

# ISI - 3UFT

## STAND-BY THREE PHASE AC SINE WAVE UNINTERRUPTIBLE CENTRAL SYSTEM

The Inverter Systems, Inc. ISI-3UFT provides a high efficiency three phase “stand-by” central AC emergency power system ideally suited for H.I.D., fluorescent and incandescent, and LED emergency lighting applications or other auxiliary loads that require a “fast transfer, no-break” voltage regulated and line conditioned power supply.

The ISI-3UFT demonstrates exceptional 98% operating efficiency by means of the fast “no-break” transfer circuit, providing considerable running cost savings over typical double conversion UPS systems. Available in a wide range of capacities and voltages, the ISI-3UFT is designed to provide up to 90 minutes of standby emergency power in accordance with the requirements of U.L. 924.

### OPERATION

The inverter is normally off and the commercial AC power continuously supplies the critical load. The inverter is normally off and the commercial AC power continuously supplies the critical load. The input converter (bi-directional transformer) derives power from the commercial AC power source and supplies to the inverter while simultaneously providing floating charge to the batteries.

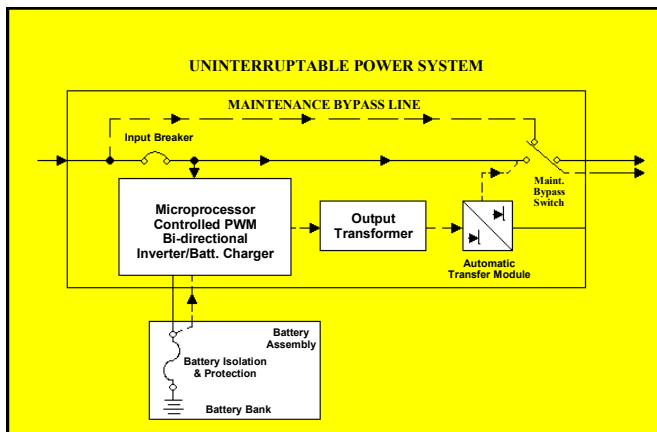
Upon failure of the commercial AC power the inverter instantaneously, with a maximum of a 2-millisecond break, switches its power supply from the input converter to the battery system. There shall be no loss of power to the critical load upon failure or restoration of the utility source.

An automatic low voltage cutoff circuit disengages the inverter system at the useful end of the battery capacity preventing deep discharge battery damage. Upon restoration of the utility supply the system automatically returns to the normal “standby” mode and restores the battery to full charge.



### STANDARD FEATURES:

- Available in standard capacities from 4.8kVA to 50 kVA.
- Modular design provides electronic assemblies mounted on removable modules for ease of maintenance
- 98% high-efficiency stand-by operation
- **COMPATIBLE WITH L.E.D. APPLICATIONS**
- Industry proven continuously on PWM inverter.
- Short-circuit protected with critical point fuses and breakers
- Digital metering indicates: input voltage, output voltage, output frequency, output current, battery voltage, battery current, VA output, inverter watts, ambient temperature, system day, inverter minutes
- System includes an internal manual maintenance bypass switch, used to power load direct from utility isolating the inverter system
- System test switch
- Comes standard with many alarm function, monitoring and diagnostic features
- Maintenance free sealed lead calcium batteries standard.
- Heavy gauge steel cabinets with filtered air louvers, key locks and removable hinged front opening doors for ease of access and maintenance
- Engineered for standard 90 minute emergency operation, (extended run times available)
- Suitable for extreme temperature from 20° to 30° C (continuous operation at high or low ambient temperatures may affect battery capacity and life; see battery warranty sheet for details)
- Input lighting protection meets IEEE/ANSI C62.45-45 (CAT A & B)
- Input current harmonic distortion 10% or less at full load
- Input circuit breaker rated at 22k AIC minimum
- Load power factor .5 lag to .5 leading
- Output distortion 3% THD linear load
- Front Battery Access
- U.L. 924 Listed



All specifications subject to change without notice.

