SmartWitness KP1S

Device Configuration Guide

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This is Video Telematics.

KP1S Setup and Configuration

1. Download the KP1S configuration tool by clicking here
2. Launch the configuration tool then
    1. Click 'Initialize SD Card'
    2. Select the SD card from File Explorer
    3. Allow the card to initialize
3. Select 'Open' before selecting the SD card from File Explorer (the SD card will now be renamed 'HDREC2')
4. You can now set your desired device settings.

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

KP1 Config Tool

KP1 Analysis Software

Installation guide can be downloaded here

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Device Tab

Camera
Enable main and secondary camera.

*G-Sensor Sensitivity
Select from 'Preset'
settings or 'Custom'.

G-Sensor Sensitivity Settings.
X=Front/Rear
Y=Left/Right
Z= Up/Down
Hz= 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
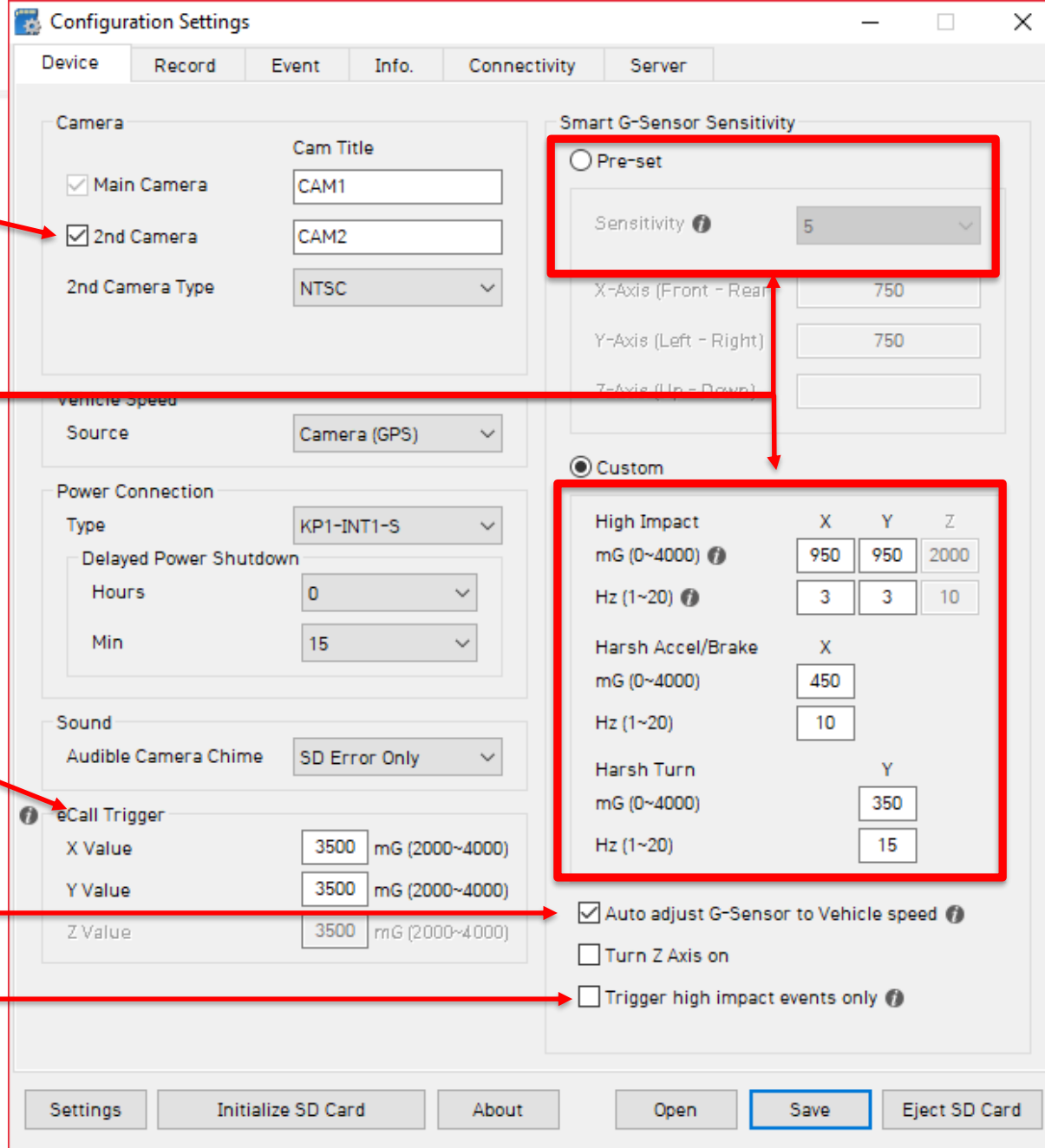separately from lower level shock
events.

