

The Tucson MICRO Inverter is a single phase, stand-by, solid state lighting (SSL) inverter system. The small cabinet size of the Tucson MICRO Inverter adds flexibility in installation location as it can be installed at the fixture or hundreds of feet away. The Tucson MICRO Inverter is designed to function in conjunction with the existing building electrical system to provide back-up power protection and distribution for lighting loads and other critical loads in the event of utility power failure. Connected fixtures are powered at full lumen output in emergency mode, thus providing greater safety to an occupant with brighter illumination for a clear path of egress in the event of a power failure.

Model: \_\_\_\_\_ Date: \_\_\_\_\_  
Accessories: \_\_\_\_\_  
Job Name: \_\_\_\_\_ Type: \_\_\_\_\_

Capacity: 32 and 55 watts in lead calcium; 20 and 35 watts in NiCad  
Input Voltage: 120 or 277VAC  
Input Voltage Range: ±10%  
Input Frequency Range: 60Hz, ±2%  
Output Voltage: 120 or 277VAC  
Output Voltage Regulation: ±5% in battery discharge mode, 0-100% linear load  
Output Frequency Range: 60Hz, ±3% during emergency cycle  
Output Distortion: Less than 3% THD (linear load)  
Input Protection: Provided by service panel, rated at 20A max  
Output Protection: Inverter fuses  
Battery: Sealed lead calcium (32 and 55 watt) / NiCad (20 and 35 watt)  
Recharge Current: Conforms to UL 924 standards  
Efficiency: Offline inverter with online efficiency of 98% at 100% linear load  
Listing: UL 924 listed; meets NFPA life safety Code101, OSHA, NEC, state and local codes. Optional T-Grid models are plenum rated  
Operating Temperature: 20°C to 30°C (68°F to 86°F)  
Altitude: < 10,000 feet (3,000m) above sea level  
Humidity: 95%, Non-condensing  
Monitoring: LED monitoring display panel providing system operational information  
Transfer Time: Less than 1 second  
Mounting: Surface mount (standard) also available in Recessed or T-Grid mounting



**ORDERING INFORMATION** Example: TUC-MC-35N-T

Series	Model (Capacity) <sup>1</sup>	Options
TUC-MC	32 = 32 Watts/VA, Lead Calcium	R = Recessed Mounting
	55 = 55 Watts/VA, Lead Calcium	T = Plenum Rated Ceiling T-Grid Mounting
	20N = 20 Watts/VA, NiCad	CC <sup>2</sup> = Custom Housing Color
	35N = 35 Watts/VA, NiCad	RTS = Remote Test Switch

**Notes**

<sup>1</sup> Input Voltage must be the same as output voltage

<sup>2</sup> Consult factory for details

Series	Capacity (90 min) Watts/VA	Battery Type	Power Consumption	Battery Voltage (VDC)	DC Input Current (A dc)	AC Input Current		Thermal Output (BTU)		Temperature Range (°F)	Weight (LBS)*
						120VAC (Max)	277VAC (Max)	Standby	Emergency		
Tucson Micro Inverter	32	Lead Calcium	9W	12	3.4	0.34A	0.15A	7	32	68° - 86°	14
	55	Lead Calcium	9W	12	5.7	0.54A	0.23A	7	47	68° - 86°	18
	20	NiCad	9W	12	2.1	0.25A	0.11A	31	22	32° - 122°	11
	35	NiCad	9W	12	3.8	0.37A	0.16A	31	35	32° - 122°	12

\*System weight includes installed batteries

## INPUT

### AC Input Characteristics:

- 120 or 277VAC ± 10%
- Input Frequency: 60Hz
- Input Protection: Provided by service panel, rated 20A max

## OUTPUT

### AC Output Characteristics:

- 120 or 277VAC
- Frequency: 60Hz (±0.3Hz during emergency cycle)
- Efficiency: Stand-by design is 98% efficient at 100% linear load
- Voltage Regulation: ±5% during battery discharge, 0-100% linear load
- Voltage Distortion: Less than 3% total THD at 100% linear loads
- True sine wave output for more load compatibility
- Soft start design reduces fixture inrush current
- Less than 1.0 second transfer time
- Load power factor range: 0.44 Lead to .044 Lag

## BATTERIES

The Tucson MICRO Inverter employs either a maintenance-free lead calcium (10 year life) or premium grade nickel cadmium (15 year life) heavy-duty industrial battery system with 12VDC, designed for auxiliary power service.

