



TYPE: _____
 CATALOG #: _____
 NOTES: _____

Mini-Inverter Series

Interruptible Unit Equipment

Highlights

The **Mini-Inverter** is a UL Listed stand-alone pure sine wave (250W and up) output inverter designed to provide power to designated emergency lighting fixtures. In a power loss situation, it will supply power from the onboard battery supply.

The **Mini-Inverter** works in conjunction with incandescent, LED, and fluorescent fixture types and will automatically run switched, normally-on, or normally-off designated emergency fixtures.

The **Mini-Inverter** is ideal for applications requiring an emergency source for lighting arrangements that utilize multiple lamp and fixture types and is available in surface mount and comes with a three year warranty and seven-year pro-rata battery warranty.

Features

- Lamps operated: Incandescent LED, fluorescent lamps and ballast combinations, including dimming ballasts
- Components: High-efficiency pure sine wave inverter (250W and up), temperature-compensated charger 12V oversized Valve Regulated Acid (VRLA) battery
- Construction: 14-gauge steel housing
- Emergency lighting supplied from one convenient source
- Input/Output voltage 120V 60 Hz or 277V 60 Hz
- Replacable output fuse protection
- Line voltage allows for remote mounting of emergency fixtures at distances up to 1000 feet
- Low Voltage Battery Disconnect
- Unit comes standard with electronic lockout and brownout circuits
- Meets or exceeds all National Electrical Code and Life Safety Code Emergency Lighting Requirements
- Cabinet in factory white semi-gloss powder-coat paint finish
- May accept load to its full capacity when load feature power factor of 0.9 or more
- Standard auto-diagnostic, non-audible, Nexus® system interface optional with an improved minimum load lost detection of 10%

Suggested Specification

Emergency lighting shall be provided by inverter unit equipment designed to operate designated incandescent, fluorescent and LED fixtures on emergency power at their full nominal lumen rating during the full 90 minutes emergency discharge cycle. System output will be rated at _____ watts for 90 minutes and provide used output connections to the load. The system's voltage rating shall be _____ VAC input/output. The inverter unit shall allow for connected emergency fixture(s) to be normally on, normally off, switched or dimmed without affecting lamp operation during a power failure. Upon utility power loss, the inverter unit shall deliver 100% of its rated output to the emergency fixtures regardless of the local switch or dimmer position, and will provide power to emergency fixtures at distances of up to 1000 feet. The housing shall be manufactured using 14-gauge steel with a white baked-on powder coat paint finish. The unit's electronics shall include a self-contained inverter section with a fully automatic, thermal-compensating variable-rate battery charger, AC lockout feature, low voltage battery disconnect, DC overload, short circuit and brownout protection as standard. The unit shall utilize a sealed Lead-Acid battery with a 10-year design life. The inverter system shall be UL 924 Listed and labeled. The unit shall be covered under a 3-year warranty on the electronics and battery and a 7-year pro-rata warranty on the battery.

Specifications

Transfer Time	less than 1 second
Voltage Regulation on Emergency	+/- 3%
Frequency Regulation on Emergency	60 Hz +/- 1%
Load Power Factor Range	.9 leading to .9 lagging
Operating Temperature	68° to 86°F (20° to 30°C)

Warranty

All **Emergi-Lite®** inverter products receive 100% quality inspection before shipment to insure proper and satisfactory operation. When operated under normal conditions, **Emergi-Lite®** inverter products will provide years of dependable service. This unit is backed by a 3/7 year warranty. The unit is covered by a complete 3-year warranty against defects in material or workmanship, and a 7-year pro-rata battery warranty.

The inverter unit shall be **Emergi-Lite®** model: _____



Electrical Characteristics & Dimensions

POWER RATING	SINE WAVE	INSTALLATION	CABINET DIMENSIONS			NO. OF BATTERY	WEIGHT	WEIGHT W/O BATTERY
			W"	H"	D"			
125W	Modified	T-Bar	24"	6.5"	8"	1	43 lbs	20 lbs
125W	Modified	Wall	16.5"	12.2"	7.3"	1	41 lbs	18.5 lbs
250W	Pure	Wall	27"	12.2"	7.3"	2	76 lbs	30 lbs
400W	Pure	Wall	24"	10.5"	20"	2	128 lbs	50 lbs
720W	Pure	Wall	24"	14.5"	20"	2	185 lbs	72 lbs

TYPE: _____
 CATALOG #: _____
 NOTES: _____

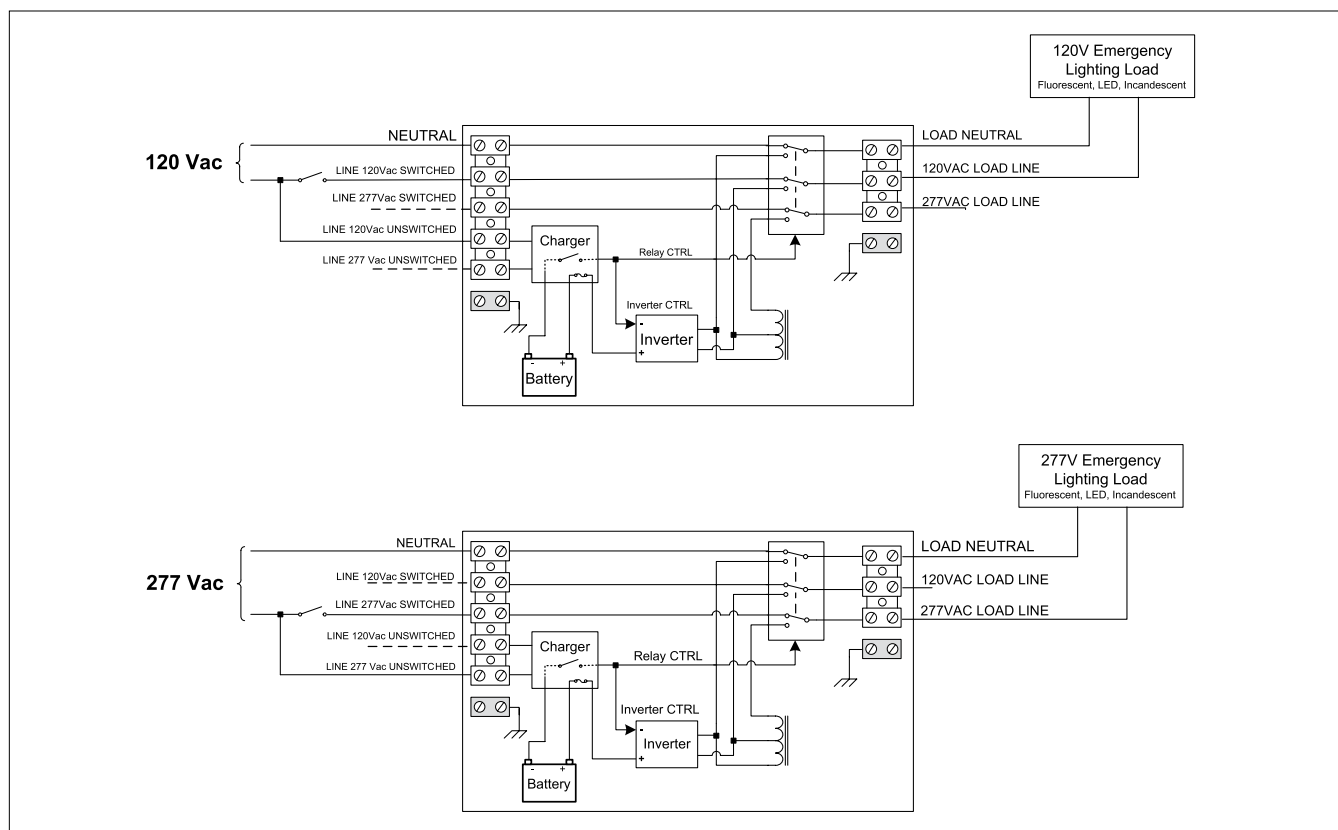


Mini-Inverter Series

Interruptible Unit Equipment



Wiring Diagram



Power Consumption And Unit Rating

MODEL NUMBER	AC SPECS		EMERGENCY POWER AVAILABLE FOR LOAD			
			90 MIN	2H	3H	4H
EMIU-125	120/277VAC	1.15 / 0.50 Amps	125W	83W	62W	47W
EMIU-250		2.28 / 0.99 Amps	250W	167W	125W	94W
EMIU-400		3.73 / 1.62 Amps	400W	300W	200W	150W
EMIU-720		6.90 / 2.99 Amps	720W	480W	360W	270W

