

# STACO ENERGY<sup>®</sup> PRODUCTS CO.

## UNI STAR<sup>®</sup> VP Series

**6 and 10 kVA Rack Mount**

### On-line, Single-phase Parallel Redundant UPS System

- Power range and runtime scalability
- Full-time Digital Signal Processor Control
- LCD/LED mimic panel
- Easy-to-set user personalization
- Up to 98% energy efficiency
- Continuous power conditioning, even when not running on battery
- Smooth, uninterrupted switching from utility power to battery mode, and back again
- Wide fluctuations in utility power are handled without going to battery
- Parallel up to three units for added capacity or redundancy, using a simple connection on the rear panel without additional cabinet
- Unlike most UPSs in this size range, the UniStar<sup>®</sup> VP has a very low rate of added and reflected harmonics, which protects the integrity of your entire electrical system



Full Three Year  
Warranty

# Parallelable UPS



## UNI STAR VP

### Proven Technology

Higher reliability and greater immunity from power anomalies is achieved through our field-proven Digital Signal Processor architecture. The front panel controls are intuitive and user friendly. The system display clearly communicates all major system parameters, system status, and system diagnostics, and includes access to system information and unit personalization via the front panel.

### Simple Parallel Installation

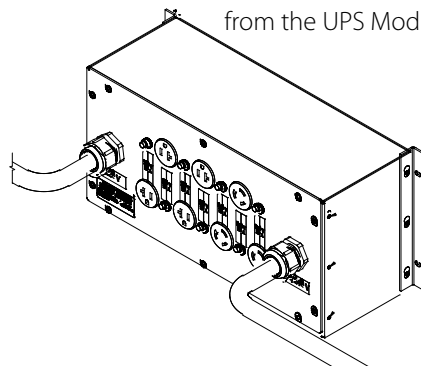
For increasing power capacity, or making redundant systems, the UniStar<sup>®</sup>VP can be installed in parallel. By simply connecting the parallel control lines through an RJ-45 connector on the rear panel and CAN-bus, communication is established to all units. Up to three units can be paralleled together without a paralleling cabinet.

### Optional Cabinet

The Optional Cabinet allows the UniStar<sup>®</sup>VP to be custom configured into a mobile rack application. The cabinet can be configured with or without a front and rear door for security if required.

### Optional Power Distribution Unit - SCV-PDU

The SCV-PDU provides a simple and fast solution for distributing power to your peripheral devices from the UPS Module. Makes your installation clean, safe and easy for power distribution from the UPS Module.



UniStar<sup>®</sup>VP

### Power Range and Runtime Scalability

The UniStar<sup>®</sup>VP provides an excellent return on investment. The system is fully modular, allowing you to increase the overall power output and battery runtime as your system grows. It is important however, that you plan your electrical installation to fit your needs.

### Manual Maintenance Bypass

The optional external maintenance bypass ensures a continuous supply of power to the critical load during service or periodic maintenance of the UPS system, by isolating the UPS Electronic Module from the load.



## Three Year Warranty

### Electronics:

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

### Battery:

A full **One Year Warranty** 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.*



www.stacoenergy.com

# On-line, Single-phase Parallel Redundant UPS System

## High Input Power Factor and Low Current THD

The UniStar<sup>®</sup>VP meets today's industry standard for energy savings and low reflected harmonics, and achieves up to 0.99 Power Factor as well as <5% THD.

## EPO Function

The Emergency Power Off Function enables user shutdown of the UPS in an emergency situation.

## Energy Efficient UPS

The AC to AC efficiency of the UPS may reach up to 91% at 25% load, and better with larger loads and normal VFI operation. Using the ECO mode, up to 98% efficiency can be achieved.

## Smart ECO Mode

In ECO operation mode, the UniStar<sup>®</sup>VP normally supplies power to load via bypass utility. It will automatically transfer to inverter supply with SmartECO Mode if the bypass utility becomes out of tolerance.

## Silent Fan Control

The UniStar<sup>®</sup>VP employs forced air cooling by internally mounted fans with speed control that is based on load percentage. This means low audible noise levels, suitable for most environments.

## Intelligent Self-Diagnostics

The DSP self-diagnostics assists the service engineer in pinpointing system faults rapidly, making repairs fast and easy.

## LCD/LED Mimic Panel

A concise LCD/LED display provides real-time status and readings such as operation modes, AC voltage, frequency, battery voltage, load level, inner temperature, and more. A full-size microprocessor-based graphical LCD display provides advanced monitoring functions.

