TECHNICAL GUIDE SPECIFICATIONS

MICRO POWERWAVE

Single Phase, (200 to 490 Watts)
UL924 Central Lighting Inverter

1. SCOPE

The Emergency Lighting Power System shall be a solid-state single-phase unit designed to provide regulated and conditioned sinusoidal power for emergency lighting applications. The Emergency Lighting Power System shall provide uninterrupted power during all modes of operation. There shall be no interruption of power to the lighting system when the unit transfers to and from battery operation. The Emergency Lighting Power System and battery subsystem shall be listed to UL 924 Standard for Emergency Lighting and Power Equipment by a nationally recognized organization.

2. MAJOR SYSTEM COMPONENTS

Emergency Lighting Power System shall consist of the following major subsystems:

SOLID STATE ELECTRONICS: The Solid-State Electronics shall provide regulation and conditioning from incoming power aberrations. Power to the critical load shall be supplied by the Solid-State Electronics whether the Inverter is in normal mode or emergency mode. The output wave shape shall be sinusoidal for all modes of operation.

BATTERY SUBSYSTEM: Sealed, maintenance-free batteries shall be provided. The batteries shall have an expected life of ten (10) years. The batteries shall be fully wired and contained within its own section. Battery run time (based on 100% full load) shall be no less than ninety (90) minutes. Optional Extended battery run times greater than ninety (90) minutes shall be available.

INVERTER: The Emergency Lighting Power System shall convert DC power supplied from the batteries into AC power.

CHARGER: A battery charger shall be provided. The battery charger shall maintain the batteries at full charge. The battery charger shall be sized such that it recharges the batteries as set forth in UL Standard 924.

POWER CONNECTIONS: The Emergency Lighting Power System input and output shall be hard wired. A main Input, Output and DC circuit breaker shall be provided. The main Input circuit breaker provides over-current protection and a means to easily disconnect power from the lighting system.

TRANSFORMER: Unit shall utilize auto transformer for 277 Volt input & output only.

MONITORING PANEL:

Front Panel LCD / LED display

The unit shall use LCD display for easy viewing of UPS status.

Alarm indicators

The UPS gives the following audible alarms:

- If UPS is on battery and the ON BATTERY LED is on, UPS will beep every 5 seconds.
- If the battery capacity is low and the ON BATTERY LED is flashing, the UPS will beep twice every 5 seconds.
- If UPS is on bypass and the BYPASSED LED is on, UPS will not beep.
- If UPS has an internal fault and the ALARM LED is on, the UPS will give a constant audible alarm displaying the cause on the LCD display.

The unit shall use 5 LED indicator lights:

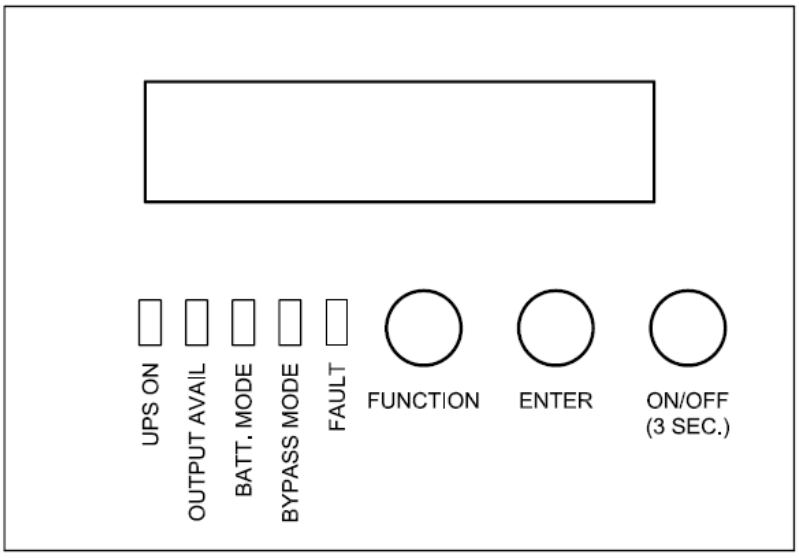
UPS-ON: Green LED is lit when UPS has been turned on.

OUTPUT AVAIL: Is lit when the UPS is in normal or static bypass modes, there
is voltage at the output terminals.

BATT MODE: Is lit While operating in battery mode.

BYPASS MODE: Is lit While operating in bypass mode, this LED will light up in yellow.

FAULT: Is lit if any internal error occurs in the UPS, this LED will light up in red and give off an audible alarm. Press any of the buttons on the front panel to turn off the alarm.