How to Order

SERIES	CAPACITY	VOLTAGE	OPTIONS
EMIU	-125= 125W -250= 250W -400= 400W -720= 720W	BLANK= 120/120VAC or 277/277VAC	-NEX= Nexus® wired -NEXRF= Nexus® wireless -D3= Time Delay (15 minutes) -T= Recessed T-Bar mounting (125W unit only) -AD= Advanced-Diagnostic, audible* -SAC= Service Alarm Contact** * Minimum load required: 10% of unit capacity ** Not available with 720 capacity Note: The unit comes standard with Improved Diagnostics (non-audible)

Example: EMIU-720

EMERG-POWER SYSTEMS

Features & Benefits

Highlights

PERFORMANCE

Emerg-Power Systems work with any type of lighting load to provide full light output for a minimum of 90 min. They are designed to support incandescent, fluorescent, HID*, quartz re-strike, LED or halogen lamps. They will work to power into these loads at cold starts for all normally off circuits or normally on circuits.

* Except IPS systems

TRUE SINE WAVEFORM

Using a solid-state, pulse width modulation (PWM) inverter the systems produce pure sinusoidal output waveform with less than 3% maximum Total Harmonic Distortion (THD) for linear loads. Microprocessor and crystal controlled.

RELIABILITY

Emerg-Power Systems use third generation inverter technology. The proven solid design and double ratings of all critical components. LVD (Low Voltage Disconnect) for long power outages eliminates battery drain.

BATTERIES

Front access connections for easy installation significantly reduce the footprint, installation and maintenance time while increasing safety. Automatic restart and recharge upon restoration of utility.

APPROVALS

UL listed to UL924. Meets UL 924 Listed, NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI.
New York City approved.

APPLICATIONS

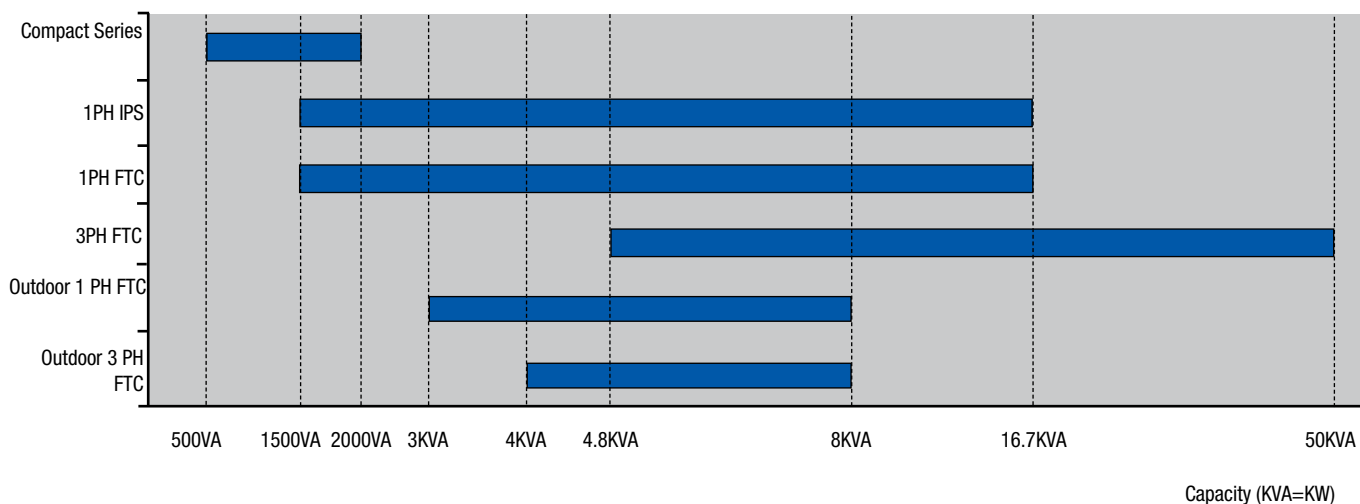
Emerg-Power Systems can be used in almost every type of building, and are well-suited for architecturally sensitive applications or areas where maintenance costs and individual testing of unit equipment becomes significant.

Emerg-Power Systems are designed to work with power factor corrected as well as the most recent T5 and T5-HO electronic ballasts.

OPTIONS

The full range of options available, such as integrated output circuit breakers, bypass relays, dry contacts, etc., makes Emerg-Power Systems an industry leader in emergency lighting central systems.

System type



EMERG-POWER SYSTEMS

Features & Benefits

Features

SELF-DIAGNOSTIC/SELF-TESTING

- Programmable monthly and annual self-testing. Proven self-diagnostic with over 120 parameters stored in separate memory logs for Test, Event and Alarm.
- Microprocessor monitoring and control.

LOW HEAT DISSIPATION

- Very low heat loss technology in normal operating mode (see specifications for exact values). Convection cooling in normal mode with forced air during emergency mode.
- Battery cabinets: convection cooling only.

MAXIMUM EFFICIENCY

- Highest efficiency in the industry, 98% at 100% load with no requirement for cooling in normal operating mode.
- Low input harmonic distortion <10%.

VERSATILE INSTALLATION

- Modular design, easy front access freestanding cabinets, fasten together when more than one cabinet is required.
- Optional seismic kit available.
- All wiring provided is pre-cut and terminated, along with the necessary hardware and electrical fittings, for proper installation.

COMPLETE PROTECTION

- Input circuit breaker and fused battery circuit are standard.
- Systems offer overload capacity, short-circuit protection, current-limiting, low-battery disconnect, reverse polarity and brownout protection as standard.

THERMAL PERFORMANCE

- Bonded fin heat sink technology for maximum thermal performance.
- Cooling fans are energized only in inverter mode.

MONITORING AND CONTROL

- User-friendly programmable interface with LED indicators and LCD display provides full metering values, easy program and control functions and a wide range of visual and audible alarms.

Benefits

COMPLIANCE WITH NFPA101

- Self-testing meets the requirements of NFPA and UL. User programmable time of testing.
- Test results, events and alarms can be downloaded from history logs. Load monitoring. Reduced testing/service time.

LESS AIR-CONDITIONING

- Reduced costs for air-conditioning required to ensure the optimum operating temperature when compared with equivalent systems that dissipate much more heat.
- Higher reliability of fans and the electronic components.

LOWER ENERGY BILLS

- Low consumption of the system itself will result in lower energy bills paid over the system life time. Comparative analysis available on request.

EASY TO INSTALL

- Quick installation and connection through flexible cable entries and fast access terminal blocks.
- Reduced footprint for systems with stackable cabinets.
- Low MTTR (<15 min.) due to modular design, quick disconnect means and frontal access.

REDUCED DAMAGE RISKS

- Full system protection eliminates damage created by external events and increases the lifetime of the electronics and batteries. Also will provide safety during maintenance.

INCREASED MTBF

- Increased reliability and reduced preventative maintenance.
- No air filters needed.

EASY MAINTENANCE

- Easier diagnostic, troubleshooting, preventative maintenance and service through the indicators and display or by using the history logs.
- Remote versions available.



Emerg-Power Systems

Compact Series

Features

- 98% efficient at full load
- PWM/MOSFET technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard output circuit breaker
- Micro-processor controlled
- Floor or wall mountable
- Field upgradeable (500VA steps)

- 90 min. standard run time
- Electronic and magnetic ballast compatible
- Automatic event, test and alarm log
- LCD display
- Small footprint (stackable cabinets)
- Maintenance-free standard batteries
- Forced air cooling during emergency mode only

UL listed to UL924. Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved.

