



SmartWitness KP1S



Installation Guide

v.1.2

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.



1. Overview:

The SmartWitness KP1S is the world's most advanced incident camera with powerful 3G or WiFi video transmission, built-in GPS tracking and drive data. Developed to provide evidence of events leading up to and during a road traffic accident, the KP1 provides instant notifications and videos of incidents in less than a minute.

KP1S features a 720p wide angle HD camera, 3-Axis G-Sensor, Microphone, SD storage, integrated GPS receiver, USB input (for 3G or WiFi modem), permanent power cable with vehicle input triggers, and a tamper-resistant design.

➤ Benefits:

The KP1S features a 720p HD wide angle (170°) lens to provide a comprehensive view of any road event. The KP1S will record exactly what happened before, during and after an incident. It does this by recording the following information: Drivers view of the road, Vehicle Location, Impact Force of Accident, Audio, and Driving Style (speed, acceleration, braking, and steering).

This evidence can protect a driver from many of the issues faced on the roads today: Insurance fraud, Staged Accidents, False/Exaggerated Whiplash Claims, Conflicting Reports of Actual Events, Driving Offence Allegations (speeding, traffic signal violations, swerving, etc.).

When a 3G SIM card is used with KP1S, video, images, and driving data is transmitted in real-time via a cellular network. Customers can use the KP1S to transmit safety-critical video directly to a server (SmartWitness server software required), or integrate with Telematics Software (Please contact us for a list of compatible telematics software). The KP1S can also be used as a stand-alone system utilizing only the SD cards to review video and data with SmartWitness' free PC analysis software.

For more info on KP1S, please visit: smartwitness.com/3G-Dash-Cameras/KP1S

For literature downloads or support, please visit: support.smartwitness.com

➤ Package Contents:



KP1S Recorder with locking cover



Power Adaptor (model # INT1S)