Sound - Audible Camera Chime: turn audible alert
on or off (audible alarms can be individually
turned on/off per event).

*Check this box to reduce false
triggers at higher driving speeds

When this box is checked, only harsh G-sensor
events will be recorded/transmitted.
If left unchecked, then hard brake, turn, and
acceleration events will also record/transmit

Hover over 🛈 **icons to show more information**

Configuration Settings

Device	Record	Event	Info.	Connectivity	Server

Camera

	Cam Title
☑ Main Camera	CAM1
☑ 2nd Camera	CAM2
2nd Camera Type	NTSC

Vehicle Speed
Source — Camera (GPS)

Power Connection
Type — KP1-INT1-S

Delayed Power Shutdown
Hours — 0
Min — 15

Sound
Audible Camera Chime — SD Error Only

🛈 eCall Trigger
X Value — 3500 mG (2000~4000)
Y Value — 3500 mG (2000~4000)
Z Value — 3500 mG (2000~4000)

Smart G-Sensor Sensitivity

◯ Pre-set

Sensitivity 🛈 — 5

X-Axis (Front – Rear) — 750
Y-Axis (Left – Right) — 750
Z-Axis (Up – Down) —

◉ Custom

High Impact	X	Y	Z
mG (0~4000) 🛈	950	950	2000
Hz (1~20) 🛈	3	3	10

Harsh Accel/Brake	X
mG (0~4000)	450
Hz (1~20)	10

Harsh Turn	Y
mG (0~4000)	350
Hz (1~20)	15

☑ Auto adjust G-Sensor to Vehicle speed 🛈
☐ Turn Z Axis on
☐ Trigger high impact events only 🛈

Settings	Initialize SD Card	About	Open	Save	Eject SD Card

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See pg 9 for more details on G-Sensor thresholds.

Record Tab

Resolution: chose from 720p, VGA, or QVGA
Frame Rate: Choose from 30*, 15, 10, 5, 4, 3, 2, or 1
　　　 *30FPS not available when using 2 cameras
Quality: Standard, High, or Super. (The lower the quality, the more compressed/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
Dual Mode: Records continuous at 1FPS + events at the specified FPS (when using two SD cards, continuous records to SD1 and events to SD2. If using 1 SD card, use the % slider to allocate the storage accordingly.

Parking Mode: recording drops to 1 FPS when the vehicle is idle for 5 minutes (continuous mode only)

Audio recording can be turned on or off here

If this box is checked, then audio recording will be off always, unless the panic button is press. If the panic button is pressed, audio will be recorded on the video for 2 minutes.

Driving data is recorded and stored separately from video and events. Set the local storage retention here. Average Value sampling is recommended

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Configuration Settings

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

Channel

	Resolution	FPS	Quality
CH1	HD (720p)	5	High
CH2	D1 (720x480)	5	High

Data Usage Calculation
Disk Size: 64GB
About 73.2 Hours
[Calculate]

Recording Settings

Record Mode: Continuous
Pre-Event: 10 seconds
Post-Event: 10 seconds

Continuous 50% ———|——— Event 50%

Data Password Protection (1000~9999): [   ]

☑ Overwrite Recordings when SD is Full
☑ Parking Mode (continuous mode only)
☑ Record Audio
☐ Record Audio only when panic button is pressed (continuous mode only)
☑ Automatic Gain Control (AGC)
MIC Volume: 100

Telematics Data
☑ Record Telematics Data
Duration: 56 Hours
G-Sensor Sampling: Average Value
☑ Overwrite Driving Data (oldest first)

[Settings] [Initialize SD Card] [About] [Open] [Save] [Eject SD Card]

The settings shown here are recommended for Telematics solutions using Smart API

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Event Tab

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 evet you want triggered. The left column controls the road facing camera, the 2nd column controls the ch2 camera.
You can also set speed thresholds here if you'd like to record overspeed events. (This is raw vehicle speed and does not account for road/posted speed limits)

If using the optional alarm input triggers (Green and Orange wires on the INT1S power adaptor), then you need to check the box(es) here and label them according to the input type (i.e. horn, 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.