Electrical/Mechanical Characteristics⁴

(data provided for standard Lead Calcium batteries)^{1,4}

POWER RATING ¹ VA= W	EFFIC. AT FULL LOAD %	MAX. INPUT CURRENT (A)		HEAT LOSS IN NORMAL MODE (BTU/HR)	BATT. VDC	BATT. A	NO. OF BATT.	UPS CABINET DIMENSIONS			BATTERY CABINET DIMENSIONS ^{2,3}			NO. OF BATT. CAB.	BATT. CAB. WEIGHT LBS	UPS CAB. WEIGHT LBS	BATT. WEIGHT LBS	TOTAL SYSTEM WEIGHT LBS
		120V	277V					W"	H"	D"	W"	H"	D"					
500	98	5.2	2.3	34	48	13.5	4	26	10	10	26	10	10	1	22 lbs	77 lbs	107 lbs	206 lbs
1000	98	10.5	4.5	68	48	26.5	8	26	10	10	26	10	10	2	22 lbs	77 lbs	214 lbs	335 lbs
1500	98	15.6	6.8	102	48	40	12	26	10	10	26	10	10	3	22 lbs	77 lbs	321 lbs	464 lbs
2000	98	20.8	9	136	48	52	16	26	10	10	26	10	10	4	22 lbs	77 lbs	428 lbs	592 lbs

¹ System capacity can be upgraded in the field up to 2000VA by adding more battery cabinets.
Re-programming required by factory service technician.

³ Battery cabinets are stackable. Must be installed under the electronics cabinet

⁴ Special voltages can change the size, weight or number of cabinets

² Batteries are installed in separate modular cabinets

How to Order

INPUT VOLTAGE*	BATTERY TYPE	VA/W	SYSTEM TYPE	OUTPUT VOLTAGE*	RUN TIME*	INPUT BREAKER	OUTPUT BREAKERS*	OPTIONS*
120 277	SG= Lead-Calcium	500 1000 1500 2000	-FTCM	-120 -277	-90	-ICB	-OCBxxxx= No trip alarm* -OCAxxxx= With trip alarm*	-NOFF= Normally OFF output -WB= Wall mount bracket -DCS= Dry summary alarm contacts -INVON= Inverter on dry contact -VTD= Variable time delay -BPR= Bypass relay -RMP= Remote metering panel -RSAP= Remote summary alarm panel -RS232= Communication interface -MOD= Modem -FLR= Floor blanket
* Special voltages may change the size, weight or number of cabinets				* Special voltages may change the size, weight or number of cabinets		* Other run times available		* Max. 3 more additional output breakers for a total of 4. See page 137 for output breakers details.
								* See page 137 for options description

Example: 120SG1500-FTCM-120-90-ICB-OCB0420-WB

TYPE: _____
 CATALOG #: _____
 NOTES: _____



Uninterruptible Emergency Lighting, 1PH, Inverter System 500VA – 2000VA

System Specifications

GENERAL

Design	Stand-by no break. PWM inverter type utilizing MOSFET technology with 2ms transfer time
Control	<ul style="list-style-type: none"> Microprocessor controlled, 2 x 20-character display with touch pad controls & functions 5 LED indicators & alarm with ring-back feature
Metering	Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, Temperature, Inverter Wattage
Communications	Optional RS-232 port (DB9)

ELECTRICAL INPUT

Voltage	120 or 277VAC, 1-phase 2-wire, +10%/-15% Contact factory for all other voltage.
Input Power Walk-In	Limiting inrush current to less than 125%, 10 times for 1 line cycle
Input Frequency	60Hz, +/-3Hz
Protection	Standard Input Circuit Breaker
Harmonic Distortion	<10%
Power Factor	0.5 lag/lead

ELECTRICAL OUTPUT

Voltage	120 or 277VAC, 1-phase 2-wire Contact factory for all other voltage.
Static Voltage	Load current change +/-2%, battery discharge +/-12.5%
Dynamic Voltage	+/-2% for +/-25% load step change, +/-3% for a 50% load step change, recovery within 3 cycles
Harmonic Distortion	<3% THD for linear load
Output Frequency	60Hz +/- 0.05Hz during emergency mode
Load Power Factor	0.5 lag to 0.5 lead
Inverter Overload	115% for 5 minutes
Protection	Standard Output Circuit Breaker (normally on)
Crest Factor	2.8

ENVIRONMENTAL CONDITIONS

Storage/Transport	<ul style="list-style-type: none"> -4°F to 158°F (-20°C to 70°C) without batteries 0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104° F (40° C))
Operating Temperature	System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68° F and 86°F (20°C to 30°C). Battery performance can be affected by temperature
Altitude	<10,000 feet (above sea level) without de-rating
Relative Humidity	0 to 95% non-condensing
Audible Noise	45 dBA @ 1m from surface in emergency mode

CABINETS

Modular design, freestanding or wall mount NEMA Type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design. Cabinets are stackable. Top and left side conduit entry with knockouts.

INVERTER

Using MOSFET/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

CHARGER

Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

BATTERY

System is provided with 10 year, maintenance free, sealed valve regulated Lead-Calcium batteries. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

SELF-DIAGNOSTIC

Automatic self-test consists of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily "watch" system functions as they occur and check on virtually any aspect of the system's operation. Self-diagnostic function monitors, controls, generates alarms and memorizes events.

ALARMS

High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip

OPTIONAL FEATURES

Normally OFF output, Output Circuit Breakers, Output Trip Alarm, RS232 communication port, 12 Hours Fast Recharge, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Variable Time Delay, Modem, Bypass Relays, Wall mount bracket

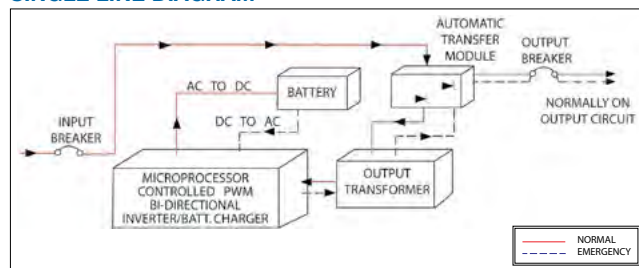
FACTORY START-UP

Includes one additional year of warranty. See warranty conditions.

WARRANTY

(full limited warranty conditions available upon request)
 Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 180 days from ship date in order to validate warranty.

SINGLE LINE DIAGRAM



Characteristics, specifications and dimensions subject to change without notice.



Emerg-Power Systems IPS

Single Phase Series

Features

- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard Normally Off and on output
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log
- 90 min. standard run time
- Generator compatibility
- Electronic and magnetic ballast compatible
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint (stackable cabinets)
- Maintenance free standard batteries
- Forced air cooling during emergency mode only

Electrical/Mechanical Characteristics⁴

UL listed to UL924. Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved.

(Data provided for standard Lead Calcium batteries)¹.

POWER RATING ¹ KVA= KW	EFFIC. AT FULL LOAD %	MAX. INPUT CURRENT (A)		HEAT LOSS IN NORMAL MODE (BTU/HR)	BATT. VDC	BATT. A	NO. OF BATT.	UPS CABINET DIMENSIONS			BATTERY CABINET DIMENSIONS ^{2,3}			NO. OF BATT CAB.	BATT. CAB. WEIGHT LBS (EMPTY)	UPS CAB. WEIGHT LBS	BATT. WEIGHT LBS	TOTAL SYSTEM WEIGHT LBS
		120V	277V					W"	H"	D"	W"	H"	D"					
1.5	98	16	7	102	48	39	4	30	47	25	NA	NA	NA	NA	NA	250 lbs	296 lbs	546 lbs
2.25	98	24	11	153	72	38	6	30	47	25	NA	NA	NA	NA	NA	265 lbs	444 lbs	709 lbs
3	98	32	14	204	96	38	8	30	47	25	NA	NA	NA	NA	NA	295 lbs	592 lbs	887 lbs
3.75	98	39	17	255	120	37	10	30	47	25	NA	NA	NA	NA	NA	305 lbs	740 lbs	1045 lbs
5	98	50	22	340	144	40	12	30	47	25	NA	NA	NA	NA	NA	315 lbs	888 lbs	1203 lbs
6	98	63	27	408	180	40	15	30	47	25	30	47	25	1	210 lbs	350 lbs	1110 lbs	1670 lbs
8	98	84	36	544	240	39	20	30	47	25	30	47	25	1	232 lbs	375 lbs	1480 lbs	2087 lbs
10	98	105	45	680	144	82	24	30	47	25	30	47	25	2	420 lbs	435 lbs	1776 lbs	2631 lbs
12.5	98	131	57	850	180	82	30	30	47	25	30	47	25	2	420 lbs	465 lbs	2220 lbs	3105 lbs
16.7	98	174	76	1136	240	80	40	30	47	25	30	47	25	2	464 lbs	530 lbs	2960 lbs	3954 lbs

¹ Consult factory for 20 year type batteries or for wet nickel cadmium batteries.