3M Windshield Adhesive



Key set for Locking cover



Secondary Camera with 16' cable*



3G Cellular Modem*

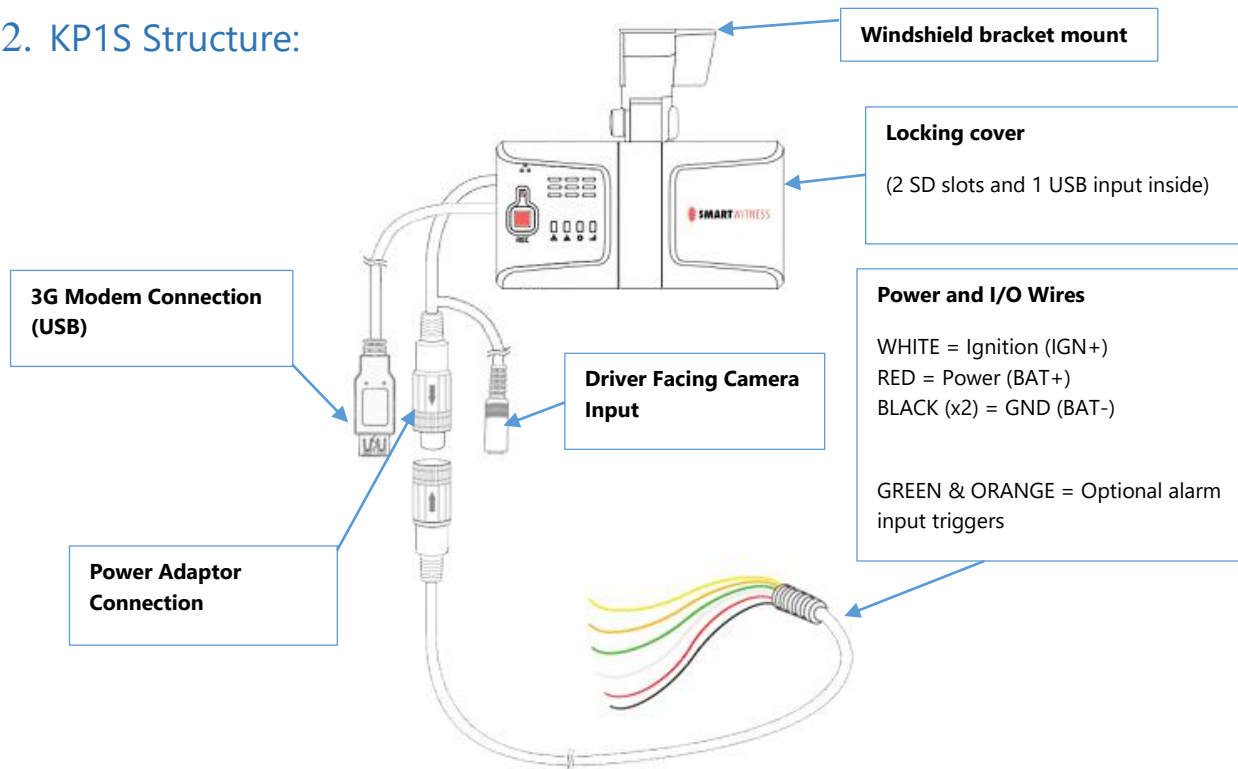


SD Card(s)*

*Depending on the order, the secondary camera, 3G Modem, and SD card may or may not be included.

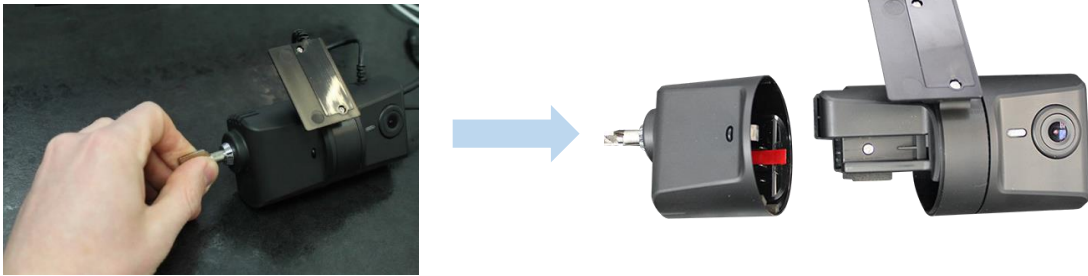
**SD Cards, Secondary camera, Power Adaptor, and 3G modems may be in a separate package from the KP1S (common in large, bulk orders).

2. KP1S Structure:

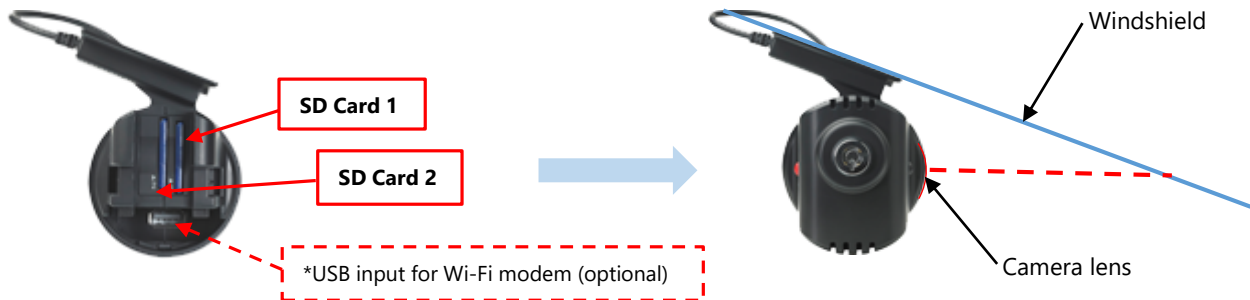


3. Installation: First Steps

- Use the provided keyset to unlock and remove the locking cover. To unlock the cover, insert the provided keyset and turn counter-clockwise 90 degrees. Once unlocked, press firmly on the two buttons on either side of the cover and pull the door away from the camera



- Once the locking cover is removed, you can adjust the angle of the camera to comply with the angle of your windshield. When you are happy with the angle on the windshield, slide the case back onto KP1S.
- If SD cards were provided separately, you should insert them at this time.

