Connect LCD power cable to a true ignition (IGN+) source and Ground to BAT(-).

PMON MONITOR



8. Final steps

After installation of the CP4 and accessories into the vehicle you can turn on the ignition and CP4 recorder will power on. There will be a sequence of red, blue & green LED lights on the Remote/Panic Button during the boot-up process.

- Once boot-up is complete, the red light will turn off and there will be only a solid blue & green (only for connected device) light on. This indicates proper operation and recording. If the red light is blinking, then there is an error, then contact m2msupport@aampglobal.com to create a support ticket. **Please see section 10 for more details on LED status indicators.**
- Login to customer's Fleet Motion account and validate the installation and generate video clips via manual request or contact your sales or support contact to assist with validation.

9. G-Sensor Calibration

G-sensor calibration is needed after installing the CP4.

- Turn on the unit and wait until it starts recording.
- Press and hold **M1** button (located at the remote controller) for more than 2 seconds.
- You will hear a **beep** when you press **M1**, and then you will hear another **beep** after 2 seconds. Upon the second beep, you can release **M1** button.
- Then the calibration will be done within 2 seconds.

M1 Button for G-Sensor Calibration






9. Troubleshooting

- **The CP4 has a solid red light on as well as solid green and blue.**
 - Solid red LED indicates that one of the connected cameras is not receiving view signal. Please check the camera's connection.
- **The CP4 red LED is blinking**
 - There is an SD card error/corruption. Please replace the SD card or contact SmartWitness.
 - The new SD card must be initialized with the CP4 Configuration Tool for the device to function properly, and the right settings must be applied.
 - IF SD card is blank (not initialized), the CP4 will automatically initialize the SD card, apply the latest NAND settings, during the rebooting process.
 - There is a power issue. Please verify proper voltage and amperage is being supplied to the Red (BAT+) & White (IGN+) cables on the power harness and that the black cable is properly connected to BAT(-)
- **The CP4 green LED is blinking or off.**
 - The SIM card is not registered with the cellular network. Please verify the SIM is inserted correctly.
 - If it looks to be inserted correctly, please remove and re-insert the SIM card and try again
 - Power cycle the camera.

10. Remote Controller Indicators & LEDs Specifications



Status/Step			LED			Buzzer	Voice
			Warning	Record	Network		[Remark] To hear the Voice, please audio output cable to speaker.
			(Red)	(Blue)	(Green)		
							
Start-up Power off	Bootting step1 (0~20)		On	Off	Off		
	Bootting step2 (20~30)		On	On and Off	Off		
	Bootting Finished (30, 1second)		On	On	On	[Beep] (1000Hz, 200msec)	「Beep」(1time)
	During Power off		Off	Simultaneous Flashing(Blink rate: fast)			
	Power off finished		Off	Off	Off	[Beep] [Beep] (500Hz, 150msec)	
Record	Continuous Record	Recording		On			
	Event record	Stand by		On			
		Recording		Flashing(Blink rate: fast)			
	Dual record	Continuous recording		On			
		Event recording		Flashing(Blink rate: fast)			
	No record	Not record		Off			
Network	3G Network Device Ready				On		
	Communication				On		
Function	SD Initialize (Format)		Off	On and Off	Off and On		(Beep, 1time) continuously
	G-Sensor Calibration						「Beep→(after 2 seconds) Beep、 Beep」
	FW Upgrade			On and On and Off and Off	Off and Off and On and On		
	Button Press					[Beep] (2000Hz, 200msec)	「Beep」
Warning	System Warning	SD Card Full	Flashing(Blink rate: fast)	Off			「Beep x 4」(3times)
		Video loss Video STD error	On				
Error	Record Error	SD error, No SD, Write fail	Flashing(Blink rate: Slow)	Off			「Beep x4」(3times)
	Network Error	3G Network Device error SIM error			Off		
		Data Network connection error			Flashing(Blink rate: Slow)		
		DMS communication error			Flashing(Blink rate: Slow)		
Event Trigger	G-Sensor, Panic Button, Alarm-In						「dingdong x2」(1time)
	Over Speed						「beep, beep x2」(1time)