² Batteries are installed in the electronics cabinet for 1.5 to 5kVA systems

³ Battery cabinets are stackable. To be installed on the right side of the electronics cabinet

⁴ Special voltages or batteries may change the size, weight or number of cabinets

How to Order

INPUT VOLTAGE*	BATTERY TYPE	VA/W RATING	SYSTEM TYPE	OUTPUT VOLTAGE*	RUN TIME*	INPUT BREAKER	RS232 PORT	OUTPUT BREAKERS*	OPTIONS*
120 208 240 277	SG= Sealed Lead-Calcium NC= Wet Ni-Cd	1500 2250 3000 3750 5000 6000 8000 10000 12500 16700	-IPS	-120 -277 -208 -120/140 -120/277	-90	-ICB	-RS232	-OCBxxxx = no trip alarm* -OCAxxxx = with trip alarm*	-20Y= 20 yr sealed batteries -12HR= 12 hr fast recharge -MBYP= Internal bypass switch -EMBP= External bypass switch** -RMP= Remote metering panel -RSAP= Remote summary alarm panel -DCS= Dry summary alarm contacts -INVON= Inverter on dry contacts -VTD= Variable time delay -MOD= External modem -FAX= Fax modem -BPR= Bypass relays -DIAL= Autodialer -SEIS= Seismic mounting -ZONEM= Zone monitoring -BATM= Battery cycle warranty monitor
* Special voltages may change the size, weight or number of cabinets				* Special voltages may change the size, weight or number of cabinets				* Max. 12 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 137 for output breakers option details.	* See page 137 for options description. ** External bypass switch is not compatible with integrated output circuit breakers. Input/output voltage has to be the same.

Example: 277SG6000-IPS-277-90-ICB-RS232-OCB0420-DCS-20Y

TYPE: _____
 CATALOG #: _____
 NOTES: _____



Interruptible Emergency Lighting Inverter System 1.5Kva –16.7Kva

System Specifications

GENERAL

Design	Stand-by, PWM inverter type utilizing IGBT technology with 50ms transfer time.
Control	<ul style="list-style-type: none"> Microprocessor controlled, 2 x 20-character display with touch pad controls & functions 5 LED indicators & alarm with ring-back feature
Metering	Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, Temperature, Inverter Wattage
Communications	RS-232 port (DB9)

ELECTRICAL INPUT

Voltage	120 or 277VAC 1-phase 2-wire +10% - 15%. Contact factory for all other voltages
Input Power Walk-In	Limiting inrush current to less than 125%, 10 times for 1 line cycle
Input Frequency	60Hz, +/-3%, 50Hz available upon request
Protection	Input circuit breaker
Harmonic Distortion	<10%
Power Factor	0.5 lag/lead

ELECTRICAL OUTPUT

Voltage	120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.
Static Voltage	Load current change +/-2%, battery discharge +/-12.5%
Dynamic Voltage	+/-2% for +/-25% load step change +/-3% for a 50% load step change, recovery within 3 cycles
Harmonic Distortion	<3% THD for linear load
Output Frequency	60Hz +/- 0.05Hz during emergency mode
Load Power Factor	0.5 lag to 0.5 lead
Inverter Overload	115% for 10 minutes, 150% for 16 line cycles
Protection	Optional Distribution Circuit Breaker
Crest Factor	2.8

ENVIRONMENTAL CONDITIONS

Storage/Transport	<ul style="list-style-type: none"> -4°F to 158°F (-20°C to 70°C) without batteries 0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104° F (40° C))
Operating Temperature	System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68° F and 86° F (20°C to 30°C). Battery performance can be affected by temperature
Altitude	<10,000 feet (above sea level) without de-rating
Relative Humidity	0 to 95% non-condensing
Audible Noise	Audible noise 45 dBA @ 1m from surface in emergency mode

CABINETS

Modular design, freestanding NEMA Type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39" front clearance and 12" top clearance. Cabinets are stackable if required to further reduce the footprint. Top and left side conduit entry with knockouts.

INVERTER

Using IGBT/PWM technology the inverter converts DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

CHARGER

Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

BATTERY

System is provided standard with 10 year, maintenance free, sealed valve regulated, front terminals Lead-Calcium batteries. 20 year sealed Lead-Calcium or wet Nickel-Cadmium batteries also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

SELF-DIAGNOSTICS

Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily "watch" system functions as they occur and check on virtually any aspect of the system's operation. Standard RS232 diagnostic interface.

ALARMS

High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip

OPTIONAL FEATURES

Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Recharge, Internal/External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

FACTORY START-UP

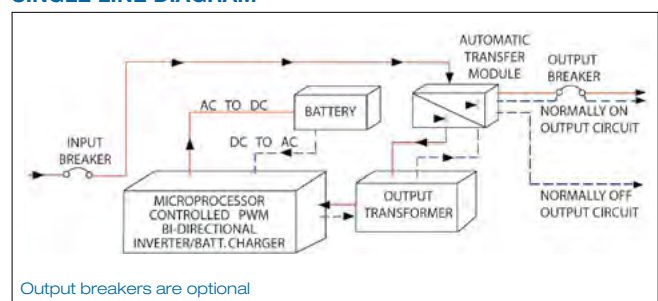
Includes one additional year of warranty. See warranty conditions.

WARRANTY

(full limited warranty conditions available upon request)
 Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty.

2-Consult factory for other type batteries than the standard one.

SINGLE LINE DIAGRAM



Characteristics, specifications or dimensions subject to change without notice.



Emerg-Power Systems

FTC Single Phase Series

Features

- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log
- 90 min. standard run time

- Generator compatibility
- Electronic and magnetic ballast compatible
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint (stackable cabinets)
- Maintenance free standard batteries
- Forced air cooling during emergency mode only

UL listed to UL924. Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved.

Electrical/Mechanical Characteristics⁴

(Data provided for standard Lead Calcium batteries)^{1,4}

POWER RATING ¹ KVA= KW	EFFIC. AT FULL LOAD %	MAX. INPUT CURRENT (A)		HEAT LOSS IN NORMAL MODE (BTU/HR)	BATT. VDC	BATT. A	NO. OF BATT.	UPS CABINET DIMENSIONS			BATTERY CABINET DIMENSIONS ^{2,3}			NO. OF BATT CAB.	BATT. CAB. WEIGHT LBS (EMPTY)	UPS CAB. WEIGHT LBS	BATT. WEIGHT LBS	TOTAL SYSTEM WEIGHT LBS
		120V	277V					W"	H"	D"	W"	H"	D"					
1.5	98	16	7	102	48	39	4	30	47	25	NA	NA	NA	NA	NA	250 lbs	296 lbs	546 lbs
2.25	98	24	11	153	72	38	6	30	47	25	NA	NA	NA	NA	NA	265 lbs	444 lbs	709 lbs
3	98	32	14	204	96	38	8	30	47	25	NA	NA	NA	NA	NA	295 lbs	592 lbs	887 lbs
3.75	98	39	17	255	120	37	10	30	47	25	NA	NA	NA	NA	NA	305 lbs	740 lbs	1045 lbs
5	98	50	22	340	144	40	12	30	47	25	NA	NA	NA	NA	NA	315 lbs	888 lbs	1203 lbs
6	98	63	27	408	180	40	15	30	47	25	30	47	25	1	210 lbs	350 lbs	1110 lbs	1670 lbs
8	98	84	36	544	240	39	20	30	47	25	30	47	25	1	232 lbs	375 lbs	1480 lbs	2087 lbs
10	98	105	45	680	144	82	24	30	47	25	30	47	25	2	420 lbs	435 lbs	1776 lbs	2631 lbs
12.5	98	131	57	850	180	82	30	30	47	25	30	47	25	2	420 lbs	465 lbs	2220 lbs	3105 lbs
16.7	98	174	76	1136	240	80	40	30	47	25	30	47	25	2	464 lbs	530 lbs	2960 lbs	3954 lbs

¹ Consult factory for 20 year type batteries or for wet nickel cadmium batteries.

