

SmartWitness CP2 / CP2-LTE

Device Configuration Guide



CP2 3G model



CP2 4G/LTE model

CP2 Setup and Configuration



Configuration
Tool CP2

1. Download the CP2 configuration tool 3.2.0 [here](#)
2. Install and open the configuration tool:
 1. Insert SD Card into your PC (Max 128GB SD card supported)
 2. Click 'Initialize SD Card'
 3. Select the SD card from File Explorer
 4. Click "Start" to initialize
3. Apply your desired settings (or click "Open" to load existing settings)
4. Click "Save to apply to SD card"
5. Eject Card safely from your PC

[CLICK HERE FOR VIDEO DEMONSTRATION](#)

*SD cards can also be removed from the CP2 to review video and data. For this, the SmartWitness PC viewer software is required which you can [download here](#).



Device Tab

Camera

Enable main and secondary camera.

Power Connection

Specify the power source type.

- INT1-T is the standard power type for CP2.

Delayed Power Shutdown: Amount of time CP2 stays powered on after ignition is turned off.

Wakeup Interval: Time interval in which the CP2 will automatically power up again after shutdown

Register Interval: How long the CP2 stays powered on during the wakeup interval.

EXT-Device: Optional accessory add-ons which connect to the serial input can be enabled here. Once "S1" port is selected, you can select the serial accessory from the dropdown list and any correlating checkbox options.

RF-Reader: Optional accessory add-on which connects to the serial input. RF reader type (touch or insertion) and warning time can be set.

Bluetooth Panic: Optional button can be added to CP2. [See operation spec here](#)

Configuration Tool

Device | Record | Event | Info. | Connectivity | Server

Camera

Camera Title

☒ CAM1 CAM1

☒ CAM2 CAM2

Video Type NTSC

Power Connection

Type INT1-T

Power ON/OFF

Delayed Power Shutdown 00 : 15

Wake-up Interval Off

Register Interval 00 : 00

EXT-Device

Port None

Type DNMEA

☐ GPS ☐ RPM

☐ Speed ☐ Signal

☐ Record Text

☐ Send Health Info

DSM Event

☒ Sleeping

☒ Distraction

☒ Facial Departure

☒ Smoking

☒ Calling

Other Device

RF-Reader

Port None

Type Insertion

Warning Time ∞

Bluetooth Panic Flic

About Settings Initialize SD Card Open Save Eject SD Card

Record Tab

Resolution: choose from VGA, HD (720p) or FHD (1080p)

*CH2 is limited to D1 only

Frame Rate: Choose from 30, 15, 10, 5, 4, 3, 2, or 1

Quality: Standard, High, or Super bitrate. (The lower the quality, the more lossy the video output).

Record Modes

Event: Only events are recorded, event video duration determined by the pre & post event setting.

Continuous: Records video continuously, no events (events can still be sent to Smart API server if configured on the Server tab).

Dual Mode: Records continuous at 1FPS + events at the specified FPS.

*If Dual Mode is set, you can adjust the SD card partition for event and continuous video by adjusting the slider setting left or right.

Telematics Data (DRV file) is recorded and stored separately from video and events. Set the local storage duration here.

Audio recording can be turned on or off

Parking Mode reduces the FPS to 1 when the vehicle is idle for 5 minutes (Continuous Mode option only).

Automatically Remove Data

You can set the device to automatically delete the SD card Telematics Data and/or the Video Data. Check the box to enable the auto delete function and the data retention time.

Encryption No. 4 digit passcode to protect the SD card data from being easily viewed with the Analysis software.

Configuration Tool

Device | **Record** | Event | Info. | Connectivity | Server

Channel

	Resolution	NTSC FPS	Quality
CH1	720p	5	High
CH2	D1	5	High

Data Usage Calculation

Disk Size: 16GB

Calculate

Video Data

Record Mode: Continuous

Continuous: 50 % | Event: 50 %

Pre-Event: 10 Sec

Post-Event: 10 Sec

☒ Parking Mode (Continuous Mode Only)

☐ Record Audio

Encryption No. 1000 ~ 9999

Overwrite

☒ Enable

☐ Automatically remove data 0 Days 2 Hours

Telematics Data

☒ Enable

Duration: About 40 Hours

Overwrite

☒ Enable

☐ Automatically remove data 0 Days 2 Hours

About | Settings | Initialize SD Card | Open | **Save** | Eject SD Card

Event Tab – G Sensor

Events can be turned on/off per each camera channel (event mode and dual mode only).

