



LIGHTING FOR  
DEMANDING  
ENVIRONMENTS

# GPFT Series

## Fast Transfer Power Systems

### Description

Pulse width modulated design and ultra fast switching assures virtually 100% compatibility with all critical loads.

### Features

- Pulse Width Modulated (PWM) inverter design
- "Off line" operation for increased reliability and efficiency
- No break 1ms transfer time
- Digitally controlled sinusoidal waveform output
- 300, 400 and 600 watt models
- Compatible with all HID, electronic ballast and other non-linear lighting and power technologies
- Can be located hundreds of feet from connected loads
- 98% on-line efficiency rating at full load typical
- Available in 120 and 277VAC models
- Harmonic distortion <3%
- Load power factor range .5 lead to .5 lag
- Overload and short circuit protection
- Low battery voltage, surge and transient protection
- Backup generator compatible
- 5 LED monitoring display provides visual operating status at all times
- AC and DC Input circuit breakers standard
- AC output and battery fuses standard
- 90 minute operation standard, alternate runtimes available
- Maintenance-free lead calcium battery standard
- Small footprint
- Designed for easy wall mounting
- 68°F to 86°F (20°C to 30°C) operating range
- Meets NFPA Life Safety Code 101, NEC, OSHA, State and local codes
- UL924 listed

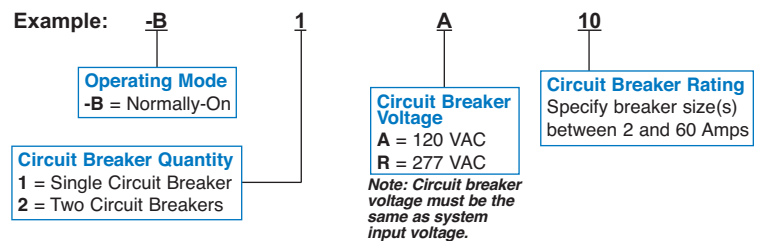


### Ordering Guide

Model No.	Input/Output Volts	Capacity (1 1/2 Hrs.)	DC Voltage	Weight	
				Lbs.	Kg
GPFT33-120	120	300W/330VA	36	113	51.3
GPFT33-277	277	300W/330VA	36	113	51.3
GPFT46-120	120	400W/660VA	72	132	60.0
GPFT46-277	277	400W/660VA	72	132	60.0
GPFT66-120	120	600W/660VA	72	188	85.4
GPFT66-277	277	600W/660VA	72	188	85.4

### Optional Output Circuit Breakers

To order optional output circuit breakers with GPFT systems, suffix the system model number with the appropriate breaker designator generated by the ordering guide below.



### System Options<sup>(1)(2)</sup>

Add Suffix	Description
/AR	Alternate Run Time (Specify Time in Minutes)

(1) Other options available. Consult factory.

(2) Some options may impact product UL listing. Consult factory.

### Specifier Reference

Project: \_\_\_\_\_

Fixture Type: \_\_\_\_\_

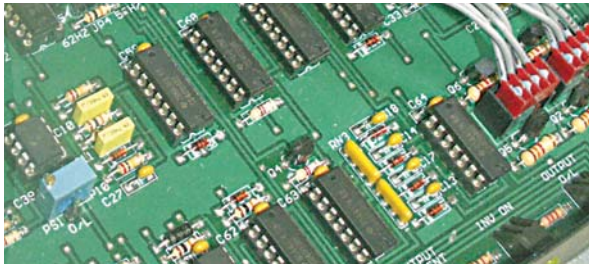
Model No.: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## Application

The GPFT Series is designed to back up critical loads where transfer to emergency mode must be uninterrupted. The GPFT Series with Pulse Width Modulated design and ultra fast, 1ms switching provides the “no break” performance. Additionally, the GPFT “off-line” design delivers superior reliability and increased MTBF. The GPFT Series offers a low cost, high tech solution to delivering emergency lighting and power to small or medium sized applications. The GPFT Series is especially useful in applications where emergency power is required for indoor as well as outdoor equipment or for powering equipment that is voltage sensitive like HID lamps. GPFT models are designed to install out of sight to discreetly operate the loads they power. GPFT units drive all connected loads at full output and brilliance to provide greater safety during emergency conditions

## Construction

**Cabinetry:** Freestanding heavy duty NEMA Type 1 steel cabinets are finished in blue baked-on powder paint providing scratch and corrosion resistance. GPFT33 and GPFT46 models are provided in a single cabinet. GPFT66 models provide an electronics module with an additional bolt-on battery cabinet.

