

UniStar® III Series

1, 2, & 3kVA
Tower Model

The UniStar® III is a sophisticated yet affordable single phase, double conversion UPS system. It offers on-line technology and a wide input-voltage range to provide a constant clean, steady sinewave to protect equipment, even without going to battery mode. It can instantly switch to battery, and its battery management system and easy, swappable battery packs make maintenance trouble free.



**On-line,
Single-phase
UPS System**

Full
Three Year
Warranty

**STACO
ENERGY**
PRODUCTS CO.
Your tailored power solutions provider

UniStar® III Series On-line, Single-phase UPS System

Precision Power Conditioning

- Tight Voltage Regulation
- Frequency Isolation
- Good Harmonic Reduction
- Unity Power Factor Input,
with .5 Lagging to Unity
- Short Circuit Protection
- Transient Protection
- Compact and lightweight



With true on-line performance and economically packaged with features our customers expect, the UniStar® III Tower is tailor-made for a wide variety of applications to protect sensitive equipment.

Three Year Warranty

Electronics:

A full **Three Year** parts with depot repair or replacement warranty is standard.

Battery:

A full **One Year Warranty**, 4-year pro-rated, on the Battery System ensures that your batteries are protected from system failure now and in the future. *(Warranty provided by battery manufacturer.)*

Extended warranties, customized service plans and preventative maintenance are also available. *Please refer to our warranty statement for complete details.*

UniStar® III Series Tower Model



Applications

- Broadcast
- Computer Networks
- Retail
- Robotics
- Printing
- Medical/Pharmaceuticals
- Paper Production
- Food Processing

Features at a Glance

- Unity Input Power Factor for maximum efficiency
- Easy Maintenance and Swappable Battery
- Smart Battery Management
- Matching Battery Cabinets
- Complete Circuitry Protection
- Optional Automatic and Manual Bypass for Maintenance

Microprocessor Control

The UniStar®III's advanced microprocessor control gives you greater reliability, functionality and smaller size than other designs. The systems feature high overload handling without transfer to the bypass. You are also protected in case of short circuit or over-temperature conditions.

Easy Plug and Play Design

The UniStar®III is easy to install. Units up to 2kVA come standard with input cables and IEC output cables, so all you have to do is plug the unit into your utility power and plug the equipment you want protected into the back of the unit. Turn it on and you're done! Every UniStar®III unit automatically senses the operating frequency, and adjusts accordingly.

User Friendly Control Panel

The user friendly display clearly communicates the UPS status, and makes diagnostics a trouble free task. LED display panel provides indication and faults for such functions as utility, low battery, overload, along with a "push to test" feature. The UniStar®III allows for easy control and shutdown during a blackout, plus will let you remotely perform diagnostics with standard software.

Communications

The UniStar®III comes standard with shutdown software. The software gives you control of the UPS, and allows a graceful shutdown when the utility power fails, and gives you the ability to:

- Remotely test major operating functions of the UPS
- Communicate via SNMP/web/network (with adapter card)
- Access UPS functions via the web
- Receive SMS alerts when specific events occur

A standard RS232 interface or optional USB interface allow you to communicate with the UPS through a network or computer. The standard software is compatible with Novell NetWare, Windows 95/98, Windows NT, Windows XP, or other Windows operations, Linux, and Free BSD.

The UniStar®III also has SNMP adaptability through an optional SNMP card. Optional AS/400 or True Relay Interface cards also give the ability to remotely monitor the UPS using a variety of computing platforms.

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Communications Options

True Relay Card (P/N: SC-RELAY)

A 10-pin terminal is supported to offer the signals of Bypass, Utility Normal/Failure, Inverter On, Battery Low, Battery Bad, UPS Alarm, and UPS Shutdown.

AS/400 Card (P/N: SC-OPTO)

A DB9 port is supported to offer the signals of Bypass, Utility Normal/Failure, Inverter On, Battery Low, and UPS Shutdown.