“Beep” controls the audible chime in the vehicle

Check this box to increase G-Sensor threshold at higher vehicle speeds.

G-Sensor Sensitivity Settings.

X=Front/Rear

Y=Left/Right

Z= Up/Down

H_z= the amount of times in a row the G-Sensor level must be exceeded before trigger

Ecall is a severe impact G-Sensor which can be configured to send emergency notifications separately from lower level shock events.

Turn Z-Axis on: when enabled, the Z axis on the G-Sensor (up/down) will be activated.

When checked, only Ecall and Shock events will trigger (accel, brake, and turn events will be ignored)

The screenshot shows the 'Configuration Tool' window with the 'Event' tab selected. The 'G-Sensor' sub-tab is active. Red arrows point from the text blocks to the following UI elements:

- Arrow 1 points to the 'Record CH' checkbox, which is checked and labeled with a red '1'.
- Arrow 2 points to the 'Beep' checkbox, which is unchecked and labeled with a red '2'.
- Arrow 3 points to the 'Auto adjust G-Sensor to vehicle speed' checkbox, which is checked.
- Arrow 4 points to the 'Custom' radio button under 'Smart G-Sensor Sensitivity'.
- Arrow 5 points to the 'Emergency Call Trigger' section, specifically the 'mG (0~4000)' field.
- Arrow 6 points to the 'Trigger high impact events only' checkbox.

The 'G-Sensor' section includes:

- Record CH:** ☒ (labeled 1)
- Beep:** ☐ (labeled 2)
- Alarm Out 1:** None
- Wake-up:** ☐
- Auto adjust G-Sensor to vehicle speed:** ☒

The 'Smart G-Sensor Sensitivity' section includes:

- Pre-set:** ☐
- Simple Setting Mode:** ☐
- Sensitivity:** 5
- Shock:** 5
- Accel/Brake:** 5
- Turning:** 5
- Emergency Call Trigger:** mG (0~4000) X: 3900, Y: 3900, Z: 3900

The 'Custom' section includes:

- High Impact:**

	X	Y	Z
mG (0~4000)	950	950	2000
Hz (1~20)	3	3	20
- Harsh Accel/Brake:**

X	
mG (0~4000)	450
Hz (1~20)	10
- Harsh Turn:**

Y	
mG (0~4000)	350
Hz (1~20)	15
- Turn Z Axis on:** ☐
- Trigger high impact events only:** ☐

The bottom of the window has buttons: About, Settings, Initialize SD Card, Open, Save, and Eject SD Card.

Event Tab – MISC

The Event tab will allow you to specify which events will trigger a recording (Event record mode or Dual record mode only).

Check the boxes next to each event you want triggered.

You can also set speed thresholds here if you'd like to record over speed events. (This is raw vehicle speed and does not account for road/posted speed limits)

Check "Beep" if you'd like an audible chime to alert the driver when the event occurs

Alarm In: If using the optional alarm input triggers (Alarm1: orange wire, Alarm2: green wire) then you need to check the box(s) here and label them according to the input type (i.e. horn, lights, door open, etc.)

Also the input type should be selected (NC/NO, or 12V ON/OFF).

Alarm Out: if selected, will send a 5V output from the Yellow wire to a 3rd party device for the duration selected in the dropdown.

Wake Up: when enabled, the CP2 will power up when the Alarm Input is triggered.
(CP2 will stay online for the same amount of time set in the Register Interval setting).

The screenshot shows the 'Configuration Tool' window with the 'Event' tab selected. The 'Misc.' sub-tab is active. Red boxes and arrows highlight specific features: a box around the 'Panic Button' and 'Overspeed' settings; a box around the 'Alarm In' table; a box around the 'Wake-up' checkbox; and a box around the 'EXT-Signal' table. Arrows point from the text instructions to these elements.