## Installation

**Mounting:** All GPFT model cabinetry mounts by means of keyhole slots.

**Wiring:** All battery and inter-cabinet wiring (if required) is provided pre-cut and terminated along with the necessary hardware and electrical fittings required for proper installation.

## Code Information

UL924 Listed and meets NFPA 101 Life Safety Code, NFPA 70, NFPA 110, UBC, SBCCI, NEC, OSHA, Local and State Codes

## Warranty Information

**System:** 3-year full coverage against defects in materials and workmanship from date of shipment

**Battery:** 1 year full warranty plus 9 years of pro-rata coverage

## Electrical Specifications

### Input

**Input Voltages:** (60Hz) 120 or 277VAC  $\pm$  10%

**Input Frequencies:** 60Hz  $\pm$  2%

**Synchronizing Slew Rate:** 1 Hz per second nominal

**Input Protection:** Circuit breaker

### Output

**Output Voltages:** (60Hz) 120 or 277VAC

**Efficiency Rating:** 98% at full rated load (line)

**Waveform:** Sinusoidal (digitally controlled)

**Static Voltage:** Load current change  $\pm$  5%, Battery discharge  $\pm$  2%

**Output Frequencies:** Synchronized to utility, 60 Hz  $\pm$  2Hz during emergency operation

**Output Distortion:** Less than 3% THD (linear load)

**Transfer Time:** Less than 1 ms

**Load Power Factor Range:** 0.5 Lead to 0.5 Lag

**Minimum Loading:** 0% of rated system capacity

**Overload Protection:** 150% for 5 seconds

**Output Protection:** Fused output

### Batteries and Charger

**Battery:** Sealed Lead Calcium (10 year life)

**Battery Voltage:** 36VDC (GPFT33 models), 72VDC (GPFT46 and GPFT66 models)

**Runtime:** 90 minutes standard - based on battery performance at 77°F (25°C) . Other runtimes available, consult factory.

**Charger Type:** Fully automatic, temperature compensating

**Recharge Duty Cycle:** Meets UL924 requirements

**Battery Circuit Breaker:** Also used as battery isolator

**Battery Protection:** Fused output with automatic low voltage battery disconnect and reverse polarity protection. Automatic restart upon utility voltage return

### Environmental

**Altitude:** < 10,000 feet (3,000m) above sea level without derating

**Operating Temperature Range:** 68°F to 86°F (20°C to 30°C)

NOTE: Optimum system performance between 20°C (68°F) and 29°C (85°F); temperatures outside of this range will affect battery performance and life.

**Batteries:** 100% battery capacity rated at 25°C (77°F)

**Relative Humidity:** 95% non-condensing

### Monitoring Panel

**Type:** Five LED function indicators provide visual system status at all times

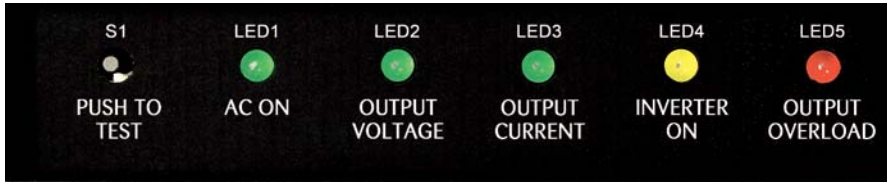
## General Specifications

System Model Number	System Efficiency (Full Load)	Number Of Batteries	Battery Voltage (VDC)	Battery Current (Amps)	AC Input Current		Total System Weight	
					120VAC Max.	277VAC Max.	Lbs	Kg
GPFT33	98%	3	36	9.8	3.1	1.4	113	51.3
GPFT46	98%	6	72	6.5	5.8	2.6	132	60.0
GPFT66	98%	6	72	9.6	6.2	2.8	188	85.4

Specifications listed are for 90 minute rated systems. Consult factory for specifications on models with alternate runtimes.