## User Personalization

Through the LCD front panel, you may easily change the parameters and settings built in to the DSP controllers, such as UPS operation modes, voltage configurations, synchronization frequency windows (for use with generators), bypass voltage tolerances and audible alarm.

## Advanced Battery Management

The UniStar<sup>®</sup>VP automatically manages the end of discharge voltage according to load. This function prevents deep-discharge of the built-in battery during a power failure and saves battery life.

## Optional Isolation Transformer

The galvanic isolation transformer provides not only complete isolation between the input and the output, but also various secondary voltages, such as 208/120 VAC or 240/120 VAC (21 Models).

## Variety of Customer Options Slots

This UPS also provides one customer option communication slot in addition to the standard RS232 port. All communications cards are designed for simple installation; electrical connections are made through a 26-pin edge card connector.

## Communications Capability

The UniStar<sup>®</sup>VP is shipped with standard monitoring/shutdown software. The software allows control of the UPS and graceful shutdown when the utility power fails, but also allows the user to:

- Remotely test the major operating functions of the UPS
- Communicate via optional SNMP/WEB card
- Access UPS functions via the WEB

## Hot-Swappable Battery Packs

The UniStar<sup>®</sup>VP allows users to replace batteries without electric shock hazard, while the UPS supplies continuous power to your application.

## Matching Extended Battery Pack

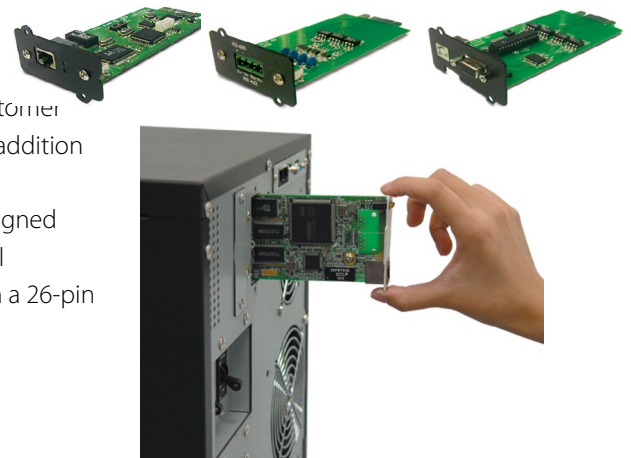
Optional matching battery packs are available to easily extend the UPS runtime to several hours.

## Programmable Frequency Converter

Using the front panel keypad, you may reprogram the UniStar<sup>®</sup>VP to act as a frequency converter for either 50 Hz or 60 Hz.

## Cold Start Function

Users can turn on the UPS without utility power available. dgs



## UniStar Series VP, 6kVA Rack Mount

Model Number	kVA/kW	Input VAC	Output VAC	***Dimensions H" x W" x D" / [mm]	***Wt. lbs. / (kg)
<b>UL1778/CE/cUL</b>					
*SCV-60021	6kVA /5.4kW	208	208/120	15.45" x 17.24" x 26.64" (9U) [392.4 x 438.0 x 676.6]	323 / (147)
SCV-ELE-6K	Electronics	N/A	N/A	5.15" x 17.24" x 26.64" (3U) [130.8 x 438.0 x 676.6]	37 / (17)
SCV-BAT-6K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (3U) [130.8 x 438.0 x 625.6]	138 / (63)
SCV-ISO-6K	Transformer	208/120	208/120	5.15" x 17.24" x 24.81" (3U) [130.8 x 438.0 x 630.2]	148 / (67)
*SCV-60021-240	6kVA /5.4kW	240	240/120	15.45" x 17.24" x 26.64" (9U) [392.4 x 438.0 x 676.6]	323 / (147)
SCV-ELE-6K	Electronics	N/A	N/A	5.15" x 17.24" x 26.64" (3U) [130.8 x 438.0 x 676.6]	37 / (17)
SCV-BAT-6K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (3U) [130.8 x 438.0 x 625.6]	138 / (63)
SCV-ISO-6K	Transformer	240/120	240/120	5.15" x 17.24" x 24.81" (3U) [130.8 x 438.0 x 630.2]	148 / (67)
**SCV-60022	6kVA/5.4kW	208	208	10.30" x 17.24" x 26.64" (6U) [261.6 x 438.0 x 676.6]	175 / (80)
SCV-ELE-6K	Electronics	N/A	N/A	5.15" x 17.24" x 26.64" (3U) [130.8 x 438.0 x 676.6]	37 / (17)
SCV-BAT-6K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (3U) [130.8 x 438.0 x 625.6]	138 / (63)
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SCV-BAT-6K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (3U) [130.8 x 438.0 x 625.6]	138 / (63)
<b>PARALLEL</b>					
*SCV-60021-P	6kVA/5.4kW	208	208/120	15.45" x 17.24" x 26.64" (9U) [392.4 x 438.0 x 676.6]	323 / (147)
SCV-ELE-6K	Electronics	N/A	N/A	5.15" x 17.24" x 26.64" (3U) [130.8 x 438.0 x 676.6]	37 / (17)
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- \* Model includes: (1) Electronics Module, (1) Battery Pack and (1) Transformer Module
- \*\* Model includes: (1) Electronics Module and (1) Battery Pack
- "P" Models include Parallel Card and Cable

