

# Battery Backup System with Meter & Distribution for Traffic Signal Heads

- HOT SWAPPABLE -

Rack/Shelf mount Automated Transfer Switch with Manual Bypass Switch



## Signal Saver BBS MD

1000VA / 750W, 400W to 1300W

OnLine Power, the leader in power protection technology is located in Los Angeles California. OnLine Power has become a leader in the manufacture of Battery Back-up System with Meter & Distribution (**BBSMD**) for Traffic Signals. With the introduction of the Signal Saver product line in 1998 OnLine Power continues to develop and manufacture real solutions for the discriminating traffic engineer's needs.

**Signal Saver BBSMD** is designed and manufactured in full compliance with Traffic Control Battery Back-up System specification. The unit is a completely self-contained signal head power backup and flash system with internal maintenance-free AGM/VRLA batteries. It is designed to provide auxiliary AC power plus flash capability to any LED or low power signal heads, that do not exceed the published power ratings.

### User Friendly

OnLine Power designs IPC systems with the traffic industry in mind. Easy installation and useful easy to read controls and indicators are a part of every system. Effective range of power ratings allow the traffic engineer to "Right Size" every intersection!

### Optional Hot Swappable

Signal Saver BBSMD installed with Manual Bypass Switch & Power Transfer Relay unit. It allows simple, voltage-free swap of the BBS for safe maintenance or repair work with no feedback to utility and absolute no power interruption to traffic intersection.

### Stable Output

Output voltage is regulated to +2% from no load to full load and from high battery to low battery. Output frequency is regulated to 60 Hz +3%, compatible with all standard traffic control units. In addition, input voltage range is 85 to 138VAC with short line recovery time and quick transfer time.

### Environmental Tolerance

The system is designed to operate in a wide range of environmental conditions with an operating and storage temperature range of -30°F to +165°F and operating humidity range of 0 to 97% (non-condensing).

### Wide Range of Standard Features

This fully integrated system offers many standard features including PWM inverter with true sine wave output, linear temperature compensated (smart) battery charger, electronic flasher, electronic utility power line sensing, solid state control and conversion logic, front panel mounted control switches and control indicators, and pre-wired battery module.

### Battery Backup System



- Caltrans Approved
- Self Standing power system with a superior design that fits into a 18" rack.
- Fully compatible with Caltrans 332 & 170 Cabinet, 2070 controller & internal cabinet configuration.
- 1000 VA, 2000 VA
- Power range @ 100 8.5 to 138 VAC
- 120 Output @ 97% off
- Power factor (load) is 0.7
- Minimum 2 hours @ full load
- Elapsed time counter
- Quick transfer time

### Battery Backup System with Metering & Distribution

3R

4X



- Hot swappable
- Quick disconnect and Short recovery time
- Battery test port
- Wide operations range, Cold Start
- Fast transfer in millisecond stable output
- Environment operation temperature 30°F to 165°F
- Advanced Surge Protection
- Temperature compensated batteries
- Extensive maintenance



# Signal Saver BBSMD Specifications

## Input Specification

- **Nominal Input Voltage:**  
120 VAC single phase
- **Input Voltage Range:**  
138 VAC to 85 VAC
- **Input Frequency:** 60 Hz  $\pm$  5%
- **Input Configuration:**  
2 wire (hot & neutral)
- **Input Protection:** Single pole switch & inline fuse
- **Transient Protection:** ANSI @ 62.41 IEEE 587 (A&B)

## Output Specification

- **Power Rating:** 1,000, 1,250, and 2000 VA (750, 562, and 1500 Watts)
- **Nominal Output Voltage:**  
120 VAC, 60 Hz single phase
- **Output Voltage Regulation:**  
 $\pm$ 2% from no load to full load and from high battery to low battery
- **Output Frequency:**  
60 Hz  $\pm$ 3Hz, compatible w/all NEMA flasher
- **Output Wave Form:**  
Sine wave
- **Over Load Capability:**  
125% for ten (10) minutes.
- **Fault Condition:**  
The unit shall withstand a short circuit on any output without causing damage to the system. However a single or multiple sustained short will be fuse cleared within 20 seconds or less.
- **Efficiency:** 97%
- **Power Factor:**  
0.7 leading to unity