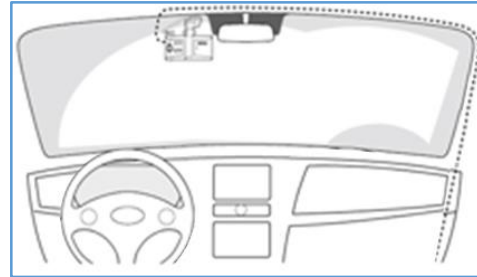


* If this is the WiFi version of KP1S, then the WiFi modem should be inserted at this time into the USB input beneath the SD card slots.

- Attach the provided 3M adhesive pad to the KP1S bracket and press firmly.



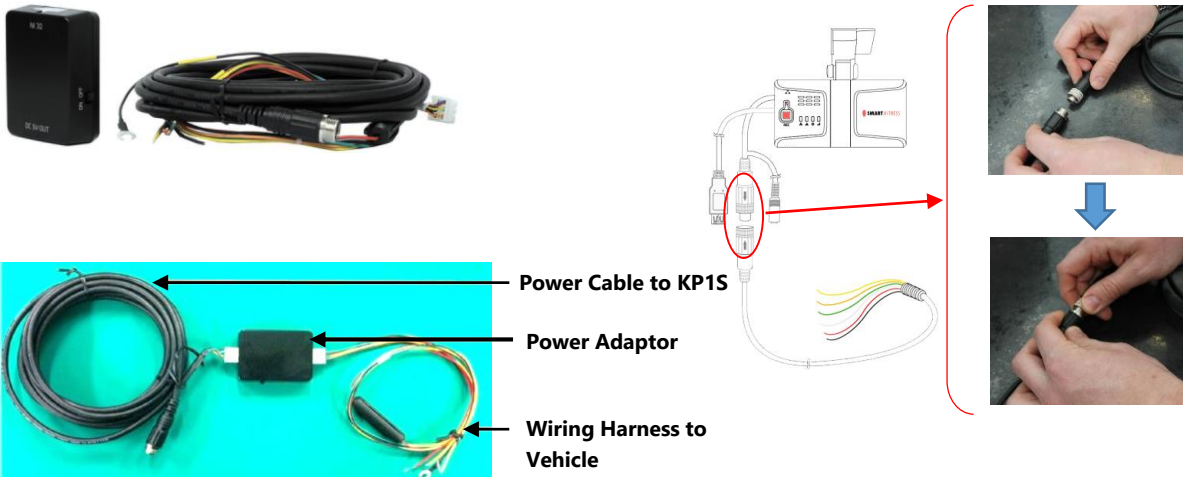
- Secure the KP1S to the windscreen behind the rear view mirror, below the A1 line. The camera lens should be as high on the windshield as possible, but still within the windshield wiper zone.



IMPORTANT: Make sure that the glass is clean and dry before attaching. Hold the camera in position with firm pressure for 30 seconds. The glass temperature should not be too hot or cold. Please install in moderate temperature (recommended between 50°F ~ 80°F)

