



Project

Type

Catalog Number

SPECIFICATIONS

POWER

FEATURES

- For powering incandescent, fluorescent, induction and LED fixtures
Consult factory for compatibility for other lamp types
- Sinusoidal AC pulse width modulated (PWM) output eliminates compatibility problems
- Universal 120/277VAC, 60Hz. input/output
- "Soft Start" design reduces fixture inrush current
- Surface, recessed, or T-Grid mounting options
- Unit may be installed up to 1,000 feet from controlled fixture(s)
- Lumen output from fixture is 100% of nominal
- Unique design eliminates compatibility problems with LED drivers as well as fluorescent ballasts
- Compatible with dimming ballasts
- Normally-ON and/or Normally-OFF load output
- Provisions for local switching capability - Always on during emergency conditions regardless of local switch position
- Temperature compensated, dual-mode charger includes low voltage disconnect feature to provide protection against battery deep discharge
- Solid-state, line latched low voltage disconnect provides protection against battery deep discharge
- Long life, maintenance-free lead-calcium and NiCad battery models offered
- Control panel with momentary test switch, AC-ON, Charge-ON and Inverter-ON LED indicators
- Battery circuit fuse protected
- Reverse battery and AC lockout protection

OPERATION

Upon failure of the normal utility power the PSM unit is automatically turned on by a solid state switching circuit and provides a minimum of 90 minutes of emergency power to the connected load. Lumen output will be maintained at 100% of the lamp's rating throughout the entire duration.

A solid state low voltage disconnect circuit is used to protect the battery from being severely damaged by a deep discharge. When normal utility power is restored, the unit switches the load back to normal utility operation and the fully automatic, temperature compensated, dual mode charger begins to restore the battery; bringing it to full charge within UL 924 specified parameters. A brownout sensing circuit insures proper operation during "low line" conditions.

WIRING

Connection to an unswitched AC circuit is required by the NEC. Wiring access is provided for by conduit knockouts in the unit housing. PSM Series models also provide knockouts in the back of the housing for rear wiring from standard electrical boxes when surface mounting.

LOAD COMPATIBILITY

PSM models' clean, sinusoidal AC output will operate incandescent lamps as well as all common fluorescent and LED lamp types. Consult factory for compatibility with all other lamp types.

Lighting loads are driven at 100% output for the entire emergency power cycle. This outstanding feature translates into greater occupant egress vision and safety.

CATALOG #	Capacity	Battery	Battery VDC	DC Input	AC Input (120V/277V)	System Weight
PSM-20-*	20W/VA	NiCad	12VDC	2.1	0.25A / 0.11A	11 Lbs
PSM-32-*	32W/VA	Lead Calc.	12VDC	3.4	0.34A / 0.15A	14 Lbs
PSM-35-*	35W/VA	NiCad	12VDC	3.8	0.37A / 0.16A	12 Lbs
PSM-55-*	55W/VA	Lead Calc.	12VDC	5.7	0.54A / 0.23A	18 Lbs

*Specify Mounting: **S**-Surface, **R**-Recess, **T**-T-Grid

Options (Factory Installed)

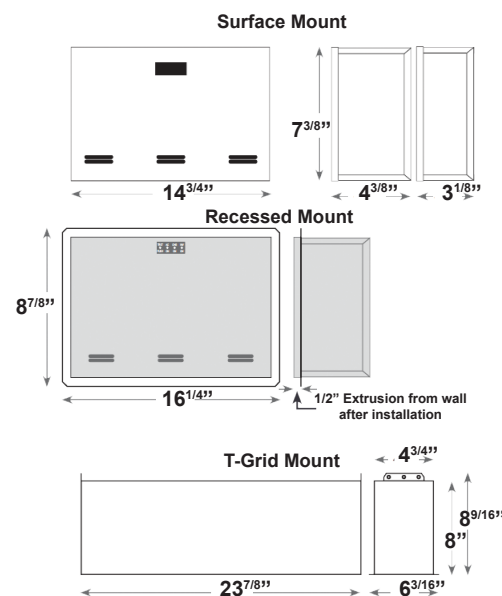
- SD - Self - Testing/Self-Diagnostics
- T20 - CEC Title20 Compliant (32W and 55W models only)
- CC - Custom Housing Color

Accessories (Ships on the Side)

- PS-RTSP - Remote Test Switch Panel



**PSM
20W-55W Micro Inverter**



HOUSING

- Heavy duty steel cabinet is finished in white baked-on powder paint providing scratch and corrosion resistance.
- Optional special color paint (-CC) finishes are available, consult factory.