² Batteries are installed in the electronics cabinet for 1.5 to 5KVA systems

³ Battery cabinets are stackable. To be installed on the right side of the electronics cabinet

⁴ Special voltages or batteries may change the size, weight or number of cabinets

How to Order

INPUT VOLTAGE*	BATTERY TYPE	VA/W RATING	SYSTEM TYPE	OUTPUT VOLTAGE*	RUN TIME*	INPUT BREAKER	RS232 PORT	OUTPUT BREAKERS*	OPTIONS*
120 208 240 277	SG= Sealed Lead-Calcium NC= Wet Nickel- Cadmium	1500 2250 3000 3750 5000 6000 8000 10000 12500 16700	-FTC	-120 -277 -208 -120/140 -120/277	-90	-ICB	-RS232	OCBxxxx= no trip alarm* OCAxxxx= with trip alarm*	-20Y= 20 yr sealed batteries -12HR= 12 hr fast recharge -MBYP= internal bypass switch -EMBP= external bypass switch** -RMP= remote metering panel -RSAP= remote summary alarm panel -DCS= dry summary alarm contacts -INVON= inverter on dry contacts -NOFF= normally OFF output*** -MOD= external modem -FAX= fax modem -BPR= bypass relays -DIAL= autodialer -SEIS= seismic mounting -ZONEM= zone monitoring -BATM= battery cycle warranty monitor
* Special voltages may change the size, weight or number of cabinets				* Special voltages may change the size, weight or number of cabinets	* Other run times available			* Max. 12 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 181 for output breakers option details.	* See page 137 for options description ** External bypass switch is not compatible with integrated output circuit breakers. Input/output voltage has to be the same. *** Normally off loads cannot exceed 20% of total KVA rating with any combination of H.I.D. loads

Example: 277SG6000-FTC-277-90-ICB-RS232-OCB0420-DCS-20Y

TYPE: _____
 CATALOG #: _____
 NOTES: _____



Uninterruptible Emergency Lighting Inverter System 1.5KVA –16.7KVA

System Specifications

GENERAL

Design	Stand-by, PWM inverter type utilizing IGBT technology with 2ms transfer time
Control	<ul style="list-style-type: none"> Microprocessor controlled, 2 x 20-character display with touch pad controls & functions 5 LED indicators & alarm with ring-back feature
Metering	Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, Temperature, Inverter Wattage
Communications	RS-232 port (DB9)

ELECTRICAL INPUT

Voltage	120 or 277VAC 1-phase 2-wire +10% - 15%. Contact factory for all other voltages
Input Power Walk-In	Limiting inrush current to less than 125%, 10 times for 1 line cycle
Input Frequency	60Hz, +/-3%, 50Hz available upon request
Protection	Input Circuit Breaker
Harmonic Distortion	<10%
Power Factor	0.5 lag/lead

ELECTRICAL OUTPUT

Voltage	120 or 277VAC 1-phase 2-wire. Contact factory for all other voltages.
Static Voltage	Load current change +/-2%, battery discharge +/-12.5%
Dynamic Voltage	+/-2% for +/-25% load step change +/-3% for a 50% load step change, recovery within 3 cycles
Harmonic Distortion	<3% THD for linear load
Output Frequency	60Hz +/- 0.05Hz during emergency mode
Load Power Factor	0.5 lag to 0.5 lead
Inverter Overload	115% for 10 minutes, 125% for 5 minutes, 150% for 12 cycles
Protection	Optional Distribution Circuit Breakers
Crest Factor	2.8

ENVIRONMENTAL CONDITIONS

Storage/Transport	<ul style="list-style-type: none"> -4°F to 158°F (-20°C to 70°C) without batteries 0°F to 104°F (-18°C to 40°C) with batteries (max. 3 months at 104° F (40° C))
Operating Temperature	System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68° F and 86°F (20°C to 30°C). Battery performance can be affected by temperature
Altitude	<10,000 feet (above sea level) without de-rating
Relative Humidity	0 to 95% non-condensing
Audible Noise	Audible noise 45 dBA @ 1m from surface in emergency mode

CABINETS

Modular design, freestanding NEMA Type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39" front clearance and 12" top clearance. Cabinets are stackable if required to further reduce the footprint. Top and left side conduit entry with knockouts.

INVERTER

Using IGBT/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles.

CHARGER

Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

BATTERY

System is provided standard with 10 year, maintenance free, sealed valve regulated, front terminals Lead Calcium batteries. 20 year sealed Lead Calcium or wet Nickel Cadmium batteries also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation required.

SELF-DIAGNOSTICS

Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, and a keypad to control and monitor the internal operation of the system. This control panel allows the operator to easily "watch" system functions as they occur and check on virtually any aspect of the system's operation. Standard RS232 diagnostic interface.

ALARMS

High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip

OPTIONAL FEATURES

Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Recharge, Internal/External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Normally OFF output, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

FACTORY START-UP

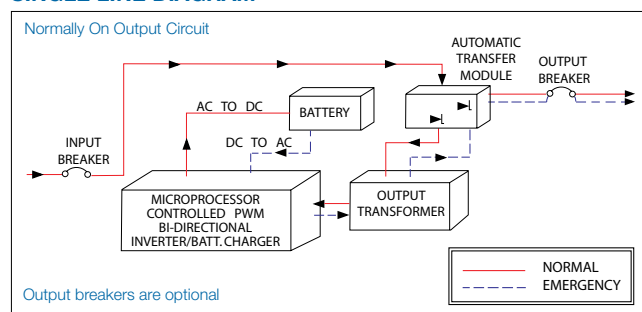
Includes one additional year of warranty. See warranty conditions.

WARRANTY

(full limited warranty conditions available upon request)
 Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty.

2-Consult factory for other type batteries than the standard one.

SINGLE LINE DIAGRAM





Emerg-Power Systems

3FTC Three Phase Series

Features

- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- User programmable with password protection
- Standard input circuit breaker
- Standard internal bypass switch
- RS232 communication port
- Micro-processor controlled
- Automatic event and alarm log

- 90 min. standard run time
- Generator compatibility
- Available in Y or Δ input configuration
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- Reduced footprint
- Maintenance free standard batteries
- Forced air cooling during emergency only

UL listed to UL924. Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved.