Device	Record	Event	Info.	Connectivity	Server
G-Sensor Misc.					
Panic Button					
		Record CH	Beep	Alarm Out 1	
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	None	
Overspeed					
Speed Limit		Record CH	Beep	Alarm Out 1	
125 km/h Over		<input type="checkbox"/>	<input type="checkbox"/>	None	
Alarm In					
Use	Title	Type	Record CH	Beep	Alarm Out 1
<input checked="" type="checkbox"/>	ALARM1	V-Off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	None
<input checked="" type="checkbox"/>	ALARM2	N-O	<input checked="" type="checkbox"/>	<input type="checkbox"/>	None
Wake-up					
<input type="checkbox"/>					
EXT-Signal					
Use	Title	Record CH	Beep	Alarm Out 1	Alarm Out 2
<input checked="" type="checkbox"/>	Fatigued	<input type="checkbox"/>	<input type="checkbox"/>	None	None
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	None	None
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	None	None
<input checked="" type="checkbox"/>	Distracted	<input type="checkbox"/>	<input type="checkbox"/>	None	None

Buttons: About, Settings, Initialize SD Card, Open, Save, Eject SD Card

Info Tab – Date/Time

Time setting is not necessary as the PC Viewer software and Smart API both adjust the standard UTC time to local time automatically.

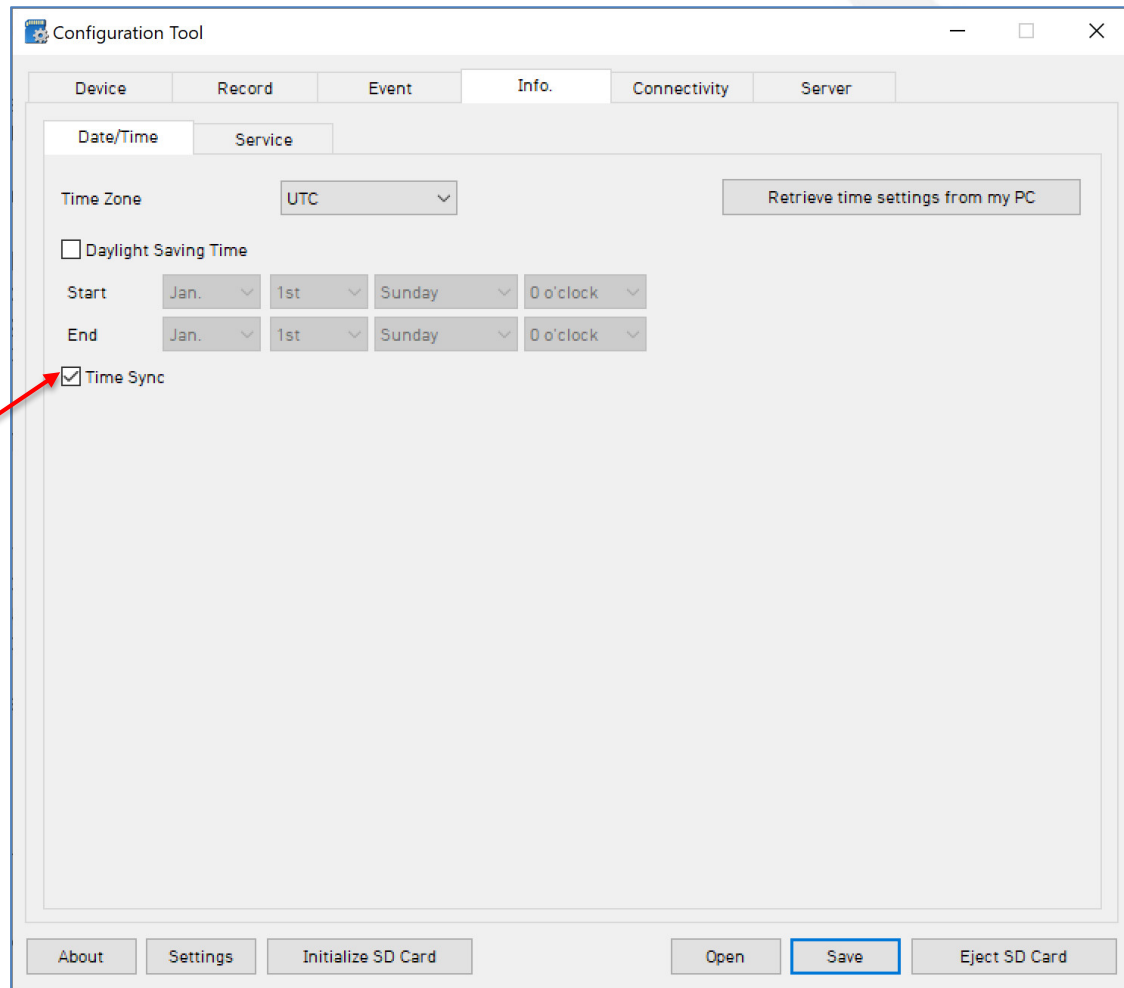
DST (Optional)

Check the box to enable the daylight saving time.
Input the start & end date.