\*\*\*Always reference Spec Control Drawing (SCD) for the most current & accurate dimensions and weights

## UniStar VP, 6kVA Rack Mount - Extended Battery Run Times

UPS Rating	Part Number	Qty. of Cabinets	25% Load	50% Load	75% Load	100% Load
<b>6 kVA</b>	60021 – ISO	0	0	0	0	0
	60021 + SCV-BAT-6K	1	34.3	15.9	11.4	7.2
	60021 + SCV-BAT-6K	2	81.5	37.1	27.7	19.8
	60021 + SCV-BAT-6K	3	150	62.0	45.7	32.3
	60021 + SCV-BAT-6K	4	225	87.6	65.8	46.2
	60022 – Non-ISO	0	0	0	0	0
	60022 + SCV-BAT-6K	1	40	19.8	11.9	7.7
	60022 + SCV-BAT-6K	2	95	46.2	28.8	20.7
	60022 + SCV-BAT-6K	3	180	76.9	47.6	33.7
	60022 + SCV-BAT-6K	4	260	110	68.5	48.3

- Note: 1. Battery times are based on new batteries +/- 5%.  
2. Consult Factory for longer run times.

## UniStar Series VP, 10kVA Rack Mount

Model Number	kVA/kW	Input VAC	Output VAC	***Dimensions H" x W" x D" / [mm]	*Wt. lbs. / (kg)
<b>UL1778/CE/cUL</b>					
*SCV-11021	10kVA /9kW	208	208/120	15.45" x 17.24" x 30.77" (9U) [392.4 x 438.0 x 781.6]	380 / (173)
SCV-ELE-10K	Electronics	N/A	N/A	5.15" x 17.24" x 30.77" (9U) [130.8 x 438.0 x 781.6]	44 / (20)
SCV-BAT-10K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (9U) [130.8 x 438.0 x 625.6]	138 / (63)
SCV-ISO-10K	Transformer	208/120	208/120	5.15" x 17.24" x 27.96" (3U) [130.8 x 438.0 x 710.2]	198 / (90)
*SCV-11021-240	10kVA /9kW	240	240/120	15.45" x 17.24" x 30.77" (9U) [392.4 x 438.0 x 781.6]	380 / (173)
SCV-ELE-10K	Electronics	N/A	N/A	5.15" x 17.24" x 30.77" (9U) [130.8 x 438.0 x 781.6]	44 / (20)
SCV-BAT-10K	Battery Pack	N/A	N/A	5.15" x 17.24" x 24.63" (9U) [130.8 x 438.0 x 625.6]	138 / (63)
SCV-ISO-10K	Transformer	240/120	240/120	5.15" x 17.24" x 27.96" (3U) [130.8 x 438.0 x 710.2]	198 / (90)
**SCV-11022	10kVA/9kW	208	208	10.30" x 17.24" x 30.77" (6U) [261.6 x 438.0 x 781.6]	182 / (83)
SCV-ELE-10K	Electronics	N/A	N/A	5.15" x 17.24" x 30.77" (9U) [130.8 x 438.0 x 781.6]	44 / (20)
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<b>PARALLEL</b>					
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- \* Model includes: (1) Electronics Module, (1) Battery Pack and (1) Transformer Module
- \*\* Model includes: (1) Electronics Module and (1) Battery Pack
- "P" Models include Parallel Card and Cable

\*\*\*Always reference Spec Control Drawing (SCD) for the most current & accurate dimensions and weights