Electrical/Mechanical Characteristics⁴

(Data provided for standard Lead Calcium batteries)^{1,4}

POWER RATING ¹ KVA= KW	EFFIC. AT FULL LOAD %	MAX. INPUT CURRENT (A)		HEAT LOSS IN NORMAL MODE (BTU/HR)	BATT. VDC	BATT. A	NO. OF BATT.	UPS CABINET DIMENSIONS			BATTERY CABINET DIMENSIONS ³			NO. OF BATT CAB.	BATT. CAB. WEIGHT LBS (EMPTY)	UPS CAB. WEIGHT LBS	BATT. WEIGHT LBS	TOTAL SYSTEM WEIGHT LBS
		120V/ 208V	277V/ 480V					W"	H"	D"	W"	H"	D"					
4.8	98	17	7	326	144	39	12	30	47	25	30	47	25	1	NA	535	888	1633
6	98	21	9	408	180	39	15	30	47	25	30	47	25	1	NA	535	1110	1855
8	98	28	12	544	240	39	20	30	47	25	30	47	25	1	NA	535	1480	2247
10	98	35	15	680	144	81	24	30	47	25	30	47	25	2	NA	639	1776	2835
12.5	98	43	19	850	180	81	30	30	47	25	30	47	25	2	NA	639	2220	3279
16.7	98	58	25	1136	240	81	40	30	47	25	30	47	25	2	210 lbs	639	2960	4063
24	98	84	36	1632	240	117	60	48	72	31	48	72	31	1	232 lbs	1250	4440	6390
33	98	115	50	2244	240	160	40	48	72	31	48	72	31	2	420 lbs	1250	6080	8630
40	98	139	60	2720	240	194	100	48	72	31	48	72	31	2	420 lbs	1450	7400	10150
50	98	174	75	3400	240	243	60	48	72	31	48	72	31	2	464 lbs	1450	9120	11980

¹ Consult factory for 20 year type batteries or for wet Nickel-Cadmium batteries.

² KVA=KW

³ Battery cabinets up to 16.7KVA are stackable. To be installed on the right side of the electronics cabinet

⁴ Special voltages or batteries may change the size, weight or number of cabinets

How to Order

INPUT VOLTAGE*	BATTERY TYPE	VA/W RATING	SYSTEM TYPE	OUTPUT VOLTAGE*	RUN TIME*	INPUT BREAKER	RS232 PORT	INTERNAL BYPASS SWITCH	OUTPUT BREAKERS*	OPTIONS*
120/208 277/480	SG= Sealed Lead-Calcium NC= Wet Ni-Cd	4800 6000 8000 10000 12500 16700 24000 33000 40000 50000	-3FTC	120/208 277/480	90	ICB	RS232	MBYP	OCBxxxx= no trip alarm* OCAxxxx= with trip alarm*	-20Y= 20 yr sealed batteries -12HR= 12 hr fast recharge -NOFF= normally off output 1PH** -EMBP= external bypass switch*** -RMP= remote metering panel -RSAP= remote summary alarm panel -DCS= dry summary alarm contacts -INVON= inverter on dry contacts -NOFF3= normally OFF output 3PH** -MOD= external modem -FAX= fax modem -BPR= bypass relays -DIAL= autodialer -SEIS= seismic mounting -ZONEM= zone monitoring -BATM= battery cycle warranty monitor

* Special
voltages may
change the
size, weight
or number of
cabinets

* Special
voltages may
change the
size, weight
or number of
cabinets

* Other
run times
available

⁴ Max. 12
unsupervised single
pole positions or 8
with trip alarm, up to
16.7KVA systems.
24 unsupervised or
16 with trip alarm for
systems 24KVA to
50KVA.
For more output
breakers please
consult factory.
See page 137 for
output breakers option
details.

* See page 137 for options description
** External bypass switch is not compatible with
integrated output circuit breakers. Input/output
voltage has to be the same.
*** Normally off loads cannot exceed 20% of
total KVA rating with any combination of
H.I.D. loads

Example: 277SG6000-FTC-277-90-ICB-RS232-OCB0420-DCS-20Y

TYPE: _____
 CATALOG #: _____
 NOTES: _____



Uninterruptible Emergency Lighting Inverter System 4.8KVA – 50KVA



System Specifications

GENERAL

Design	Stand-by, PWM inverter type utilizing IGBT technology with 2ms transfer time
Control	<ul style="list-style-type: none"> Microprocessor controlled, 2 x 20-character display with touch pad controls & functions 5 LED indicators & alarm with ring-back feature
Metering	Input & Output Voltage, Battery Voltage, Battery & Output Current, Output VA, Temperature, Inverter Wattage
Communications	RS-232 port (DB9)

ELECTRICAL INPUT

Voltage	120/208 or 277/480 3 phase 4-wire +10% - 15%. Contact factory for all other voltages
Input Power Walk-In	Limiting inrush current to less than 125%, 10 times for 1 line cycle
Input Frequency	60Hz, +/-3%, 50Hz available upon request
Protection	Input Circuit Breaker
Harmonic Distortion	<10%
Power Factor	0.5 lag/lead

ELECTRICAL OUTPUT

Voltage	120/208 or 277/480VAC 3-phase 4-wire Contact factory for all other voltages.
Static Voltage	Load current change +/-4%, battery discharge +/-4%
Dynamic Voltage	+/-3% for +/-25% load step change +/-6% load step change, recovery within 3 cycles
Harmonic Distortion	<3% THD for linear load
Output Frequency	60Hz +/- 0.05Hz during emergency mode
Load Power Factor	0.5 lag to 0.5 lead
Inverter Overload	115% for 5 minutes, 125% for 10 minutes, 280% for line cycles
Protection	Optional Distribution Circuit Breakers
Crest Factor	2.8

ENVIRONMENTAL CONDITIONS

Storage/Transport	-4°F to 158°F (-20°C to 70°C) without batteries (max. 3 months at 104°F (40°C)) -0°F to 104°F (-18°C to 40°C) with batteries
Operating Temperature	System operates safely from 32°F to 104°F (0°C to 40°C) but optimum operation is between 68°F and 86°F (20°C to 30°C). Battery performance can be affected by temperature
Altitude	<10,000 feet (above sea level) without de-rating
Relative Humidity	0 to 95% non-condensing
Audible Noise	45 dBA @ 1m from surface in emergency mode

CABINETS

Modular design, freestanding NEMA Type 1 steel cabinets powder coated for corrosion and scratch resistance. Front access design through hinged lockable doors requires only 39" front clearance and 12" top clearance. Cabinets are stackable up to 16.7kVA, if required to further reduce the footprint. Top and left side conduit entry with knockouts up to 16.7kVA. Left side only for 24kVA and up.

INVERTER

Using IGBT/PWM technology the inverter converts the DC voltage supplied by the batteries to AC voltage of a precise stabilized amplitude and frequency, suitable for most sophisticated electrical equipment. True sinusoidal output waveform with very low distortion (less than 3% for linear loads). Overload capability of up to 150% for 12 line cycles

CHARGER

Fully automatic, temperature compensated, microprocessor controlled charger recharges fully discharged batteries in maximum 24 hours at nominal AC input voltage. AC input current limiting and over-voltage protection included.

BATTERY

System is provided standard with 10 year, maintenance free, sealed valve regulated, front terminals lead calcium batteries. 20 year sealed Lead Calcium or wet Nickel Cadmium batteries also available. 90 min. standard discharge time at full load under normal operating temperature. Low Voltage Disconnect protection included. No special ventilation or filters required

SUPERVISION

Automatic self tests consist of a 5-minute monthly and 90-minute annual function. The front-mounted control panel includes 5 LED indicators, a 2-line 20-character LCD display, a keypad to control and monitor the internal operation of the system. This allows the operator to easily "watch" system functions as they occur and check on virtually any aspect of the system's operation. Standard RS232 diagnostic interface.

ALARMS

High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery, Low Battery, Load Reduction Fault, Output Overload, High Ambient Temperature, Inverter Fault, Output Fault, Optional Output Circuit Breaker Trip.

OPTIONAL FEATURES

Output Circuit Breakers, Output Trip Alarms, 20 Years Sealed Batteries, 12 Hours Fast Recharge, External Maintenance Bypass Switch, Remote Meter Panel, Remote Summary Alarm Panel, Summary Alarm Dry Form C Contact, Inverter on Dry Contacts, Normally OFF output, Fax/Modem, Bypass Relays, Auto Dialer, Seismic Mounting.