***DO NOT USE IF CP2 IS CONNECTED TO SMART API**

Time Sync

Keep this enabled to ensure the GPS time is continuously synched with the CP2 operating system time.



The screenshot shows the 'Configuration Tool' window with the 'Info' tab selected. Under the 'Date/Time' sub-tab, the 'Time Zone' is set to 'UTC'. The 'Daylight Saving Time' checkbox is unchecked. The 'Start' and 'End' dates are both set to 'Jan. 1st Sunday 0 o'clock'. The 'Time Sync' checkbox is checked, and a red arrow points to it. At the bottom of the window, there are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save', and 'Eject SD Card'.

Device	Record	Event	Info.	Connectivity	Server
Date/Time					
Time Zone: UTC					
<input type="checkbox"/> Daylight Saving Time					
Start: Jan. 1st Sunday 0 o'clock					
End: Jan. 1st Sunday 0 o'clock					
<input checked="" type="checkbox"/> Time Sync					

Info Tab – Service

SD Card auto format feature enables the CP2 to perform automatic maintenance on the SD cards when there is an issue. SD cards need to be re-formatted occasionally over time.

Note: SD card data will be deleted when an auto-format occurs. It is recommended to use Smart API to be noticed of Media Error and format on-demand as needed to ensure that important evidence is not deleted by the automatic format function.

Vehicle No & Driver ID can be added here. These values will be able to be watermarked on the MP4 converted video using the desktop analysis software (PC or MAC).

System Warning enable the system warning types which you want to be notified.

System Warning Event: enable the method of notification.

- Alarm Out: sends 5V output via the yellow wire on the cable harness
- Beep: CP2 will make audible chime
- Alarm LED: CP2 Red LED will turn on

The screenshot shows the 'Configuration Tool' window with the 'Info' tab selected. The 'Service' sub-tab is active. The 'System' section includes 'Speed Source' (GPS), 'Speed Unit' (km/h), 'Auto Format Feature' (checked), and 'Beep' (checked). The 'System Warning' section has a 'Use' checkbox checked, with 'Source' options 'SD Card' and 'Video Loss' checked, and 'Temperature' and 'AUX' unchecked. The 'Event' section has 'Alarm out1' unchecked, 'Beep' checked, and 'Alarm LED' checked. The 'User Management' section has 'Vehicle No' and 'Driver ID' checkboxes, both unchecked. At the bottom are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save', and 'Eject SD Card'.

Connectivity Tab

When using CP2 as a connected device, "Enable" the connectivity here

Mobile Network:

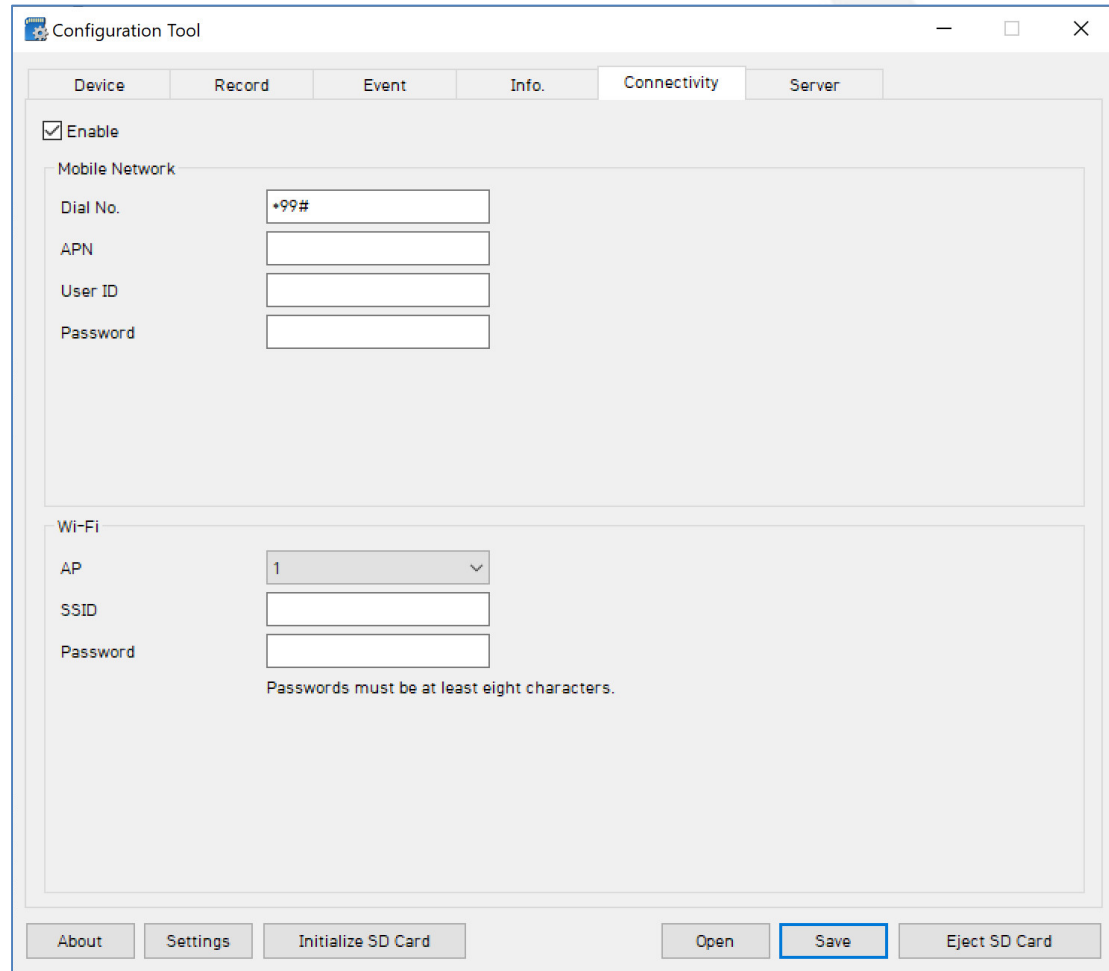
*99# can be used for all networks except for Verizon and Sprint.

APN is not required. CP2 will automatically receive the APN information via the cellular module.

If Sim requires a username and password, the APN, User ID, and Password must be entered (CHAP/PAP authentication is automatically assigned)

WiFi: CP2 has built-in WiFi. You can enable WiFi connectivity instead of cellular connectivity. The AP must be secure with WPA/WPA2 encryption and have a password of at least 8 characters (cannot be an open network)

You can set up to 10 WiFi SSIDs. CP2 will scan for as many networks as are added here in its settings



The screenshot shows the 'Configuration Tool' window with the 'Connectivity' tab selected. The window has a title bar with standard Windows controls and a tabbed interface with 'Device', 'Record', 'Event', 'Info.', 'Connectivity', and 'Server'. The 'Connectivity' tab is active and contains two sections: 'Mobile Network' and 'Wi-Fi'. In the 'Mobile Network' section, there is a checked 'Enable' checkbox, followed by input fields for 'Dial No.' (containing '*99#'), 'APN', 'User ID', and 'Password'. The 'Wi-Fi' section has a dropdown for 'AP' (set to '1'), and input fields for 'SSID' and 'Password'. A note below the password field states 'Passwords must be at least eight characters.' At the bottom of the window, there are buttons for 'About', 'Settings', 'Initialize SD Card', 'Open', 'Save' (highlighted with a blue border), and 'Eject SD Card'.

Device	Record	Event	Info.	Connectivity	Server
<input checked="" type="checkbox"/> Enable					
Mobile Network					
Dial No.	<input type="text" value="*99#"/>				
APN	<input type="text"/>				
User ID	<input type="text"/>				
Password	<input type="text"/>				
Wi-Fi					
AP	<input type="text" value="1"/>				
SSID	<input type="text"/>				
Password	<input type="text"/>				
Passwords must be at least eight characters.					