4. KP1S Power Adaptor and Wiring:

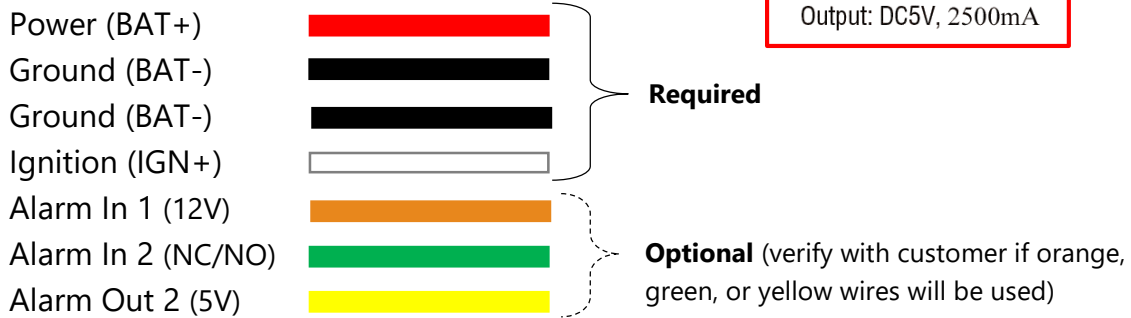
- To connect the KP1S lead cable to the INT1S power adaptor, lining up the arrows on the silver cable connectors and then push together. Twist the silver plate as shown below to secure the connection.



- After Connecting the INT1S power cable to the KP1S power lead, lay out the power cable roughly where it will run once hidden behind the vehicle's interior panels. This gives you an idea of where to route the cable and how much slack to leave on the way down to the vehicle's power source. Secure the power cable extension into the headliner and down the A-Pillar. Route the power cable around the side and behind the rest of the interior panels down towards the fuse box / power source. Make sure the vehicle is off and then connect the required wires to the vehicle, as shown below in the wiring diagram.

1. Wiring Harness Diagram

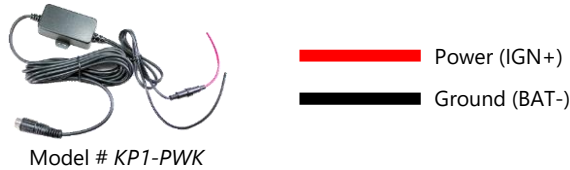
Power Specifications
 Input: DC 10~32V, 2000mA
 Output: DC5V, 2500mA



2. OPTIONAL: remote switch installation (your KP1S may not include this accessory)

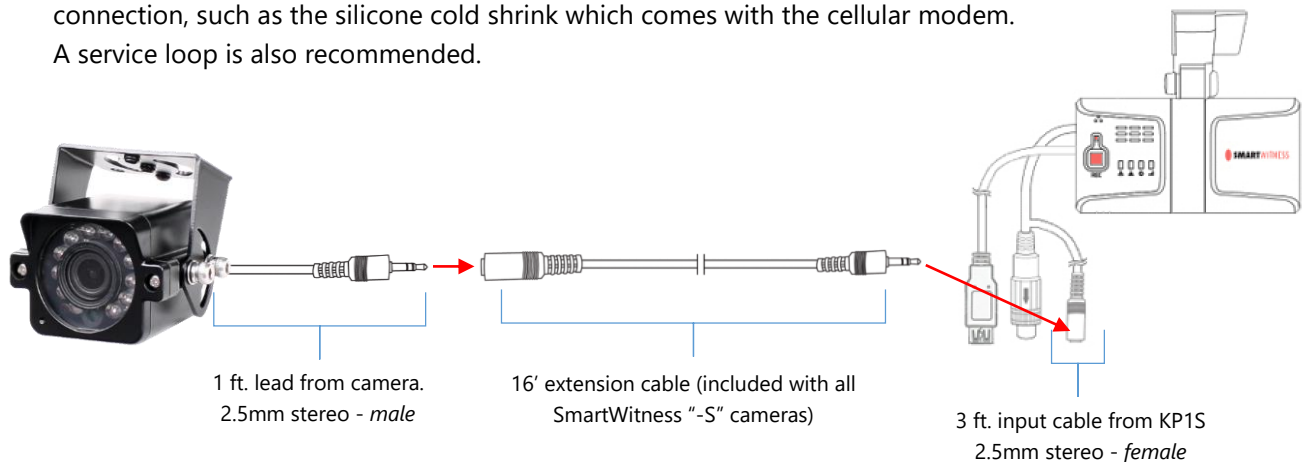


3. OPTIONAL: If THE KP1S installation came with the basic 2-wire power adaptor, then connect the Red wire to IGN+ and Black to BAT-



5. Connecting the Secondary Camera to KP1S ch2 input (optional)

- The KP1S is equipped with a simple plug & play connection to a variety of SmartWitness 5V cameras. Simply connect the 2.5mm male stereo connector of the SmartWitness camera (any model ending in "-S", such as the SVA030-S) into the female stereo input on the KP1 and mount the camera to the customer-specified location in or around the vehicle. The most common installation of the secondary camera is inside the main cabin and facing the driver. Use a securing tape on the 2nd camera stereo connection, such as the silicone cold shrink which comes with the cellular modem. A service loop is also recommended.