Hover your mouse over the "i" icon for more information on the trigger types

Configuration Settings

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

Event Triggered by

	Record Cam 1	2	Beep	Alarm Out1
G-Sensor	☑	☑	☐	OFF
Panic Button	☑	☑	☑	OFF
GPS Speed Limit1 ⓘ 85 mph Over	☐	☐	☐	OFF
GPS Speed Limit2 95 mph Over	☐	☐	☐	OFF
System Warning				OFF

Alarm

	Title	Type ⓘ	Record Cam 1	2	Beep	Alarm Out1
☑ Alarm Input1	Alarm1	V-Off	☑	☑	☐	OFF
☑ Alarm Input2	Alarm2	N-O	☑	☑	☐	OFF
Alarm Out1	AlarmOut1					

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

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Info Tab

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

SD Card auto format feature enables the KP1/KP1S to perform automatic maintenance on the SD cards when there is an issue. SD cards need to be re-formatted occasionally over time. This unique feature reduces the administrative burden of managing SD card formatting amongst your fleet

NOTE: SD card data will be deleted when an auto-format occurs

Vehicle No & Driver ID can be added here. These values will be able to be watermarked on the AVI converted video using the PC software.

Configuration Settings

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

Date / Time

☐ Daylight Saving Time   [Retrieve time settings from my PC]

	Month	Week No.	Day of Week	Hour
Start	1	1	Sunday	0
End	1	1	Sunday	0

Time Zone (UTC)   0 : 00

GPS Time Sync   At Start Up

☐ Manual Time Setting

3/ 6/2019   7:25:44 PM

System

Vehicle Speed Format   mph

☑ SD Card Auto Format Feature ⓘ

Vehicle ID [_____]

Driver ID [_____]

[_____] [_____]
[_____] [_____]
[_____] [_____]
[_____] [_____]

[Settings] [Initialize SD Card] [About]   [Open] [Save] [Eject SD Card]

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Connectivity Tab

When using KP1S as a connected device, "Enable" the connectivity here

"Server" should be selected as the service type

Add Mobile Network provider details here

If using SmartWitness SIM (AT&T), the APN should be as shown

If using Huawei USB modem, set your APN accordingly and select "USB Protocol 2". All other modems, leave as "0"

With WiFi USB modem accessory from SmartWitness, you can connect to 802.11 b/g/n network in place of cellular network (cannot use both WiFi + cellular together)

Please make sure that your SSID is not hidden and is not an open network.

You can add up to 10 SSID password pairs for different locations/branches.

Configuration Settings

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

Connectivity Type

☑ Enable ⓘ

Service

Type: Server

Mobile Network

Dial No.: *99#

APN: smartwitness.com.attz

User ID:

Password:

Authentication: NONE

SMS Center Number:

USB protocol Type: 0

WiFi ⓘ

AP: 1

SSID:

Password:

Passwords must be at least eight characters.

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

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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 KP1S to server. Livetrack2 contains GPS coordinates. LiveTrack3 does not.

Transmit Event Data: Check to enable KP1S posting event notification and images to the server "Include G-Sensor data" option will upload 100hz G-Sensor data along with the event and images.

Transmit Telematics Data: Check to enable KP1S to send DRV data (static/compressed file containing drive data from every second the vehicle is in operation

NOTE: the frequency setting of the LiveTrack and DRV posting is controlled by the server.