Buttons: About, Settings, Initialize SD Card, Open, Save, Eject SD Card

Server Tab

SmartWitness or your service provider will provide you the URL and (if necessary) the License Key to enter here.

Transmit Live Tracking Data: Check to enable http posts from the CP2 to server. Livetrack2 contains GPS coordinates. LiveTrack3 does not.

Transmit Event Data: Check to enable CP2 posting event notification and images to the server.

Transmit Telematics Data: Check to enable CP2 to send DRV data (static/compressed file containing drive data from every second the vehicle is in operation).

Note: The frequency interval of LiveTrack and DRV uploads are controlled by the server.

Select the events here which the CP2 will transmit to the server in real-time. These events will transmit instantly even if CP2 is set as "Continuous" record mode. The events with contain the amount of images set in the pre/post event dropdowns.

Click 'Save' and select the "FHDRM" SD drive when prompted. This will save your configuration to the card. Wait for the software to confirm the settings have been applied to the SD Card.

You can now eject the SD from your PC and insert into CP2 and power on.

The screenshot shows the 'Configuration Tool' window with the 'Server' tab selected. Red arrows and boxes highlight specific configuration areas:

- A red arrow points to the 'Domain/Static IP and Port #' field, which contains 'http://sv.smartwitness.co:5000/api'.
- A red box encloses the 'Transmit' section, which includes:
 - Tracking Data:** ☒ Transmit Live Tracking Data, Live Tracking Data Type: LiveTrack2.
 - Event Data:** ☒ Transmit Event Data, ☐ Include G-Sensor/Gyro Data.
 - Telematics Data (DRV):** ☒ Transmit Telematics Data (DRV), G-Sensor/Gyro Data: None, Data Type: Default.
 - Emergency Call:** ☒ Transmit Emergency Call Notification.
- A red box encloses the 'Event Triggered by' section, which includes:
 - ☒ G-Sensor, ☒ Emergency Call, ☒ Panic Button, ☐ Overspeed, ☒ Ignition.
 - ☒ Transmit Image, ☒ Transmit Image, ☒ Transmit Image, ☐ Transmit Image, ☐ Transmit Image.
 - ☒ Alarm1, ☒ Alarm2.
 - ☒ Transmit Image, ☒ Transmit Image.
 - ☐ Signal1, ☐ Signal2, ☐ Signal3, ☐ Signal4.
 - ☒ Transmit Image, ☒ Transmit Image, ☒ Transmit Image, ☒ Transmit Image.
- A red arrow points to the 'Save' button at the bottom right.

CP2 G-Sensor Threshold Table (pre-set options)

Low Speed Table

Level	axis	ACCSENX		ACCSENY				ACCSENZ	
		Impact		Sudden start/ sudden stop1		Sudden start/ sudden stop2		Quick Turn	
		G(mg)	Hz	G(mg)	Hz	G(mg)	Hz	G(mg)	Hz
1 (less sensitive)	X	950	1	450	8	500	5~7	-	-
	Y	950	1	-	-	-	-	350	15
	Z	1050	1	-	-	-	-	-	-
2	X	900	1	420	8	470	5~7	-	-
	Y	900	1	-	-	-	-	340	15
	Z	1000	1	-	-	-	-	-	-
3	X	850	1	390	8	440	5~7	-	-
	Y	850	1	-	-	-	-	320	15
	Z	950	1	-	-	-	-	-	-
4	X	800	1	360	8	410	5~7	-	-
	Y	800	1	-	-	-	-	310	15
	Z	900	1	-	-	-	-	-	-
5	X	750	1	330	8	380	5~7	-	-
	Y	750	1	-	-	-	-	300	20
	Z	850	1	-	-	-	-	-	-
6	X	700	1	310	8	360	5-7	-	-
	Y	700	1	-	-	-	-	280	20
	Z	800	1	-	-	-	-	-	-
7	X	650	1	240	10	-	-	-	-
	Y	650	1	-	-	-	-	230	20
	Z	750	1	-	-	-	-	-	-
8	X	600	1	190	10	-	-	-	-
	Y	600	1	-	-	-	-	190	15
	Z	700	1	-	-	-	-	-	-
9	X	550	1	170	10	-	-	-	-
	Y	550	1	-	-	-	-	170	15
	Z	650	1	-	-	-	-	-	-