## Physical Specification

- **Environmental**
  - **Operating Temp.**  
-30°F to 165°F.  
(-35°C to 74°C.)
  - **Storage Temp.**  
-30°F to 165°F.  
(-35°C to 74°C.)
  - **Operating Humidity**  
0 to 95% Non-Condensing



IFxxxA0100NI-20

Model No: IFxxxA0100NI-01		xxx = VA rating		
VA RATING	LOAD WATTS	BACKUP TIME (Minutes)	BATT. (#)	CABINET SIZE
140 VA	100 W	30 - 480 min	(4) 12V 48 VAC	19" (Wide) 5.1" (High) 15" (Deep)
280 VA	200 W			
420 VA	300 W			
570 VA	400 W			
700 VA	500 W	30 - 360 min	(4) 12V 48 VAC	19" (Wide) 5.1" (High) 15" (Deep)
857 VA	600 W			
1000 VA	700 W			
1250 VA	875 W			
2000 VA	1400 W	30 - ? min		



NEMA 3R

NEMA 4X

MAX WATTS	BACKUP TIME (Minutes)	BATTERY (#)	CABINET SIZE
<b>NEMA 3R Model No: LSI.5S01LUTI-XX</b>			
1300 W	15 - 180	(6) 12V 72 VAC	40" (Wide) 50" (High) 22" (Deep)
1000 W	15 - 180		
700 W	15 - 180		
600 W	15 - 180		
500 W	15 - 180		
400 W	15 - 180		
<b>NEMA 4X Model No: LS0.4S01LUTI-XX</b>			
800 W	15 - 180	(6) 12V 72 VAC	40" (Wide) 50" (High) 22" (Deep)
700 W	15 - 180		
600 W	15 - 180		
500 W	15 - 180		
400 W	15 - 180		

Optional Cabinet

- **Rack or cabinet mount**
- **Broad range of power for selected application**
- **97% Efficiency**
- **Caltrans approved**
- **Multiple cabinet application**
- **Hot Swappable (Optional)**
- **Quick Disconnect DC harness** is designed to simplify battery wiring.
- **Battery Test Points** (48 VDC) allow for direct verification of battery status.
- **Wide Operating Range** - works with utility voltage in 100 - 130 VAC range.
- **Short Line Recovery time** - switches back to line power after only 30 sec.
- **Quick Transfer Time** - upon loss of line power transfer to battery takes ms.
- **Elapsed Time Counter**- resettable counter keeps track of accumulated hours.
- **Transfer Counter** - unit keeps track of battery transfers
- **Min. 2 Hrs** - full load operation from battery.
- **Max. 20 Hrs** - recharging time from battery low cut off point.
- **Temperature Compensated Battery Charger** - extends battery life and provides protection by ensuring optimal charging condition in -37 to 74 C battery cabinet temperature range.
- **Versatile Design** - rack or shelf mounted (EIA 19" rack), fully compatible with Caltrans Model 332 Cabinet including Model 170 and 2070 controller, and internal cabinet installation.
- **Advanced Surge Suppressor** - provides surge immunity, can handle IEEE-C3 surge with ANSI / IEEE C62.41 and C62.11 wave shapes L to N.
- **Cold Start** - BBS is capable of starting up only on battery and could be used as a reserve power supply when the utility power is out and the UPS was off.
- **Shut Down Mode** - with no utility power, external devices (servers) can command UPS shutdown via an interface. It preserves battery after shutting down protective devices. In this mode the unit will sequentially scroll front panel LED's, alerting on pending shutdown.
- **Extensive Monitoring** - via status, diagnostic and alarm LED's monitoring all vital BBSMD functions, provides quick overview of unit operating condition and identifying any disturbances.
- **Ethernet Option**

Specifications are subject to change without prior notification.

