

Power Backup System for Traffic Lights



Hybrid Uninterruptible Power Supply with Electronic Fuse for Inverter Output Short-Circuit Protection

The Power Backup System for Traffic Lights is designed and installed for outdoor applications. It has a built-in Reactor Power Line Conditioner (RPLC) with power-on delay, Automatic Voltage Regulation (AVR), MOV surge protection, full time EMI/RFI noise suppression and Electronic Fuse for inverter output short-circuit protection. This is to ensure the continuous operation against power irregularities such as spike, surge and particularly lightning during thunderstorm. The protection system is capable to withstand transient voltage surge up to 6KV as define by IEEE C62.41 for Category A3. It also comes with over current protection and automatic switch over to inverter mode when AC mains over/under voltage. A locked weatherproof housing, which is designed and ruggedly built to withstand the harsh outdoor weather condition, is needed to house the power backup system.

No alteration or modification on the existing loads shall be required to incorporate the power backup system into the traffic lights system. The power backup system works in harmony with the traffic lights system and provides uninterrupted AC power whenever there is a mains failure.



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TECHNICAL SPECIFICATIONS

Model	IP2000E-40A (UPS + Bypass Modules)	IP2500E-40A (UPS + Bypass Modules)
Power Rating	2KVA	2.5KVA
Backup Time	6 ~ 12 Hours based on peak loading of 2KVA and continuous loading of 0.8KVA ~ 1.6 KVA (80% full load), with the recommended battery size	6 ~ 12 Hours based on peak loading of 2.5KVA and continuous loading of 1.0KVA ~ 2.0 KVA (80% full load), with the recommended battery size
Configuration	<i>Hybrid System</i>	
Transfer Time	No significant (~Zero) Transfer Time (with intelligent detection for power failure)	
Input Voltage	170 Vac ~ 290 Vac (or 230V ±10%), 50 Hz	
Output Voltage	230 Vac ±3%, 50 Hz Sinewave Operation	
Output Power Factor	0.8	
Inverter Efficiency	> 95 % at Full Load	
Charger	24V, 40Amp charger for high capacity battery bank	
Charging Time	Re-charge time is 6 ~ 8 hours to 90% fully charged for the recommended battery size	
Bypass Facility	Automatic/ Manual Bypass Operation Mode Hot-swappable UPS Module for servicing convenience	
Protection	Built-in Isolation Reactor Power Line Conditioner with Automatic Voltage Regulator (AVR) Capability to withstand transient voltage surge up to 6KV with Transient Voltage Surge Suppressors with 3 x 15KA 3-poles 8/20us Surge Rating, < 5nS Response Time and < 10uA Leakage Current Output Over-Current and Short-Circuit 'Electronic Fuse' Protection Automatic switch over to Inverter Mode when AC Mains over/under voltage	
MCBs	AC Input MCB Battery MCB AC Output MCB	
Battery Size	Recommended 6 blocks of 12V/100AH	Recommended 8 blocks of 12V/100AH
Battery Type	Hot-swappable Heavy Duty GEL or AGM VRLA Maintenance Free Type	
Battery Life Expectancy	3 ~ 5 Years (under normal operating condition)	
Alarms	Intermittent Audible Alarm on Inverter Mode. Frequency Increase as Battery Runs Down	
Power Status Management	SCAT Auto Interface for Power Monitoring	
Visual Indication	LED Bar-graphs for Load and Battery Status Levels Panel LEDs to indicate Mains (on-line), Inverter (on-battery), Battery Low/ Memory (Replace Battery/ Overload)	
Remote Indication (Open Collector TTL) via DB9 Port	AC Mains Fail Charger Fail Battery Low	
Method of cooling	Ventilation fan	
Ambient & Humidity	Maximum 60°C ambient temperature, 95% non-condensing	
Casing	EG steel casing with epoxy-oven paint	
Equipment Weight (without batteries)	UPS Mod. 20KG Bypass Mod. 1.5KG	23KG 1.5KG
Dimensions (mm ³)	UPS Mod.	W400 x D220 x H300
	Bypass Mod.	W200 x D200 x H300

Authorised Channel



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Power Backup System for Traffic Lights

with Built-in Reactor Power Line Conditioner and Electronic Fuse for Inverter Output Protection

* Due to the policy of continued product improvement, specifications are subject to change without notice

* Backup Time is for reference only. This may vary depending on battery condition, charging condition, temperature and type of load.