High Speed Table

Level	axis	ACCSENX		ACCSENY				ACCSENZ	
		impact		Sudden start/ sudden stop1		Sudden start/ sudden stop2		Quick Turn	
		G(mg)	Hz	G(mg)	Hz	G(mg)	Hz	G(mg)	Hz
1 (less sensitive)	X	1350	1	480	10	-	-	-	-
	Y	1350	1	-	-	-	-	420	15
	Z	1450	1	-	-	-	-	-	-
2	X	1300	1	450	10	-	-	-	-
	Y	1300	1	-	-	-	-	410	15
	Z	1400	1	-	-	-	-	-	-
3	X	1250	1	420	10	-	-	-	-
	Y	1250	1	-	-	-	-	380	15
	Z	1350	1	-	-	-	-	-	-
4	X	1200	1	390	10	-	-	-	-
	Y	1200	1	-	-	-	-	370	15
	Z	1300	1	-	-	-	-	-	-
5	X	1150	1	360	10	-	-	-	-
	Y	1150	1	-	-	-	-	340	20
	Z	1250	1	-	-	-	-	-	-
6	X	1100	1	340	10	-	-	-	-
	Y	1100	1	-	-	-	-	320	20
	Z	1200	1	-	-	-	-	-	-
7	X	1050	1	270	10	-	-	-	-
	Y	1050	1	-	-	-	-	270	20
	Z	1150	1	-	-	-	-	-	-
8	X	1000	1	190	10	-	-	-	-
	Y	1000	1	-	-	-	-	220	15
	Z	1100	1	-	-	-	-	-	-
9	X	950	1	170	10	-	-	-	-
	Y	950	1	-	-	-	-	200	15
	Z	1050	1	-	-	-	-	-	-

Speed Mode: When auto adjust G-Sensor to vehicle speed is checked, G-Sensor threshold will increase to levels specified in the right table when the vehicle reaches 20 KMh. The threshold will go back to settings in the left table when vehicle goes below 10 KMh.

☒ Auto adjust G-Sensor to vehicle speed

CP2 Hardware

Front View



Side View



Rear View



Wiring Diagram & Power Specifications

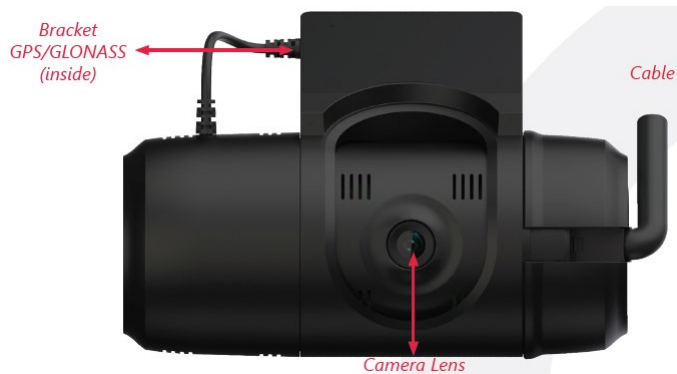


Power Specifications
Input: DC 10~32V, 2000mA
Output: DC5V, 2500mA

[CP2 Installation guide can be downloaded here](#)