Select the events here which the KP1S will transmit to the server in real-time. These events will transmit instantly even if KP1S is set as "Continuous" record mode

Click 'Save' and select the "HDREC2" 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 KP1S and power on. **Or you can copy the contents of the setting.ini text file and copy to the Smart API workstation**

Configuration Settings

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

Domain/Static IP and Port #   `http://sv.smartwitness.co:5000/api`   ex) http://DomainName:5000

License Key: [   ]

Transmit

Tracking Data
- ☑ Transmit Live Tracking Data
  - Live Tracking Type: LiveTrack2

Telematics Data (DRV)
- ☑ Transmit Telematics Data (DRV)

Event Data
- ☑ Transmit Event Data
  - ☐ Include G-Sensor Data

eCall
- ☑ Transmit eCall Notification

Event Images
- ☑ Main Camera   ☑ 2nd Camera
- Pre-Event: 5 Frames
- Post-Event: 5 Frames
- Event/Snapshot Quality: Low

Event Triggered by
- ☑ Panic Button   ☑ Alarm1 – Alarm1
- ☑ G-Sensor   ☑ Alarm2 – Alarm2
- ☐ Over Speed

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

You can also save the settings as default to the config tool software by clicking "settings" and "Save current settings as default"

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G-Sensor Threshold Table

Low Speed Table

Level	Axis	Severe (impact)		Front Rear (accel/brake)		Left Right (turning)	
		G-level	Hz	G-level	Hz	G-level	Hz
1 (Heavy Duty Less Sensitive)	X	950	5	450	8	-	-
	Y	950	8	-	-	350	15
	Z	1050	11	-	-	-	-
2 (Heavy Duty)	X	900	4	420	8	-	-
	Y	900	7	-	-	340	15
	Z	1000	10	-	-	-	-
3 (Heavy Duty More Sensitive)	X	850	3	390	8	-	-
	Y	850	6	-	-	320	15
	Z	950	9	-	-	-	-
4 (Medium Duty Less Sensitive)	X	800	5	360	8	-	-
	Y	800	8	-	-	310	15
	Z	900	11	-	-	-	-
5 (Medium Duty)	X	750	4	330	8	-	-
	Y	750	7	-	-	300	20
	Z	850	10	-	-	-	-
6 (Medium Duty More Sensitive)	X	700	3	310	8	-	-
	Y	700	6	-	-	280	20
	Z	800	9	-	-	-	-
7 (Light Duty Less Sensitive)	X	650	5	240	10	-	-
	Y	650	8		-	230	20
	Z	750	11	-	-	-	-
8 (Light Duty)	X	600	4	190	10	-	-
	Y	600	7	-	-	190	15
	Z	700	10	-	-	-	-
9 (Light Duty More Sensitive)	X	550	3	170	10	-	-
	Y	550	6	-	-	170	15
	Z	650	9	-	-	-	-

High Speed Table

Level	Axis	Severe (impact)		Front/ Rear (accel/brake)		Left/Right (turning)	
		G-level	Hz	G-level	Hz	G-level	Hz
1 (Heavy Duty Less Sensitive)	X	1250	5	780	10	-	-
	Y	1250	8	-	-	620	15
	Z	1350	11	-	-	-	-
2 (Heavy Duty)	X	1200	4	750	10	-	-
	Y	1200	7	-	-	610	15
	Z	1300	10	-	-	-	-
3 (Heavy Duty More Sensitive)	X	1150	3	720	10	-	-
	Y	1150	6	-	-	580	15
	Z	1250	9	-	-	-	-
4 (Medium Duty Less Sensitive)	X	1100	5	690	10	-	-
	Y	1100	8	-	-	570	15
	Z	1200	11	-	-	-	-
5 (Medium Duty)	X	1050	4	660	10	-	-
	Y	1050	7	-	-	540	20
	Z	1150	10	-	-	-	-
6 (Medium Duty More Sensitive)	X	1000	3	640	10	-	-
	Y	1000	6	-	-	520	20
	Z	1100	9	-	-	-	-
7 (Light Duty Less Sensitive)	X	950	5	570	10	-	-
	Y	950	8		-	470	20
	Z	1050	11	-	-	-	-
8 (Light Duty)	X	900	4	490	10	-	-
	Y	900	7	-	-	420	15
	Z	1000	10	-	-	-	-
9 (Light Duty More Sensitive)	X	800	3	470	10	-	-
	Y	800	6	-	-	400	15
	Z	950	9	-	-	-	-

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
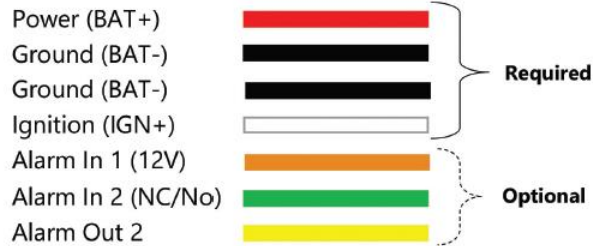
Trigger High Impact Only: Only the "Severe (impact)" columns will trigger a G-Sensor event when this setting is enabled.
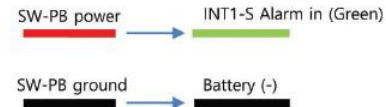
☑ Trigger high impact events only