# GPFT Series Specifications

## System Status Monitor Panel

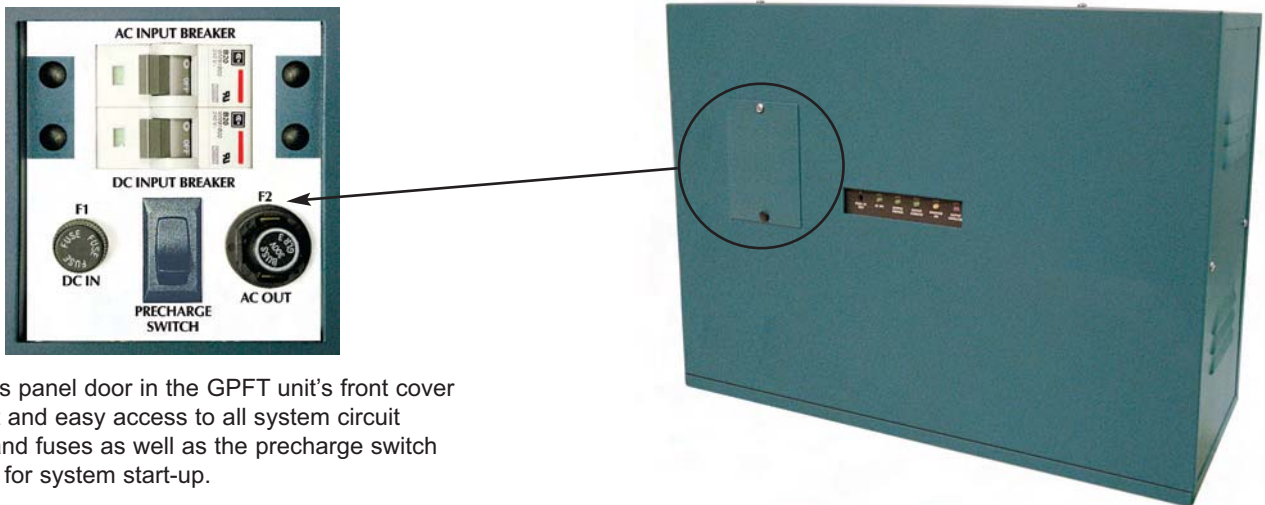


The GPFT system provides a monitoring panel on the front of the unit to show operating status at all times. The panel provides a test switch for user initiated system tests and a 5-LED array that provides an intuitive visual indication of unit readiness.

The **LED Operating Status Directory** shown at the right is provided on the unit's inside front cover to indicate the system's operational state based upon the on or off status of five monitoring LEDs.

	AC-ON LED1 (Green)	OUTPUT VOLTAGE LED2 (Green)	OUTPUT CURRENT LED3 (Green)	INVERTER ON LED4 (Yellow)	OVERLOAD/ SHUTDOWN LED5 (Red)
ON	AC Input Power Available To Unit	Output Voltage Available	Load Connected and Operating	Inverter Operating (Emergency Mode)	Overload Condition
OFF	No AC Input Power To Unit	Output Voltage Failure	Emergency Load Off	Inverter Off (Standby Mode)	Normal Operation

## System Access Panel



The access panel door in the GPFT unit's front cover allows fast and easy access to all system circuit breakers and fuses as well as the precharge switch necessary for system start-up.