CP2-LTE Hardware

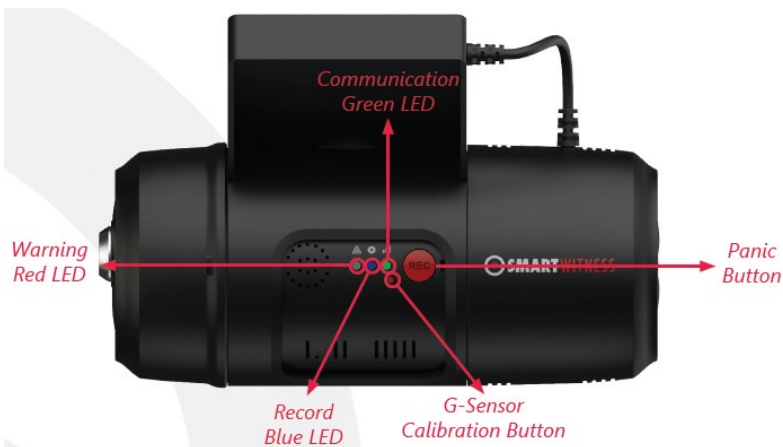
Front View



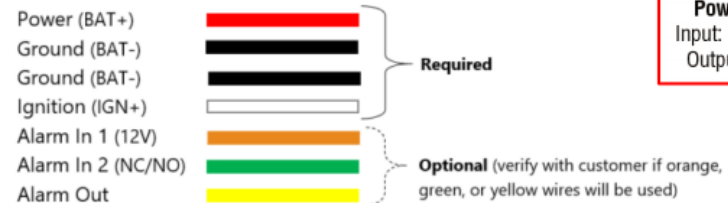
Side View



Rear View

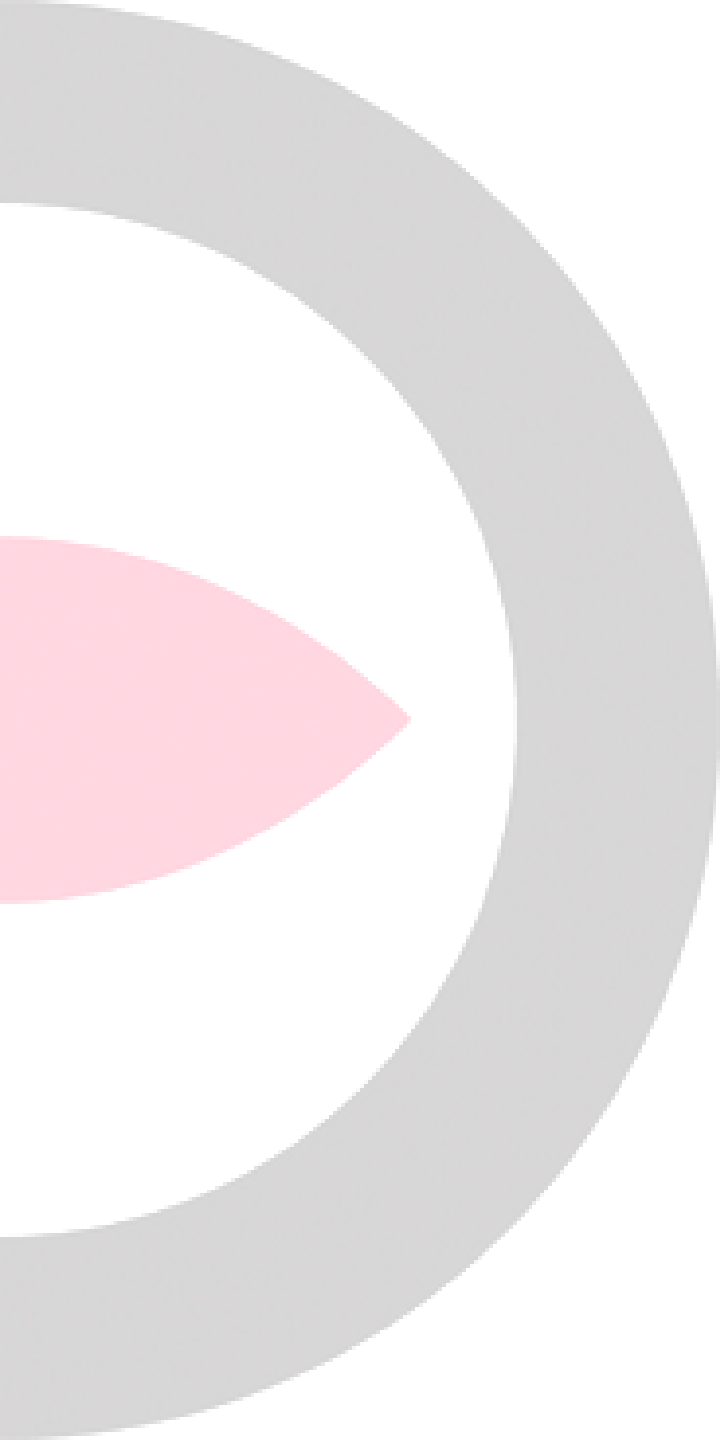


Wiring Diagram & Power Specifications



Power Specifications
Input: DC 10~32V, 2000mA
Output: DC5V, 2500mA

[CP2-LTE Installation guide can be downloaded here](#)



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