[www.invertersystemsinc.com](http://www.invertersystemsinc.com)

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| ISI-UFT<br>Model Capacity<br>VA | Efficiency<br>@ full load | Heat<br>Loss<br>BTU's | Inverter Cabinet<br>Dimensions (inches) |          |          | Weight<br>(lbs.) | Battery Cabinet<br>Dimensions (inches) |          |          | # Batt.<br>Cabinets<br>Required | Weight of<br>add'l Batt.<br>Cabinets<br>(lbs.) | Total system<br>shipping<br>weight<br>(lbs.) |
|---------------------------------|---------------------------|-----------------------|---|----------|----------|------------------|--|----------|----------|---------------------------------|--|--|
|                                 |                           |                       | W<br>(A)                                | H<br>(B) | D<br>(C) |                  | W<br>(D)                               | H<br>(E) | D<br>(F) |                                 |  |  |
| ISI-3UFT-4800                   | 98%                       | 326                   | 30                                      | 47       | 25       | 535              | 30                                     | 47       | 25       | 1                               | 210  | 1633   |
| ISI-3UFT-6000                   | 98%                       | 408                   | 30                                      | 47       | 25       | 535              | 30                                     | 47       | 25       | 1                               | 210  | 1855   |
| ISI-3UFT-8000                   | 98%                       | 544                   | 30                                      | 47       | 25       | 535              | 30                                     | 47       | 25       | 1                               | 232  | 2247   |
| ISI-3UFT-10,000                 | 98%                       | 680                   | 30                                      | 47       | 25       | 639              | 30                                     | 47       | 25       | 1                               | 420  | 2835   |
| ISI-3UFT-12,500                 | 98%                       | 860                   | 30                                      | 47       | 25       | 639              | 30                                     | 47       | 25       | 2                               | 420  | 3279   |
| ISI-3UFT-16,700                 | 98%                       | 1136                  | 30                                      | 47       | 25       | 639              | 30                                     | 47       | 25       | 2                               | 464  | 4063   |
| ISI-3UFT-24,000                 | 98%                       | 1632                  | 44                                      | 72       | 31       | 1250             | 48                                     | 72       | 31       | 1                               | 700  | 6390   |
| ISI-3UFT-33,000                 | 98%                       | 2244                  | 44                                      | 72       | 31       | 1250             | 48                                     | 72       | 31       | 2                               | 1300   | 8630   |
| ISI-3UFT-40,000                 | 98%                       | 2720                  | 44                                      | 72       | 31       | 1450             | 48                                     | 72       | 31       | 2                               | 1300   | 10,160                                       |
| ISI-3UFT-50,000                 | 98%                       | 3400                  | 44                                      | 72       | 31       | 1450             | 48                                     | 72       | 31       | 2                               | 1400   | 11,980                                       |

## SPECIFICATIONS:

- The emergency lighting inverter system shall be a stand-by no-break system suitable for sustaining and operating H.I.D., fluorescent and incandescent lamps, and LED's in the event of a power outage for a minimum 90 minutes duration at the rated load and be listed and labeled to U.L. 924.
- The entire system shall be of a modular construction with removable electronic modules for ease of installation and maintenance. Cabinets shall be constructed of code gauge steel with removable key locked hinged doors finished in an acid resistant enamel with a modified vinyl undercoat.
- The inverter shall be a standby UPS. PWM inverter type utilizing IGBT technology with 2mS transfer time.
- The AC input voltage shall be (120/208 or 277/480V three phase four wire plus ground).
- The output voltage shall be provided as a) 120/208 or 277/480V three phase, four wire **normally on**, or b) 120 or 277V single phase, two wire or mixed 120V @ (specify) VA, 277V @ (specify) VA **normally off**. The output frequency shall be 60HZ ±0.05HZ for all loads.
- The system shall reliably handle from .5 leading to .5 lagging power factor. The output voltage regulation shall be ±3% or better from 0% to 100% of rated load. The system's output shall be capable of 125% overload for 5 minutes. Harmonic distortion <10% total or 3% any single harmonic.
- The battery charger, in the standard configuration shall convert AC voltage to DC voltage. With commercial power present, the inverter power transformer is powered and the IGBT modules are microprocessor controlled to recharge the batteries. The temperature compensated battery charger circuit supplies constant voltage and constant current to the batteries. Once the batteries have received full recharge, a constant trickle charge maintains batteries at maximum level. Recharge time is 24 hours maximum at nominal AC input voltage. The AC ripple current of the DC output meets the battery manufacturer specification, ensuring maximum life.
- The system's batteries shall be of the sealed maintenance free lead acid or wet vented nickel cadmium type.
- Options: Refer to Option Selection Chart for descriptions and nomenclature. Popular options are: Start-up Service, Output Circuit Breakers, Maintenance Bypass Switch, Output Trip Alarms
- The system shall be an Inverter Systems model No. \_\_\_\_\_ as manufactured for and warranted by Inverter Systems, Inc. (for copy of detailed specification format - consult factory)