- Secondary Camera installation examples:



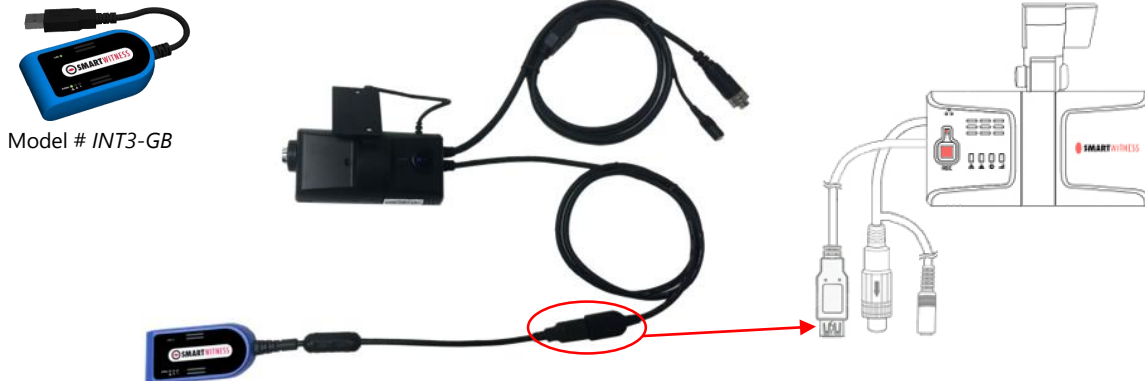
On windshield using adhesive



On A-Pillar or headliner using screw mount

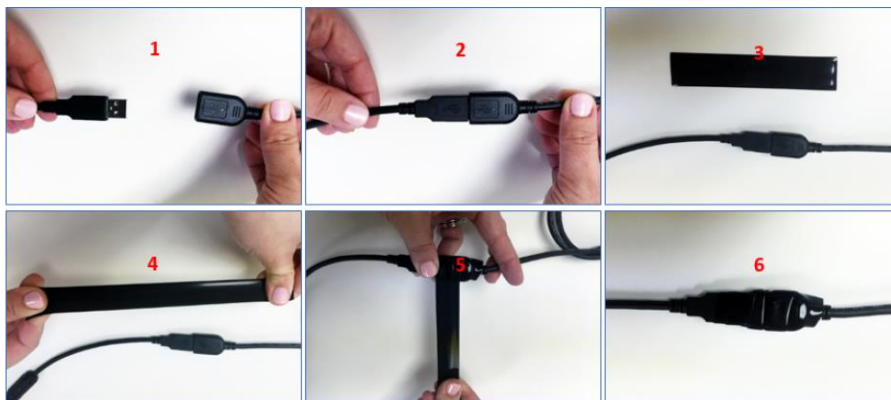
6. Connecting 3G Cellular Modem (optional)

- Connect the male USB port from the 3G Modem into the female USB port as seen in picture below. Secure the male/female USB connection with the provided silicone cold shrink tape. The tape is self-fusing and does not require heat to be applied. It stretches 300% and is fully fused within 24 hours after application. It is best to stretch the tape, start from one end and overlap at an angle until you reach the other end of the connector.



Model # INT3-GB

- Secure the male/female USB connection with the provided silicone cold shrink tape. The tape is self-fusing and does not require heat to be applied. It stretches 300% and is fully fused within 24 hours after application. It is best to stretch the tape, start from one end and overlap at an angle until you reach the other end of the connector.





