Vehicle Electrical Power Sensor (VEPS or EPS)

User Operation Guide

Congratulations! With EPS, you are now fully aware of your vehicle's electrical system condition. EPS automatically monitors the vehicle's electrical system whenever the power is on. It is user friendly, using a multi-colored LED light with a musical beeper to alert the user about the faults of electrical components, which includes the battery, alternator, starter, alternator driving belt and the power circuit. The LED is a color voltmeter, displaying the battery voltage by color codes accordingly.

When the key-switch is turned on, EPS will start up and perform a system check with an audible tone of C, E, G, C to indicate that it is ready, and followed by fault reporting if any. If the vehicle's electrical system is working normally, EPS will remain silent and the LED dims gradually to light green after about 15 seconds of normal operating condition.

Response and Action Table

The reactions of EPS to the vehicle's electrical power system are listed in the table below. With the EPS warning, users must take action to check or replace the related electrical power circuit component accordingly.

LED Display	Audio Tone	ENGINE OFF		ENGINE ON	
		Facts / Faults	Actions	Facts / Faults	Actions
1 No light	No tone	Key-switch off	Ignore	EPS or wiring is faulty.	Check Circuit and EPS
2 Red	C E G C (1 3 5 1) once then silent	EPS has done a self-check, system has reset and OK. Battery at low charge state but above 50%.	Ignore	Battery voltage is low, high power consumption or over loaded. . High current discharge from battery, Alternator under size or faulty, or engine idling speed too slow. Battery not charging.	Check charging system if engine is at middle RPM and above.
Orange (red/green mixture)		EPS has done a self-check, system has reset and OK. Battery at charge state above 80%.	Ignore	High power consumption. Low or no charging current, alternator under size or faulty, or engine idling speed slow or alternator driving belt loose.	Check charging system & driving belt if engine is at high RPM.
Green		Battery state of charge at about 100%.	Ignore	System is normal. LED usually display from Red, Orange then to Green, rate of change depends on the battery charge state and alternator charging capability.	Ignore
3 Dimmed green	No tone	Not applicable	Ignore	System is in good condition. LED is about 5% intensity. It will continue to monitor power system.	Ignore
4 Flashing Orange	G F E D (5 4 3 2) Continuous	Battery charge extremely low. Battery cells faulty, low battery water level or acid S.G. too low. Vehicle needs jump-start.	Replace, check or charge battery	The alarm should reset/off when vehicle is moving. If not, the charging system is faulty**. Immediate action is required.**	Check or replace alternator.
5 Flashing Red	A G F E (6 5 4 3)	Battery discharged 50% or more, high load, low battery water, low acid S.G. or battery terminals poor contact. Power just enough to start engine. (Start engine to charge battery)	Switch off load, check or recharge battery.	Alternator or battery is undersize. If system did not reset while vehicle is moving, alternator is faulty, the battery can only run for about 1 to 2 hours. **Immediate action is required**	Check/Replace Alternator or battery.
6 Flashing Red & Green	F E D C (4 3 2 1)	Weak cranking capability. Battery at low charge state or battery inter-cell cracked. Circuit between starter and battery faulty. If alarm sounds repeatedly during cranking engine, power system may **break down soon.**	Charge or Replace battery, or check starter	The alarm should reset/off when vehicle is moving. If not, the charging system is faulty. **Immediate action is required.**	Check or replace alternator.
7 Flashing Red Orange & Green	F G F E (4 5 4 3) 15 sec	Not applicable	Ignore	Battery is aging. High battery impedance. Battery plates damaged or terminals poor contact. Alternator or rectifier may be faulty. The alarm will reset once the battery and the system have recovered, otherwise, battery may not last long.	Check alternator, battery / battery water. Charge or replace battery.
8 Flashing Green	F G A B (4 5 6 7) 15sec	Not applicable	Ignore	Silence after 15 seconds: Battery is overcharged. Continuous tone: Battery is extremely overcharged. Alternator is faulty. **Immediate action is required.**	Check/replace alternator
9 Long flashing Red (optional)	G A G E (5 6 5 3) continuous	UPU (Unnecessary Power Usage) warning after turn off key switch.	Switch off UPU power. e.g. Head lamp	Not applicable	Ignore

EPS is made with patented technology and methods; it has a warranty period of 12 months after being installed in a vehicle. Warranty void if EPS is removed from the designated vehicle to another vehicle, or the EPS box has been opened or tempered with by unauthorized personnel.

VEPAC reserves the right to change the specifications without prior notice.

Installation of EPS

威霸安装说明

EPS can be installed easily in any vehicle. Mainly 2 wires to connect to the power source, black wire (1) to negative (chassis), red wire (2) to instrument power cable after fuse (or other cable which is low noise and remain live during cranking), a green wire (3) (optional) to UPU (Unnecessary Power Usage when engine off) power source (lighting, accessory, etc) , a EPS box with a built-in beeper to fix on any hidden place (with double-sided tape) and a LED to display at a convenient location where it can be seen by the driver.

Use cable splice connector (with a cable lug and a clip-on connector) provided at the end of wire (2) for power source connection, simply clip the cable splice to the power source cable accordingly. Insert the LED in the LED holder and installed the holder into a drilled hole (diameter 8mm) of a spare switch housing.

威霸可以容易地安装在机动车辆中, 主要有两条电线连接到电源。黑色电线(1) 接到车身（负极），红色电线 (2) 接到仪表电源的电线上（正极, 保险丝之后），或其他起动时还有供电及低干扰的电线上。如有必要，可接绿色电线(3)(特 备规 格)到任何一附件以提醒关掉不必要的耗电附件（如照明, 其他附件等），装有发声器的威霸盒可装在司机前任何隐密的地方，发光晶管可装在司机容易看到之处。

利用所提供的夹入式电线接头（由电线插片和夹入接头组成）以连接电线(2)，将电线(2)末端的夹入接头夹在要接的电线上即可。发光晶管可以装在管座上，再把管座装在已钻洞（直径 8 毫米）的开关键或平板上。

EPS installation wiring diagram
威霸安装线路图