FACTORY START-UP

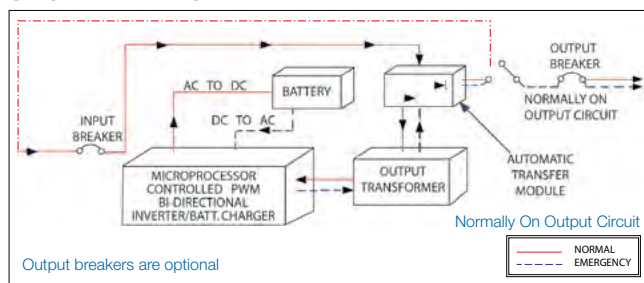
Includes one additional year of warranty. See warranty conditions.

WARRANTY

(full limited warranty conditions available upon request)
 Limited manufacturer warranty is one-year, parts and labor, for system electronics or two-year with factory start-up program. Battery warranty is one year full plus 9 years pro-rata for a total of 10 years, under normal operating conditions. System must be put in service within 6 months from ship date in order to validate warranty.

2- Consult factory for other type batteries than the standard one.

SINGLE LINE DIAGRAM



Characteristics, specifications or dimensions subject to change without notice.



Emerg-Power Systems FTC3R & 3FTC3R

Outdoor Uninterruptible Emergency Lighting Inverter System 3KVA-8KVA

TYPE: _____
CATALOG #: _____
NOTES: _____

Features

- 98% efficient at full load
- PWM/IGBT technology
- Self-testing/Self-diagnostic
- Standard input circuit breaker
- Standard internal bypass switch
- RS232 communication port
- Standard seismic zone 4 brackets
- Standard summary dry contacts
- Automatic event and alarm log
- NEMA 3R cabinet for outdoors
- 90 min. standard run time
- Generator compatibility
- Custom voltages available
- Automatic event, test and alarm log
- LCD display
- One size cabinet
- Maintenance free standard 5 year batteries
- Temperature controlled cooling fans

Electrical/Mechanical Characteristics^{3, 4}

UL listed to UL924. Meets NFPA101, NFPA70, NFPA 110, OSHA, UBC, SBCCI. N.Y City approved.

POWER RATING KVA= KW	EFFIC. AT FULL LOAD %	HEAT LOSS (BTU)	BATT. VDC	BATT. A	NO. OF BATT. ²	UPS CABINET DIMENSIONS			UPS CAB. WEIGHT LBS	BATT. CAB. WEIGHT LBS	TOTAL SYSTEM WEIGHT LBS
						W" ¹	H"	D"			
3 (1PH)	98	255	120	37	10	48	76	30	535 lbs	888 lbs	1633 lbs
4 (1PH)	98	340	144	40	12	48	76	30	535 lbs	1110 lbs	1855 lbs
5 (1PH)	98	408	180	40	15	48	76	30	535 lbs	1480 lbs	2247 lbs
6.5 (1PH)	98	544	240	39	20	48	76	30	639 lbs	1776 lbs	2835 lbs
8 (1PH)	98	680	144	82	24	48	76	30	639 lbs	2220 lbs	3279 lbs
4 (3PH)	98	326	144	39	12	48	76	30	639 lbs	2960 lbs	4063 lbs
5 (3PH)	98	408	180	39	15	48	76	30	1250 lbs	4440 lbs	6390 lbs
6.5 (3PH)	98	544	240	39	20	48	76	30	1250 lbs	6080 lbs	8630 lbs
8 (3PH)	98	680	144	81	24	48	76	30	1450 lbs	7400 lbs	10150 lbs

¹ Factory installed floor mount brackets; add 2.5" to each side (total 53")

² Standard batteries are 5 year life expectancy. Batteries are installed in the same cabinet with electronics

³ UL rated for 90 min. run time for temperatures: 50°F to 104°F (10°C to 40°C) or -4°F to 104°F (-20°C to 40°C) with optional heater

⁴ NEMA type 3R, freestanding, two-door powder coat cold rolled steel cabinet standard. Stainless steel enclosure is optional

How to Order

INPUT VOLTAGE*	BATTERY TYPE	VA/W RATING*	SYSTEM TYPE	OUTPUT VOLTAGE*	RUN TIME*	INPUT BREAKER	RS232 PORT	INTERNAL BYPASS SWITCH	OUTPUT BREAKERS*	OPTIONS*
120, 1PH 208, 1PH 240, 1PH 277, 1PH 120/208, 3PH 277/480, 3PH	SG= Sealed Lead-Calcium	3000 4000 5000 6500 8000	FTC3R= single phase 3FTC3R= 3 phase	120 208 277 120/208 277/480	90	ICB	RS232	MBYB	OCBxxxx= no trip alarm* OCAxxxx= with trip alarm*	10Y= 10 yr sealed batteries 12HR= 12 hr fast recharge NOFF= normally off output** EMBP= external bypass switch*** RMP= remote metering panel RSAP= remote summary alarm panel HTR= heater INVON= inverter on dry contacts MOD= external modem FAX= fax modem BPR= bypass relays SS= stainless steel enclosure
* 1PH are input voltages available for 1 phase systems. 3PH are input voltages available for 3phase systems.		* Not available in 3 phase version		* 1PH are input voltages available for 1 phase systems. 3PH are input voltages available for 3phase systems.	* Other run times available				* Max. 14 unsupervised single pole positions or 8 with trip alarm. For more output breakers please consult factory. See page 137 for output breakers option details.	* See page 137 for options description Summary alarm dry contacts and seismic brackets are standard. ** Normally off loads cannot exceed 20% of total KVA rating with any combination of H.I.D. loads *** Not available in 3 phase version.

Example: 120SG4000-FTC3R-120-90-ICB-RS232-MBYB-OCB0420-10Y

EMERG-POWER SYSTEMS

Option Details

INTEGRATED OUTPUT CIRCUIT BREAKERS:

-OCB	12	20			
Trip Alarm OCB - No Breaker Trip Alarm OCA - With Breaker Trip Alarm	Number of Circuit Breakers Combination of 1 pole, 2 pole and 3 pole breakers available. * For max. number of circuit breakers available please consult factory	Breaker Rating (Amps) * Various ratings available	Number of poles Blank - 1 pole -2P - 2 poles -3P - 3 poles	Breaker Voltage Blank- matches system output voltage -120VAC -208VAC -240VAC -277VAC -480VAC	Operation Mode Blank: Normally-On -NOFF: Normally-Off

Distribution circuit breakers are for output load protection. Protection for the normally on and/or for the normally off loads.

All circuit breakers are rated for 10,000 AIC.

If ordered, an audible and visual alarm activates when an output distribution circuit breaker is open or has tripped.

(-20YR) 20 YEAR SEALED LEAD CALCIUM BATTERIES

Maintenance free battery requires no addition of water over the life of the battery. The battery cells are housed in protective, modular steel trays. Life expectancy is designed for 20-years at 77°F (25°C).

(-12HR) 12 HOUR FAST RECHARGE

Battery charger upgrade option which decreases the time required to return a fully discharged battery to the fully charged state. The normal 24 hour recharge cycle is reduced to a 12 hour period.

(-MBYP) INTERNAL MAINTENANCE BYPASS SWITCH

Internally mounted device permits maintenance personnel to easily bypass the protected equipment directly to the AC utility power. The manual make before break switch isolates the system to perform routine maintenance or servicing without interruption of utility power to the connected load.

(-EMBP) EXTERNAL MAINTENANCE BYPASS SWITCH

The external maintenance bypass switch is mounted in a 20"H x 16"W x 9"D NEMA 1 separate enclosure, used to completely isolate the inverter system from the connected load and AC utility input. This option allows the system to be safely powered down for maintenance or service. The option may not be used on systems with more than one single pole output circuit breaker which must be sized for the total system output current.

(-RMP) REMOTE METER PANEL

The panel allows monitoring of parameters and control from remote locations up to 150 feet away from the inverter system. Also, the remote panel provides a complete touch pad interface allowing the user to monitor, control and program the inverter system.

(-RSAP) REMOTE SUMMARY ALARM PANEL

Wall mountable box provides visual and audible alarms with silent switch. The panel consists of LED indicators and built-in audible alarm and may be located up to 1,000 feet away from the inverter system.