- Remove the 3M adhesive backing and secure the modem to the windshield. The excess USB cable and KP1S cable should be tucked neatly in the roof lining or along the edge of the windshield. **It is recommended to adhere the modem above the A1 line, in the “blue zone” of the windshield to reduce the amount of direct sunlight/heat. The modem should not be touching any part of the vehicle frame or metal. DO NOT HIDE THE MODEM IN THE ROOF LINING OR A-PILLAR, this will affect the cellular signal and hinder performance.**



7. Final Steps

After installation of the KP1S and accessories into the vehicle (2nd camera, panic button, & 3G modem), you can turn on vehicle ignition and the KP1S will power on. There will be a sequence of LED lights cycling during boot process. **Once boot up is complete, there will be a solid blue light. This indicates proper operation and recording. If 3G modem is installed, the Green LED should also be solid on. If Green light is blinking, then there is a server error or network error. If a red led comes on after bootup, there is an error and you should contact your supplier. Please see step 8 for more details on LED status indicators.**

- 1) After you've set the camera angle, locked the cover and removed the key, press the G-Sensor calibration button once (small red button ABOVE the panic button). This will also capture an image from each camera and send to the server to confirm camera operation and proper camera field of views. The blue LED will flash rapidly for a few seconds when the calibration button is pressed.



- 2) Verify the Blue and Green LED lights on the camera are solid and not blinking. Once the camera makes successful connection to the server, it may apply updated configuration file and/or firmware. In this case, the camera will automatically re-boot to apply the new settings/firmware. Please make sure the camera reboots and goes back to solid blue and green LED. *NOTE: only the Blue and Green LEDs should be on. If Red LED is on, see Troubleshooting/FAQ section for more information.

- 3) Verify the 3G Modem “Link” LED light is on and blinking slowly



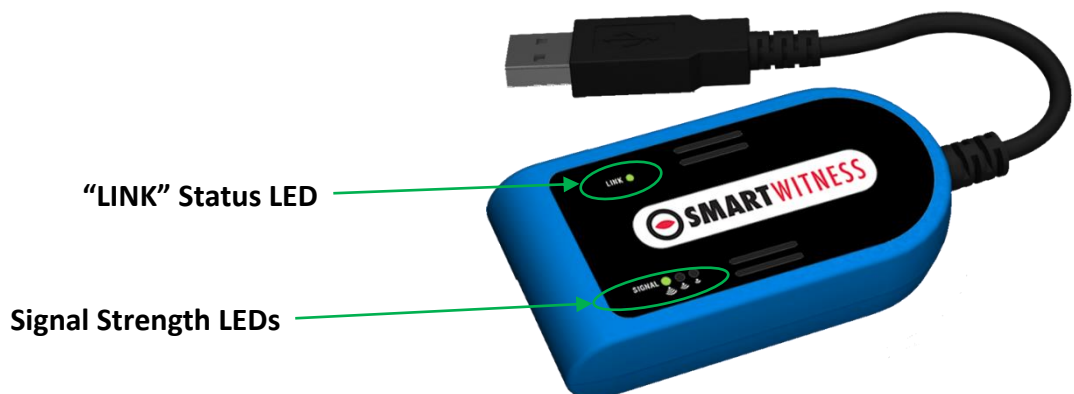
- 4) Please visit <http://install.smartwitness.com> to complete the installation form and click submit.
- 5) Give the provided keyset and any extra parts/accessories to the fleet owner/administrator as well as a copy of the installation report.