- Battery Protection: Low voltage battery disconnect protects the battery from being severely damaged by deep discharges during prolonged power failures. The Tucson MICRO Inverter is equipped with a DC input fuse which provides protection from DC overload and short circuit. Reverse battery protection included
- Runtime: 90 minutes standard based on battery performance range between 20°C and 30°C (68°F and 86°F)

## CHARGER

Consists of a fully automatic, temperature compensated, dual mode charger with a power consumption of 9W.

- Controls: Manual test switch, AC-On, Charge-On, and Inverter-On LED indicator lights provide visual indication of unit readiness
- 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

## LAMPS AND LOADS

- Pure sine wave output for all types of lamps
- Emergency power provides FULL LIGHT OUTPUT from all lamps and fixtures for the entire 90 minute runtime
- Ideal for powering incandescent, fluorescent and LED fixtures
- Compatible with LED drivers and fluorescent ballasts
- Compatible with dimming drivers and ballasts
- Emergency fixtures can be on, off, switched or timed

## CABINET

- Space saving small footprint with several mounting options available
- Enclosure: The Tucson MICRO Inverter is constructed with heavy duty steel with a white powder coated finish providing scratch and corrosion resistance. Optional special color paint (option CC) finishes are available upon request, please consult factory for details
- The Tucson MICRO Inverter is available with several different mountings for ease of installation:
  - Surface mount (standard): Designed for mounting to wall by means of keyhole slots provided in the back of the unit housing
  - Recessed mount (option R): Provides recessed mounting holes on both sides of the enclosure
  - T-Grid mount (option T): Housing design allows a simple drop-in installation between t-grid runs. Safety wires (supplied by others) are required for attachment to building

## INSTALLATION

- Small footprint and different mounting options allow easy installation in several convenient locations
- Units may be installed up to 1,000 feet maximum from controlled fixture(s)
- Provisions for local switching capability (switches to ON position during emergency conditions regardless of local switch position)
- The Tucson MICRO Inverter shall operate under the following environmental conditions:
  - Operation temperatures from 20° to 30°C (68°F to 86°F) for optimum system performance. Temperatures outside this range can effect battery performance and life
  - Relative humidity (operating and storage): 95% non-condensing
  - Barometric pressure of up to 10,000 feet above sea level without de-rating

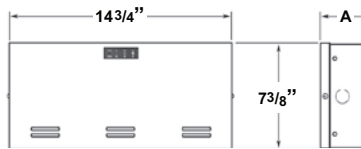
## DELIVERY, STORAGE, AND HANDLING

- All products shall be packaged in a manner to prevent penetration by debris and to allow safe delivery by all modes of ground transportation and air transportation where specified
- Prior to shipping all products shall be inspected at the factory for damage
- Equipment shall be protected against extreme temperature and humidity and shall be stored in a conditioned or protected environment
- Equipment containing batteries shall not be stored for a period exceeding three months without powering up the equipment for a period of eight hours to recharge the batteries

## WARRANTY

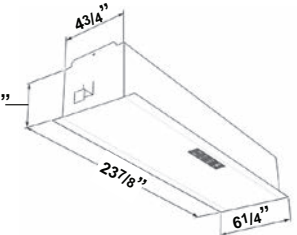
- 3 year full warranty against defects in materials and workmanship (excluding lamps)
- Battery warranty: Maintenance-free, lead calcium battery: 3 year full warranty, 7 years pro-rated
- Nickel-cadmium (NiCad) battery: 5 year full warranty, 7 years pro-rated

### Surface Mount Housings



Models	Depth Dimension "A"
TUC-MC-20N, 32	3 1/8"
TUC-MC-35N, 55	4 3/8"

### Ceiling T-Grid Mount Housing



### Recessed Mount Housing