MOUNTING

- Surface Mount: Surface mount models are designed for mounting to walls by means of keyhole slots provided in the back of the unit housing
- Recessed Mount: Recess models provide recess mounting holes on both sides of the enclosure.
- T-Grid Mount: Housing design allows simple drop-in installation between t-grid runs. Safety wires (supplied by others) are required for attachment to building structure.
- Inverter can be remote mounted up to 1,000ft away from the controlled fixture(s)

ELECTRICAL SPECIFICATION

Input

- **Input Voltages:** Universal 120 or 277VAC $\pm 10\%$
- **Input Frequencies:** 60Hz $\pm 2\%$
- **Input Protection:** Provided by Service Panel rated at 20A maximum

Output

- **Output Voltages:** (60Hz) 120 or 277VAC
- **Efficiency Rating:** 98% at full rated load (line)
- **Waveform:** Sinusoidal (digitally controlled, PWM design)
- **Static Voltage:** $\pm 5\%$ during battery discharge. 0-100% linear load.
- **Output Frequencies:** 60Hz. $\pm 0.3\text{Hz}$ during emergency cycle
- **Output Distortion:** Less than 3% THD (linear load)
- **Transfer Time:** Less than 1.0 second
- **Load Power Factor Range:** 0.44 Lead to 0.44 Lag
- **Minimum Loading:** 0% of rated system capacity
- **Output Protection:** Inverter Fuse

BATTERIES AND CHARGER

Battery

- **Battery:** Sealed Lead Calcium (10 year life), or Sealed NiCad (15 year life)
- **Battery Voltage:** 12VDC for all PSM models
- **Runtime:** 90 minutes standard
- **Battery Protection:** Low Voltage Battery Disconnect protects the battery from being severely damaged by deep discharge during prolonged power failures. DC Overload and Short Circuit Protection provided by a DC input fuse.

Charger

- **Charger Type:** Fully automatic, temperature compensated, dual-mode charger
- **Power Consumption:** 9W max; all models
- **Recharge Duty Cycle:** Meets UL924 requirements
- **Controls:** Momentary test switch, AC-On, Charge-On and Inverter-On LED indicator lights
- **Safety Circuitry:** AC Lockout prevents battery discharge prior to initial unit power-up. Brownout Protection automatically switches the unit to emergency mode when utility voltage is significantly reduced.

ENVIRONMENTAL

- **High Altitude Operation:** <10,000 ft (3,000m) above sea level without derating
- **Operating Temperature Range**
 - NiCad Models: 32°F to 122°F (0°C to 50°C)
 - Lead Calcium Models: 68°F to 86°F (20°C to 30°C)
- **NOTE:** Optimum system performance between 20°C (68°F) and 30°C (86°F); temperatures outside of this range will affect battery performance and life.
- **Relative Humidity:** 95% non-condensing

CODE COMPLIANCE

- UL924 Listed for Damp Locations
- Meets NFPA101, NEC, OSHA, Local and State Codes
- CEC Title20 Certified
- FCC Part 15 Class A Compliant

WARRANTY

- 5 Year Warranty

SUGGESTED SPECIFICATIONS

An inverter system with sinusoidal output shall be supplied capable of powering any combination of lighting fixtures, including incandescent, fluorescent, induction and/or LED light sources without compatibility problems.

The system shall transfer in less than 1.0 second to reliably back up lighting fixtures without loss of illumination and operate any and all connected lighting fixtures at full lumen output during the complete 90-minute discharge cycle.

The input voltage shall be the same as the output voltage and shall be single phase 120/277 volts, 60 Hz. Output capacity will be (20Watts/32 Watts) / (35 Watts/55 Watts) for a minimum duration of 90-minutes.

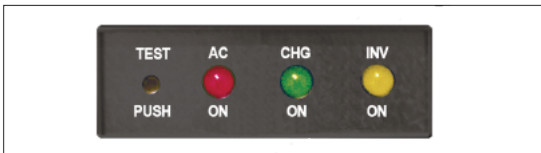
The design shall be a standby, off-line inverter with on-line efficiency of 98%; on-line double conversion UPS systems shall not be considered acceptable alternatives. PSM System output shall be a PWM generated sine wave with less than 3% total harmonic distortion with "Soft Start" design reduces fixture inrush current. The system shall also provide short circuit and overload protection as standard.

An intuitive three LED display shall provide system operational information at a glance and alert user to any malfunction in system performance. Authorized maintenance personnel shall have access to the system's controls while being protected from any live exposed connections.

Protective devices shall include DC input fuse, AC input overcurrent protection for live circuits to be provided by service panel rated 20A maximum. AC lockout, reverse battery connection, low voltage battery disconnect (LVD), short circuit and overload protection shall be provided standard on all models. The entire PSM system, including batteries, shall be provided in compact cabinetry which shall have provisions for surface, recessed, T-Grid mounting.

System shall be capable of providing, remote test switch, and self-test/self-diagnostics, were necessary.

System shall utilize a sealed lead calcium battery with a 10 year design life or a sealed Nickel-Cadmium battery with a 15 year design life. The charger shall be temperature compensated, dual mode type, and recharge the batteries as per UL924 guidelines. Entire system shall be tested, approved, and labeled to UL924 Emergency Lighting and Power Systems standards. TGrid models will be plenum rated.



SYSTEM STATUS MONITORING PANEL

All PSM systems provide a monitoring panel on the front of the unit to show operating status at all times. The panel provides a test switch for user initiated system tests and a 3-LED array that provides an intuitive visual indication of unit readiness.