## UniStar VP, 10kVA Rack Mount - Extended Battery Run Times

UPS Rating	Part Number	Qty. of Cabinets	25% Load	50% Load	75% Load	100% Load
<b>10 kVA</b>	11021 – Non-ISO	0	0	0	0	0
	11021 + SCV-BAT-10K	1	20.2	7.9	5.0	2.7
	11021 + SCV-BAT-10K	2	47.2	21.2	15.7	10.6
	11021 + SCV-BAT-10K	3	78.4	34.5	25.9	18.5
	11021 + SCV-BAT-10K	4	120	49.4	36.6	26.3
	11022 – ISO	0	0	0	0	0
	11022 + SCV-BAT-10K	1	18.5	7.3	4.5	2.4
	11022 + SCV-BAT-10K	2	43.0	20.0	14.7	9.8
	11022 + SCV-BAT-10K	3	71.8	32.6	24.4	17.4
	11022 + SCV-BAT-10K	4	110	46.7	34.6	24.7

- Note: 1. Battery times are based on new batteries +/- 5%.  
2. Consult Factory for longer run times.

# UNISTAR VP Rack Models

SPECIFICATION				
MODEL	SCV-60022 & (P)	SCV-60021 & (P)	SCV-11022 & (P)	SCV-11021 & (P)
PHASE	Single phase with ground			
CAPACITY	6000 VA / 5400 W		10000 VA / 9000 W	
<b>INPUT</b>				
Nominal Voltage	200/208/220/230/240 VAC			
Voltage Range	176 -300 VAC @ 100% load			
Frequency Range	46~54 Hz or 56~64 Hz			
Power Factor	0.99 @ 100% load			
<b>OUTPUT</b>				
Nominal Voltage	208/220/ 230/240 VAC	208/120 VAC or 240/120 VAC	208/220/ 230/240 VAC	208/120 VAC or 240/120 VAC
AC Voltage Regulation	± 1%			
Frequency Range (Sync. Range)	46~54 Hz or 56~64 Hz			
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio	3:1 (max.)			
Harmonic Distortion	2 % THD (Linear Load) 4 % THD (Non-linear Load)	3 % THD (Linear Load) 6 % THD (Non-linear Load)	2 % THD (Linear Load) 4 % THD (Non-linear)	3 % THD (Linear Load) 6 % THD (Non-linear)
Transfer Time	0ms			
Waveform (All Modes)	Pure Sinewave			
<b>EFFICIENCY</b>				
Line Mode	90%	84%	90%	84%
Battery Mode	88%	83%	88%	83%
ECO Mode	96%	87%	96%	87%
<b>BATTERY</b>				
Nominal Voltage	240 VDC			
Battery Type	VRLA, 12 V / 9 AH		VRLA, 12 V / 9 AH	
Numbers	20		20	
Typical Recharge Time	7 hours recover to 90% capacity		9 hours recover to 90% capacity	
Float Charging Voltage	273 VDC			
Charge Current (max.)	4 Amps			
Float Charging Voltage	273 VDC			
<b>INDICATORS/ALARMS</b>				
LCD Panel	UPS status, Load level, Battery level, Input / Output voltage, Discharge timer, and Fault conditions			
Audible Alarms	Battery Mode, Low Battery, Overload, Fault			
<b>ENVIRONMENT</b>				
Operating	32°F (0°C) to 104°F (40°C)			
Humidity	0-95 % RH @ 0- 40°C (non-condensing)			
Storage	-13°F (25°C) to 140°F (60°C) <b>ELECTRONICS</b> -13°F (25°C) to 104°F (40°C) <b>BATTERIES (REFRESH Charge @ 3 months)</b>			
Noise Level	Less than 58dBA @ 1 Meter		Less than 60dBA @ 1 Meter	
<b>AGENCY LISTING</b>				
UL1778, CE, cUL				
<b>COMMUNICATIONS</b>				
Smart RS-232/USB Port	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, MAC			
<b>OPTIONS</b>				
SNMP Card	SNMP/ Web Browser capability			
EMD	SNMP support device for sensing temperature, humidity and the presence of water. Options modules for smoke and dry contact detection available.			
MODBUS Card	Provides communication with PCs through MODBUS protocol			
CONTACT Card (AS/400)	Provides contact closures for remote monitoring of the UPS			
Rack/Tower Enclosure	Complete system in enclosure with casters for mobility			

# Service Options

With our ServiStar® program, a wide range of planned maintenance and extended service options are offered to maximize equipment life and reliability of your FirstLine® UPS. Through an extensive network of factory trained professionals you receive:

- Start-Up and Training
- Annual Service Plan
- 24/7 Emergency Service
- Preventative Maintenance
- Programs tailored to meet your needs

## 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.

**Represented locally by:**

**In addition to the UniStar® VP 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**



**Contact Us:**  
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