(-DCS) SUMMARY ALARM DRY CONTACTS

Form C dry contacts for remote monitoring purposes. Rated at 5 amps max. (250VAC/30VDC), the contacts will change state when any of the following alarms: are tripped High/Low Battery Charger Voltage, High/Low AC Input Voltage, Near Low Battery Voltage, Low Battery Voltage, Load Reduction Fault, High Ambient Temperature, Inverter Fault, Output Fault, Output Overload or Optional circuit breaker.

(-INVON) INVERTER ON DRY CONTACTS

Form C dry contacts that will change state when the system transfers to battery operation

(-VTD) VARIABLE TIME DELAY (FOR NORMALLY OFF CIRCUITS)

After a return of AC utility power, delays retransfer of the inverter for up to 15 min. and continues to supply emergency power to the normally off circuits.

(-NOFF) NORMALLY OFF OUTPUT

This output circuit is dedicated for the "emergency only" equipment. Emergency only equipment operates during power outages and when the system is on battery back up. This option leaves the normally off load circuits off during normal utility power conditions. A 1-pole circuit breaker is provided. For 3 phase systems, 3 pole normally off circuits are available as well.

(-MOD) EXTERNAL MODEM

External modem device is designed to boost the signal level of the RS-232 diagnostic interface to remote monitoring locations located more than 100 feet away from the system.

(-FAX) INTERNAL FAX MODEM

The internal fax modem enables the system to send a fax automatically to several pre-programmed numbers when one of the following conditions occurs: utility failure, output failure or any alarm. The Fax Modem option requires a user supplied dedicated phone line.

(-BPR) BYPASS RELAYS

Internal bypass relays will allow overriding circuits that can be switched on/off, so in case of a power failure the emergency circuits will be supplied from the inverter system whatever the position of the switching device. Please consult factory for more details.

(-DIAL) AUTO DIALER

The Auto Dialer modem option automatically dials up to four user-programmable phone numbers in the event of any system alarm condition. The option is designed to deliver a predetermined digital or audible message when activated. The Auto Dialer option requires a user supplied dedicated digital or analog phone line.

(-SEIS) SEISMIC MOUNTING KIT

The seismic mounting kit option is designed to prevent system movement during seismic events. Heavy-duty brackets are provided to secure system cabinetry to floor surfaces. Meets Zone 4 requirements.

(-ZONEM) ZONE MONITORING

Allows voltage monitoring of different circuits than the standard AC utility input. When the voltage of one of these circuits drops, the inverter system will go into battery back-up operation mode. Number and voltage of the monitored circuits to be specified.

(-RS232) DIAGNOSTIC INTERFACE

A microprocessor-based data acquisition system designed to monitor all the system parameters remotely. Monitors alarm log, event log and automatic test log. User can command the system to perform a battery test and review all system parameters. Access is through a DB9 connector and transmits at 9600 baud.

(-BATM) BATTERY CYCLE WARRANTY MONITOR

Device providing battery monitoring at string level or cell level. Please consult factory for more details.

EMERG-POWER SYSTEMS

Control Panel & Display

Meter Functions

- AC Voltage Input
- AC Voltage Output
- AC Current output
- Battery Voltage
- Battery Current
- VA Output
- Inverter Watts
- Ambient Temperature
- System Days (cumulative)
- Inverter Minutes (cumulative)

Alarms

- High Battery Charger Voltage
- Low Battery Charger Voltage
- High AC Input Voltage
- Low AC Input Voltage
- Near Low Battery Voltage
- Low Battery Voltage
- Load Reduction Fault
- High Ambient Temperature
- Inverter Fault
- Output Fault
- Output Overload

Program Functions

- Set Date
- Set Time
- Set Monthly Test Date and Time
- Set Annual Test Date and Time
- Set Load Fault Reduction Setting
- Set Low Battery Alarm
- Set Near Low Battery Alarm
- Set Low AC Voltage Alarm
- Set High AC Alarm
- Set Ambient Temperature Alarm

Control Functions

- Test and Event Logs (75 logs stored) Logs record the following data: Date, Time, Duration, Output Voltage, Output Current, Ambient Temperature and Alarms Present.
- Alarm Logs (50 logs stored) Logs record the following data: Date, Time and Alarm type
- Buzzer On/Off (toggle)
- 5 LED Indicators and Alarms with Ringback Feature



System Testing

Manual tests of system may be performed at any time using the control panel test key. Automatic self-diagnostic tests consist of a 5-minute monthly and 90-minute annual function (the user can program the date and time of day the test is to take place). The microprocessor automatically records the last 75 test events in its own separate test result log.

EMERG-POWER SYSTEMS

Central Systems Request Data

1) Input voltage

Single phase	(2 wire + ground)	120VAC <input type="checkbox"/>	208VAC <input type="checkbox"/>	240VAC <input type="checkbox"/>	277VAC <input type="checkbox"/>
Three phase	(4 wire + ground, Y)	120/208VAC <input type="checkbox"/>	277/480VAC <input type="checkbox"/>	347/600VAC <input type="checkbox"/>	
Three phase	(3 wire + ground, Δ)	208VAC <input type="checkbox"/>	480VAC <input type="checkbox"/>	600VAC <input type="checkbox"/>	

2) Output voltage

Single phase	(2 wire + ground)	120VAC <input type="checkbox"/>	208VAC <input type="checkbox"/>	277VAC <input type="checkbox"/>
Single phase	(3 wire + ground)	120/240VAC <input type="checkbox"/>	120/277VAC <input type="checkbox"/>	
Three phase	(4 wire + ground, Y)	120/208VAC <input type="checkbox"/>	277/480VAC <input type="checkbox"/>	

3) System capacity

KVA rating: _____ System Series Type: _____

- a) Please consider power consumption and maximum current of the complete lamp fixture not just the lamp wattage (ie: ballasts consumption)
 b) Please consider loads power factor
 c) Even if the systems can run with 100% load, it is recommended as standard practice to use a system with a capacity at least 10% over maximum connected load

4) Type of loads

- ☐ Incandescent ☐ Fluorescent ☐ H.I.D (metal halide, high pressure sodium, etc.)
☐ Other _____

5) Mode of operation

- ☐ Normally ON (24/7) ☐ Normally OFF (emergency only) ☐ Switched loads ON/OFF ☐ LED

Please consider internal bypass relays or external override relays for switched On/Off loads.
 Each switched output circuit will require a bypass relay. Maximum 20 A per circuit.

6) Integrated output circuit breakers

# of CB _____	Amps _____	Voltage _____	# of poles _____	NON <input type="checkbox"/>	NOFF <input type="checkbox"/>	Trip alarm <input type="checkbox"/>
# of CB _____	Amps _____	Voltage _____	# of poles _____	NON <input type="checkbox"/>	NOFF <input type="checkbox"/>	Trip alarm <input type="checkbox"/>

7) Type of Batteries (check availability for each type system)

- ☐ 10 yr sealed lead calcium ☐ 20 yr sealed lead calcium ☐ wet nickel cadmium

8) Options (refer to available options for each system type)

- | | | |
|---|--|--|
| <input type="checkbox"/> (12HR-) 12 Hour Fast Recharge | <input type="checkbox"/> RS232- diagnostic interface | <input type="checkbox"/> ZONEM- zone monitoring |
| <input type="checkbox"/> MBYP- internal bypass switch | <input type="checkbox"/> NOFF – normally OFF output | <input type="checkbox"/> VTD- variable time delay |
| <input type="checkbox"/> EMBP- external bypass switch | <input type="checkbox"/> MOD- external modem | <input type="checkbox"/> BATM – battery cycle warranty monitor |
| <input type="checkbox"/> RMP- remote metering panel | <input type="checkbox"/> FAX- fax modem | |
| <input type="checkbox"/> RSAP- remote summary alarm panel | <input type="checkbox"/> BPR- bypass relays How many _____ | |
| <input type="checkbox"/> DCS- dry summary alarm contacts | <input type="checkbox"/> DIAL- auto-dialer | |
| <input type="checkbox"/> INVON- inverter on dry contacts | <input type="checkbox"/> SEIS- seismic mounting kit | |