8. Troubleshooting

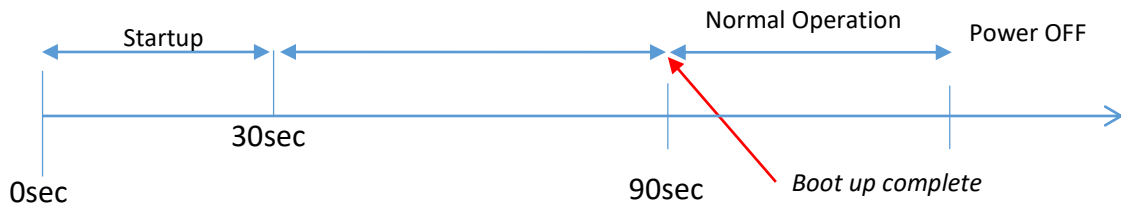
- **The KP1S has a solid RED light on as well as solid GREEN and Blue**
 - Solid RED LED indicates the 2nd camera channel is not receiving video signal. Please check the camera connection.
- **The KP1S Blue light is solid but the Green light is blinking or off**
 - Check the "Link" LED on the modem.
 - If Link LED is solid, check to make sure the SIM card is inserted properly
 - If Link LED is OFF, check the USB connection of the cable and modem
 - If Link LED is blinking and the KP1S Green LED is also blinking, it may be a camera configuration issue or server issue. Please contact SmartWitness.
- **The 3G modem Link LED is solid on**
 - The SIM card is not registering with the cellular network. Please verify the SIM is inserted correctly, as seen on page 7.
 - If it looks to be inserted correctly, please remove and re-insert the SIM card and try again
 - Power cycle the camera
- **The KP1S RED LED is blinking**
 - There is an SD card error/corruption. Please replace the SD card or contact SmartWitness

3G Modem LED specification

Link Status	Description	
Off	No power to unit.	
On	Continuously lit	Powered on.
	Slow blink (-0.2Hz)	Registered on network.



9. KP1S LED Specification







1.1. Startup, Data Buffering to NAND (0 to 90seconds after power on)





KP1 BOOT UP SEQUENCE		LED			
		(red)	(orange)	(blue)	(green)
Start	1 st step (0~12sec)	ON			
	2 nd step (12 ~ 30sec) charging capacitor	ON	ON & OFF		
	3 rd step (31 ~ 60sec) begin recording video to NAND memory	ON	ON	ON & OFF	
	4 th step (61 ~ 89sec)	ON	ON	ON	ON & OFF
	5 th step (90sec + 1sec)	ON	ON	ON	ON

*IF SD card is blank (not initialized), KP1 will blink RED led slowly for about 1 minute, then automatically initialize the SD card, apply the latest NAND settings, and reboot.

1.2. Normal Operation (after 90 second boot up sequence)

Normal Operation		LED			
		(red)	(orange)	(blue)	(green)
					
Connectivity	3G Connected				ON
	No dongle or SIM				OFF
	3G error (network dead zone, server down, etc.)				ON & OFF slowly
Recording (by record mode)	Continuous Record mode			ON	
	Event Record mode			ON	
	Dual Record Mode			ON	
	<i>Event Triggered (Event mode & Dual mode only)</i>			<i>ON & OFF quickly</i>	
Over speed	over speed 1 exceeded		ON		
	over speed 2 exceeded		ON & OFF quickly		
	Normal		OFF		
Warning	No 2 nd camera signal	ON			
	Record error (SD error, no SD)	ON & OFF slowly		OFF	
	SD Card Full	ON & OFF quickly			
	Normal	OFF			

1.3. Other Functions

Item		LED			
		(red)	(orange)	(blue)	(green)
					
FW Upgrade	Immediately after power on when FW file (.bin) is present	ON & OFF together, alternating with Blue/Green		ON & OFF together, alternating with Red/Orange	
G-Sensor Calibration	After Power up sequence and small red button on KP1 is pressed			ON and OFF Quickly + Beep (3 seconds)	
SD Format	1 minute after blank card is inserted into KP1 or when SD card auto format starts after SD card corruption occurs			ON & OFF slowly	ON & OFF slowly

* LED ON and OFF speed.

Item	Speed
ON and OFF Quickly	250msec
ON and OFF	500msec
ON and OFF Slowly	1000msec

For Technical Support, please visit support.smartwitness.com