3. MODES OF OPERATION

NORMAL:

During normal operation, utility (or generator) power is thoroughly conditioned and regulated by solid state electronics. The Solid-State Electronics in conjunction with the input filter, filters noise and transients from the incoming power.
Additionally, the Solid-State Electronics regulates its output voltage to within specified limits. The rectifier section maintains the batteries in a fully charged state.

EMERGENCY:

Upon loss of input power or when power exceeds the specified input limits, the control logic shall transfer to operation and disconnect the input line. The transfer to battery shall be an uninterrupted or "no break" power transfer. The inverter shall supply power from the batteries and through the Solid-State Electronics to the lighting system. The output shall be sinusoidal and within specified limits. If power is not restored before the batteries have been exhausted, the Inverter shall completely shutdown, protecting the batteries from possible damage.

RECHARGE:

Upon restoration of input power and before the batteries are completely exhausted, the Inverter shall automatically return to normal operation. This retransfer to normal operation shall be uninterrupted. The battery charger shall automatically recharge the batteries to full capacity. The battery charger shall recharge the batteries as set forth in U.L. Standard 924

4. OPTIONS

- **Auxiliary TVSS**: Input Transient voltage suppressor shall comply with UL1449 third edition
- **Auxiliary Output Circuit Breaker:** Unit shall provide up to 3 optional 1 pole 10amp din rail output circuit breakers
- **SNMP/Web Card**: SNMP shall allow direct monitoring in SNMP based networks for monitoring of the Unit through web browser.
- **Communication interface**: Unit shall have RS232 and USB communication port Option
- **Floor mount brackets:** Unit shall provide floor mount provision.
- **Remote Status Panel**: Unit shall be equipped with an optional remote monitoring panel.
- **Facility Interface:** Unit shall connect to facility systems via dry contact Option.

5. SPECIFICATIONS:

Specifications for 120VVAC /277VAC				
Capacity (W)	**Description**	**200W**	**300W**	**490W**
Input	Voltage	Single Phase 120Vac or 277Vac		
	Voltage Range	120Vac ±10% or or 277Vac		
	Frequency	60Hz +/- 4Hz		
Output	Voltage (on battery)	Single Phase 120Vac or 277Vac		
	Voltage Range	120Vac ±2% or 277Vac		
	Frequency (on battery)	60 Hz +/-0.5%		
	Transfer Time	0 ms		
	Overload Recovery	Auto transfer to UPS		
	High Efficiency mode (AC to AC)	> 95 %		
	UPS Design Technology	On-Line / Fully digitized microprocessor controlled		
	Harmonic distortion	< 3% of T.H.D. at linear load		
	Overload Protection	125% for 1 minutes and 150% for 10 seconds		
Protection and Filtering	Overload Protection	125% for 1 minutes and 150% for 10 seconds		
	Short Circuit Protection	Circuit breaker		
System/Display/ Warning	Visual Display (LED model)	UPS on(green), line-mode(green), battery mode(yellow), bypass(yellow), fault(red)		
	Visual Display (LCD model)	Input / output voltage, input / output frequency, on-line mode, back up mode, battery capacity, load level		
	Audible Alarm (Battery back-up)	Beep every 5 sec		
	UPS Fault	Continuous beeping sound and LCD display		
	Communication	RS-232 Serial Port and USB		
Battery	90 min. UL924 (Sealed, maintenance free lead acid battery	2X35 A/H	2X50 A/H	2X50 A/H
Dimensions	(Inches) Width x Height x Depth	24 X 17 X 9.5		
Environmental	Operating Temperature	0 - 40ºC / 32 ~ 104ºF		
	Storage Temperature	-20 ~ 50ºC / -4 ~ 122ºF		
	Audible Noise (1 meter from surface)	< 40 dBA		
	Relative Humidity	0 ~ 95% humidity, non-condensing		

Note: Due to continuous improvement specifications are subject to change without prior notice

Wall/Floor Mount Lighting Inverter 90 minute battery back up (Batt. 24 VDC)				
Total/ WATT	Model Numbers	Input/Output Voltages	BTU/ Hr	Cabinet Dimension (W"xH"xD")
200W	WM.20A01OP	120V/120V	216	**24 X 17 X 9.5**
	WM.20R01OP	277V/120V	233	
	WM.20R25OP	277V/277V	233	
	WM.20A25OP	120V/277V	233	
300W	WM.30A01OP	120V/120V	305	"
	WM.30R01OP	277V/120V	353	
	WM.30R25OP	277V/277V	353	
	WM.30A25POP	120V/277V	353	
490W	WM.49A01OP	120V/120V	499	"
	WM.49R01OP	277V/120V	543	
	WM.49R25OP	277V/277V	543	
	WM.49A25OP	120V/277V	543	

(NOTE)

** **BTU/HR ARE APROX. NUMBER WITH TOLERANCE ± 15% FOR ALL MODELS**