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KP1S Hardware

Windshield bracket mount

Locking cover

(2 SD slots and 1 USB input inside)

2nd Camera Input

External USB Input (3G modem connection)

Power Adaptor Connection

Power and I/O Wires

Power Adaptor

Optional 2nd Camera

Global 3G Modem/antenna
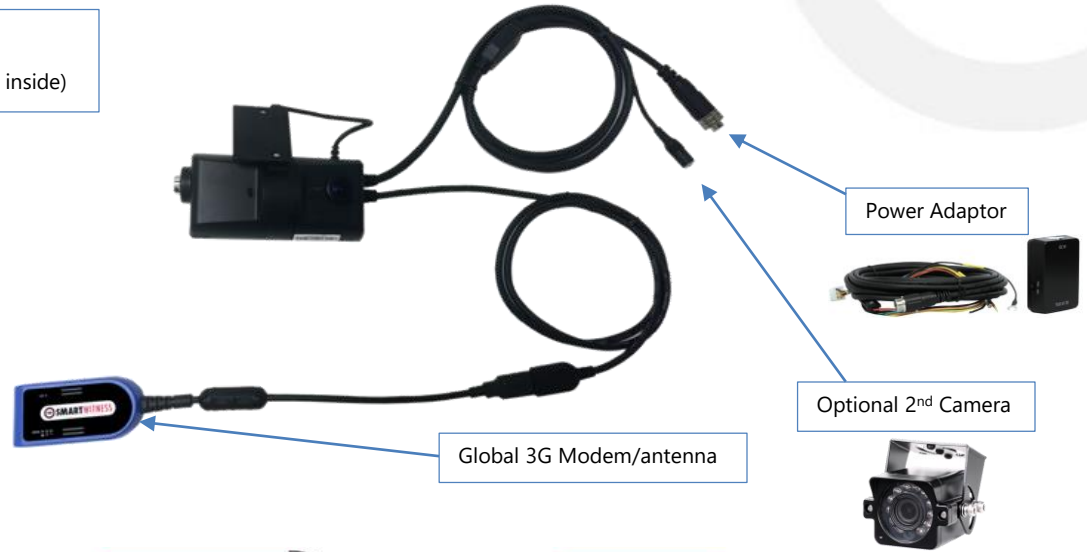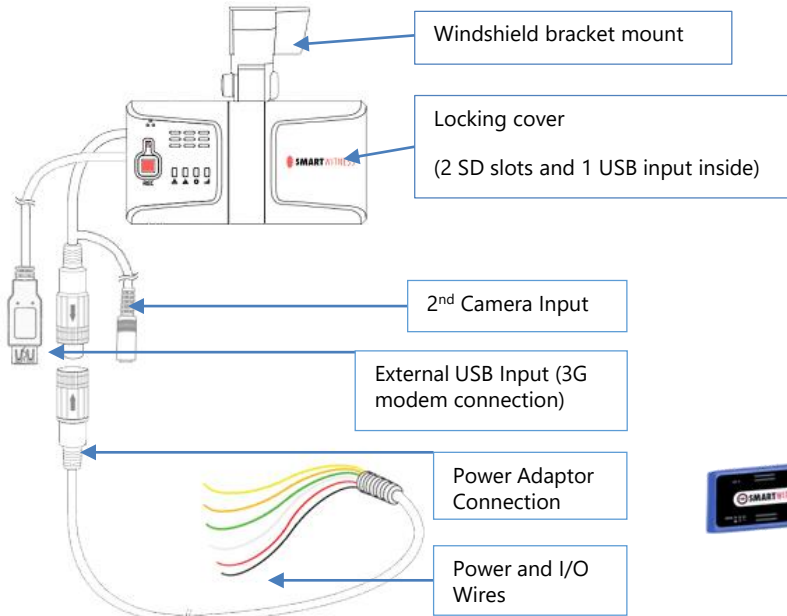
Shutdown Delay Time Set using Configuration Tool