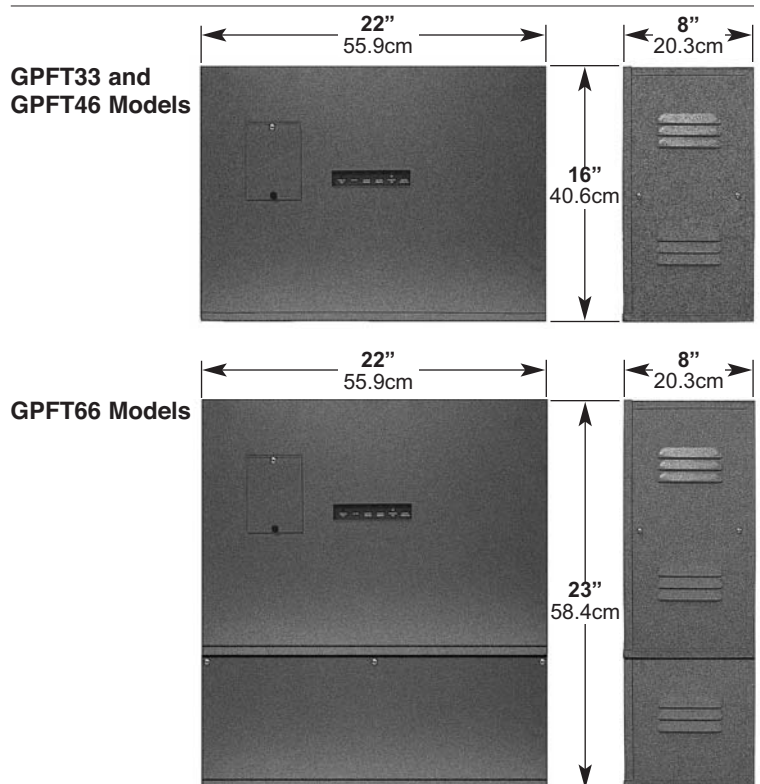
## Improved Aesthetics

GPFT's sinusoidal AC output design eliminates voltage drop and proximity concerns. This allows added flexibility in installation location as GPFT units can be installed hundreds of feet from the units they power. This means GPFT units to be located conveniently out of sight in closets, utility rooms and even above ceilings without interrupting architectural aesthetics. In lighting applications, no special or additional emergency fixtures are necessary. Simply designate and connect existing lighting fixtures, either interior or exterior, to the GPFT unit for emergency operation eliminating the need for exposed, stand-alone emergency luminaires.

## GPFT System Advantages

Compared to traditional discrete emergency lighting units, the GPFT Series provides emergency illumination from a single power source resulting in lower maintenance overhead and routine testing expenses. GPFT units lower installation costs by powering existing lighting fixtures during emergencies. And because connected fixtures are driven at full brilliancy, they provide far superior egress lighting and deliver improved occupant safety.

## Dimensions



**Load Compatibility**



The fast transfer technology designed into GPFT units allows virtual 100% compatibility with all lighting and power loads, including those with voltage or frequency sensitivity. Lighting loads are driven at 100% output for the entire emergency power cycle. This outstanding feature translates into greater occupant egress vision and safety.

**GPFT Series Suggested Specifications**

A fast transfer Inverter system shall be supplied capable of powering any combination of lighting fixtures, including incandescent, fluorescent, LED and HID light sources.

The system shall transfer in less than 1ms to reliably back up HID lighting fixtures without loss of illumination and operate any and all connected lighting fixtures at full lumen output during the full 90 minute discharge. The system shall protect the connected load against brown out conditions and line disturbances at all times.

The input voltage shall be the same as the output voltage and shall be single phase (120) (277) volts, 60 Hz. Capacity will be (300 Watts/330VA) (400 Watts/660VA) (600 Watts/660VA) for a minimum duration of 90 minutes.

The design shall be a standby, off-line inverter with on line efficiency >98%; on-line double conversion UPS systems shall not be considered acceptable alternatives. GPFT system output shall be a PWM generated sine wave with less than 3% total harmonic distortion. The system shall also provide short circuit and overload protection as standard.

An intuitive five 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 AC and DC input breakers, a DC input fuse, and an AC output fuse. The entire GPFT system, including batteries, shall be incorporated into compact cabinetry which shall have provisions for wall or floor mounting.

System shall utilize a sealed lead calcium battery with a 10 year design life. The charger shall be temperature compensated; float voltage reference type, and recharge the batteries as per UL 924 guidelines. Entire system shall tested, approved, and labeled to UL924 Emergency Lighting and Power Systems standards.

System shall be GUTH GPFT series.