WEB/SNMP Card (P/N: SC-SNMP1)

Integrates multi-network communication protocols to enable comprehensive, easy-to-understand and secure remote monitoring and management of the UPS via the Internet.

USB Card (P/N: SC-USB)

To provide an alternative USB communication port.

Batteries

Batteries are the most expensive component of a UPS system. Protect them and extend their life with the Smart Battery Management System (SBMS). SBMS continuously monitors battery status and recharges whenever necessary, so you have worry-free battery power.

Hot swappable batteries allow you to easily change batteries without shutting the UPS down. Matching battery cabinets make your UniStar® III look great and allow you easy battery access.

Battery Run Time Reference

| UPS Size | Watt Charger | Part Number | Quantity Cabinets | 25% Load | 50% Load | 75% Load | 100% Load |
|----------|--------------|-------------------|-------------------|----------|----------|----------|-----------|
| 1 kVA | Internal | Internal | 0 | 45 | 18 | 10 | 7 |
| | N/A | SC-BP1000-00903NT | 1 | 280 | 120 | 70 | 49 |
| | N/A | SC-BP1000-00903NT | 2 | 550 | 238 | 143 | 100 |
| | N/A | SC-BP1000-00903NT | 3 | 840 | 365 | 225 | 155 |
| | N/A | SC-BP1000-00903NT | 4 | 1150 | 505 | 400 | 215 |
| 2kVA | Internal | Internal | 0 | 45 | 18 | 10 | 7 |
| | N/A | SC-BP2000-01803NT | 1 | 280 | 120 | 70 | 49 |
| | N/A | SC-BP2000-01803NT | 2 | 550 | 238 | 143 | 100 |
| | N/A | SC-BP2000-01803NT | 3 | 840 | 368 | 225 | 155 |
| | N/A | SC-BP2000-01803NT | 4 | 1150 | 525 | 310 | 215 |
| 3kVA | Internal | Internal | 0 | 40 | 16 | 9 | 6 |
| | N/A | SC-BP3000-01602NT | 1 | 170 | 70 | 40 | 25 |
| | N/A | SC-BP3000-01602NT | 2 | 320 | 135 | 80 | 40 |
| | N/A | SC-BP3000-01602NT | 3 | 480 | 205 | 125 | 85 |
| | N/A | SC-BP3000-01602NT | 4 | 650 | 280 | 170 | 120 |
| | 200 | SC-BP3000-23204CT | 1 | 320 | 135 | 80 | 55 |
| | 200 | SC-BP3000-23204CT | 2 | 650 | 280 | 170 | 120 |
| | 200 | SC-BP3000-23204CT | 3 | 1005 | 440 | 270 | 190 |
| | 200 | SC-BP3000-23204CT | 4 | 1375 | 605 | 370 | 260 |

Physical Data

| Model | Part Number | Dimensions, Inches H x W x D (mm) | Wt. lbs (kg) | Input Power Cord (6') | Output Receptacles |
|----------------|-------------|-------------------------------------|--------------|-----------------------|------------------------|
| 1 kVA, 120 Vac | SC10001T | 9.2 x 5.8 x 15.8 (233 x 147 x 401) | 33 (15) | 5-15P | 4 ea 5-15R |
| 2 kVA, 120 Vac | SC20001T | 14.4 x 5.2 x 18.9 (365 x 130 x 479) | 60 (28) | 5-20P | 4 ea 5-15R, 2 ea 5-20R |
| 3 kVA, 120 Vac | SC30001T | 14.4 x 7.5 x 17.9 (365 x 190 x 453) | 79 (33) | L5-30P | 6 ea 5-15R, 2 ea 5-20R |
| 1 kVA, 230 Vac | SC10002T | 9.2 x 5.8 x 15.8 (233 x 147 x 401) | 33 (15) | 10A IEC320-C14 | 4 ea 10A IEC320-C13 |
| 2 kVA, 230 Vac | SC20002T | 14.4 x 5.2 x 18.9 (365 x 130 x 479) | 60 (28) | 10A IEC320-C14 | 6 ea 10A IEC320-C13 |
| 3 kVA, 230 Vac | SC30002T | 14.4 x 7.5 x 17.9 (365 x 190 x 453) | 79 (33) | 16A IEC320-C20 | 6 ea 10A IEC320-C13 |