Connection

Type	KP1-INT1-S

Power Off Delay

| 6 | Hours | 30 | Min | 0 | Sec |

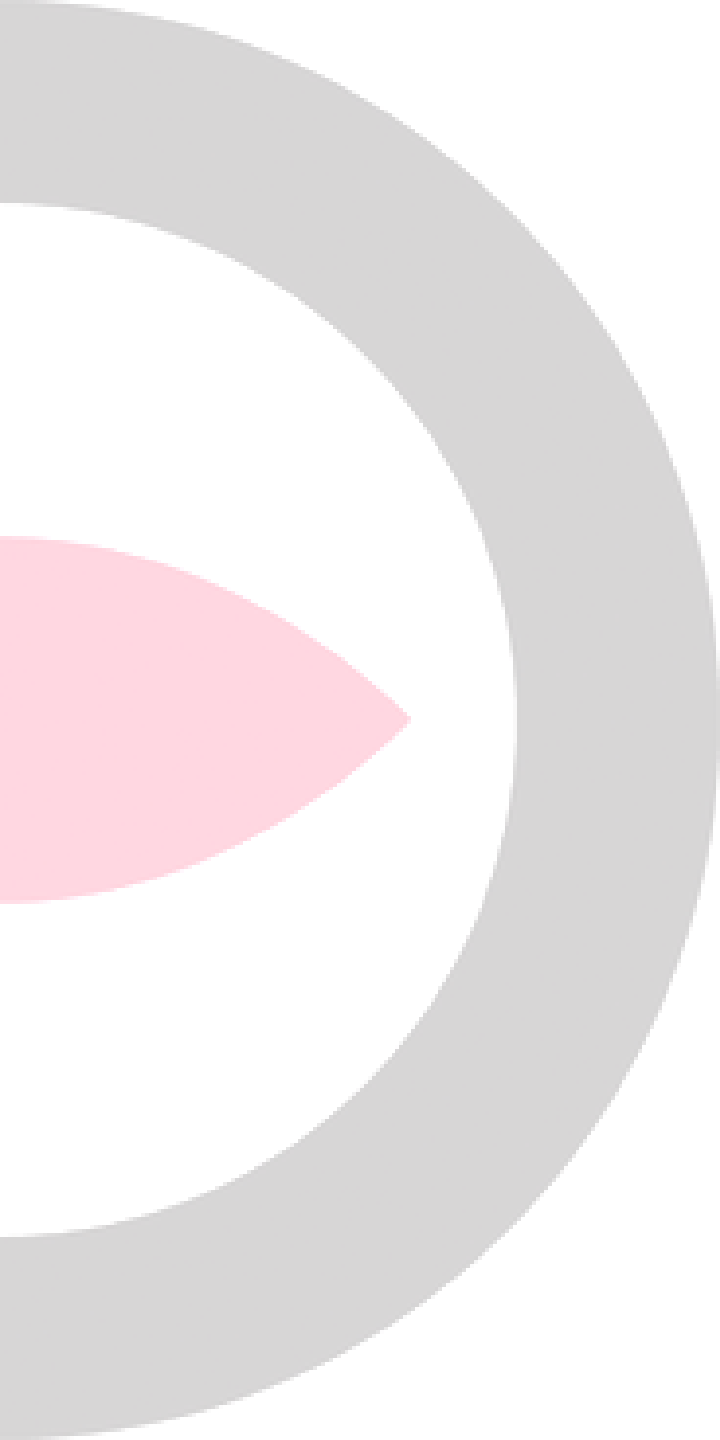|		
Power (BAT+)	▬▬▬ (red)	
Ground (BAT-)	▬▬▬ (black)	**Required**
Ground (BAT-)	▬▬▬ (black)	
Ignition (IGN+)	▬▬▬ (white)	
Alarm In 1 (12V)	▬▬▬ (orange)	
Alarm In 2 (NC/No)	▬▬▬ (green)	**Optional**
Alarm Out 2	▬▬▬ (yellow)	

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

Optional Accessory:
Remote Panic Button (P/N: SW-PB)

SW-PB power → INT1-S Alarm in (Green)

SW-PB ground → Battery (-)

Installation guide can be downloaded at http://install.smartwitness.com

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This is Video Telematics.