## ORDERING GUIDE:

When ordering an ISI-3UFT from Inverter Systems, Inc., use:

ISI-3UFT - 16,700- 277/480 - 277/480 - C(4) - SB - OPTIONS  
1 2 3 4 5 6 7

- Model Series** ISI-3UFT  
4800 to 50,000
- Volt Amp (VA) Rating**  
Select required capacity in volt amps from model tables above
- Input Voltage**  
120/208 Volt 4 wire plus ground 120/208  
277/480 Volt 4 wire plus ground 277/480  
Other voltages (specify) ( )
- Output Voltage**  
120/208 Volt 4 wire plus ground 120/208  
277/480 Volt 4 wire plus ground 277/480  
Other voltages (specify) ( )
- Output Circuit Breakers**  
Specify number of output circuit breakers (maximum 12 per system, unmonitored) C( )
- Battery Type**  
Maintenance free sealed lead acid SB  
Wet nickel cadmium NC
- Options**  
Start-up Service SUS  
Output Trip Alarm OTA( )  
Summary Dry Contacts (Form "C") DCS  
Status Monitoring Contacts SMC  
Inverter On/On Utility/On Battery Dry Contacts I.ON  
External Maintenance Bypass Switch XMBYP  
Seismic Strapping SEIS  
BACNET (MSTP Only) BAC

## WARRANTY:

### Electronics Assembly

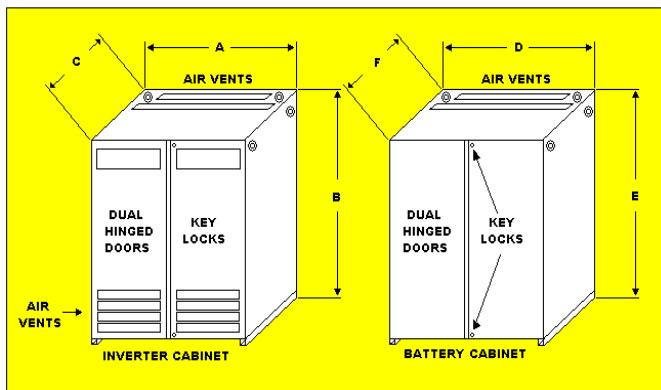
Inverter Systems, Inc. warrants the ISI-3UFT electronics assembly (except batteries) against defects in material and workmanship for a period of one year from date of shipment. Inverter Systems, Inc. will either repair or replace any properly installed ISI-3UFT system which fails under normal operating conditions provided that it is returned to the factory, transportation prepaid, and our inspection determines it to be defective under the terms of this warranty.

The warranty covers only equipment other than batteries manufactured by Inverter Systems, Inc. and does not extend to transportation, installation or replacement charges, nor does it apply to any other equipment of another manufacturer used in conjunction with ISI equipment. No other warranty expressed or implied exists beyond that included in this statement.

\*TWO YEAR WARRANTY WHEN START-UP SERVICE IS PURCHASED

### Battery Warranty

Sealed lead calcium batteries carry a 1 year full, 9 year pro-rated limited warranty. Wet nickel cadmium batteries carry a 1 year full, 10 year pro-rated limited warranty. Important note: Battery warranty is limited to certain environmental, operational and installation limitations (refer to detailed Battery Warranty Terms and Conditions).



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