UniStar® III 1kVA, 2kVA & 3kVA

| Model | 1,000 VA | 2,000 VA | 3,000 VA |
|---------------------------|---|--------------|--------------|
| INPUT | | | |
| Voltage (Vac) | 80 - 140 or 160 - 280 | | |
| Frequency | 50/60 +/- 5% (auto sensing) | | |
| Phase | Single | | |
| Input Power Factor | >.98 (full load) | | |
| OUTPUT | | | |
| Voltage (VAC) | 120 or 240 Vac Consult factory for 100/110 or 220/230 voltages, available through factory software. | | |
| Capacity (VA/W) | 1000VA/700W | 2000VA/1400W | 3000VA/2100W |
| Rated Power Factor | 0.7 lagging | | |
| Load Power Factor Range | 0.5 lagging to unity within kW rating of unit | | |
| Wave Form | Sine wave, THD <3% (no load to full load) | | |
| Voltage Regulation | +/- 2% | | |
| Transient Response (ms) | +/- 4% under full load, change and corrected within 60 ms | | |
| Frequency Stability | +/- 5% Hz (free running) | | |
| Synchronization | Slew Rate: 1 Hz/sec. max. synchronizing window +/-5% | | |
| Transfer Time | 0 ms | | |
| Crest Factor | 3:1 | | |
| Run-time (Full Load) | >7 min. | >7 min. | >6 min. |
| DC Start | Yes | | |
| DISPLAY | | | |
| LED Indicators | Utility, Battery low, Inverter, Bypass, Test OK, Overload fault, Load/Battery level, and Fault Conditions | | |
| Self Diagnostics | On-demand push button | | |
| ALARMS | | | |
| Audible and Visual | Line failure, Battery low, Transfer to bypass, Overload, System fault conditions | | |
| ENVIRONMENTAL | | | |
| Operating Temperature | 0° C - 40° C | | |
| Altitude | 0 - 2,000 m up to 40° C. 3,000 m up to 35° C. | | |
| Humidity | 90% RH maximum, non-condensing | | |
| Noise | < 45 dB at 1 meter | | |
| SAFETY CONFORMANCE | | | |
| Quality Assurance | ISO 9001:2000 certified company | | |
| Safety and Performance | UL, c-UL, CE, FCC class A, EN500091-1, UL1778, EN500091-2, EN61000-3-2, EN61000-3-3, EN62040-2, EN61000-3-2 | | |
| BATTERY | | | |
| Type | Sealed lead acid maintenance free 12 Vdc 7.2 AHr | | |
| Quantity per string (pcs) | 3 | 6 | 8 |
| Voltage (VDC) | 36 | 72 | 96 |
| Recharge Time | 8 hours to 90% | | |
| Optional Charger | 200W for extended backup applications, reference battery run chart on previous page | | |

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About Staco Energy Products Company

Since 1937, customers worldwide have been relying on Staco Energy Products Company to deliver voltage control and power quality solutions tailored to their needs.

As a leading power quality resource, we offer our customers world-class support; from our thorough applications assessment, to our ability to design and deliver a solution that is tailored to the specific needs of our customers; through delivery and commissioning.

Our professional, factory trained service team is in place to ensure that our customers' revenues are protected, and their investment provides them with many years of trouble free operation.

Staco develops total power solutions for OEM and end user applications.

In addition to the UniStar® III we offer a wide array of power quality products, including:

- **Uninterruptible Power Supplies**
- **Power Conditioners**
- **Voltage Regulators**
- **Power Factor Correction and Harmonic Mitigation**
- **Active Harmonic Filters**
- **Variable Transformers**
- **Custom Engineered Test Sets**



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