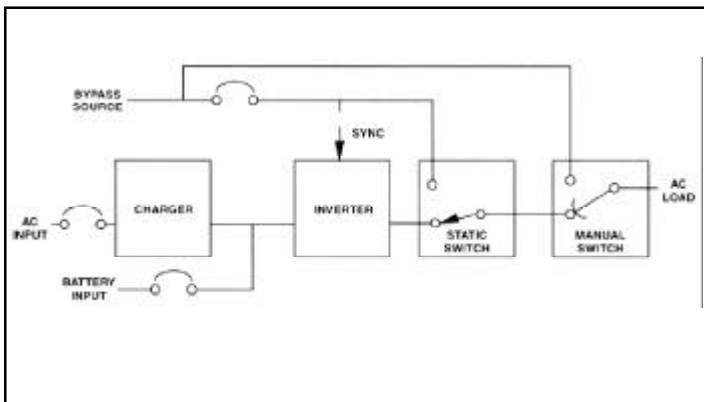


Total UPS System 3-50 kVA Single Phase Output

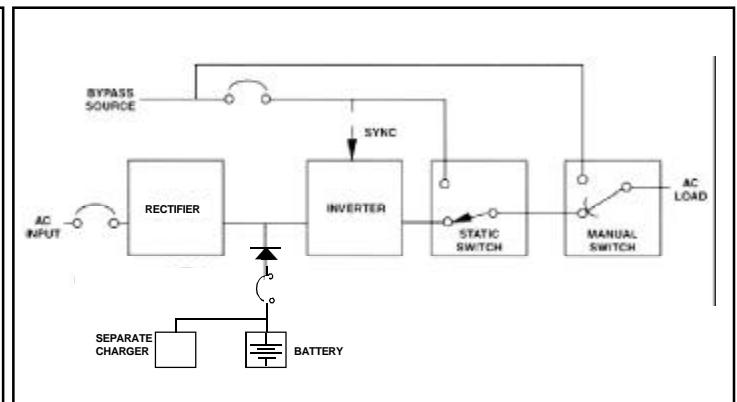


- ◆ High reliability—exceeds 140,000 hrs. (16 yrs.) MTBF
- ◆ Industrial grade – built to operate in extreme environments, (VPI) vacuum impregnated magnetics with 200°C epoxy insulation
- ◆ Low audible noise
- ◆ High efficiency transistor bridge
- ◆ Long life LED indicators, front panel accessibility
- ◆ Harmonic filtering for Distributed Control Systems
- ◆ Unique crest factor circuitry provides full capacity for non-linear loads
- ◆ Optional remote status panel
- ◆ All components are front accessible-no side or back clearance required
- ◆ Integral system event recording for diagnostics (logs last 100 events)
- ◆ Lighted Mimic Panel Display
- ◆ Microprocessor based alarms
- ◆ RS232 Communications Interface accessible through door front
- ◆ Optional Rectifier blocking diode to use the SE *Plus* with existing station battery and battery charger

The SE *Plus* UPS Systems are true on-line ferroresonant systems which provide regulated, clean, continuous power for critical AC loads. Each system integrates the Battery Charger, Inverter, Static Switch, and a Manual Bypass Switch in a single package.



On-Line UPS Block Diagram
Float System



On-Line UPS Block Diagram
Optional Rectifier System

General Specifications

Circuit Breakers:

AC Input
 Battery Input
 Bypass Source Input

Meters:

AC Inverter Output Voltmeter
 AC Output Ammeter
 Inverter Output Frequency Meter
 DC Output Ammeter
 DC Output Voltmeter

Indicators & Alarms*:

Battery Supplying Load
 Bypass Source Failure
 In Sync (Pilot Light)
 Fan Failure
 Low DC Voltage
 Static Switch Transfer (Alarm)
 Battery Breaker Open

Cabinet:

NEMA-1 (IP-20)

Optional Features

Indicators & Alarms *:

(Not to exceed 12)
 High DC Voltage
 High DC Disconnect
 Negative/Positive to Ground (counts as 2)
 Latching Alarms
 Lamp Test Pushbutton
 Over Temperature
 AC Available to Charger
 Charger Failure
 Bypass Source Low Voltage
 Bypass Source High Voltage
 Low AC Output
 High AC Output
 UPS Summary
 AC Power Failure
 Out of Sync
 Fuse Blown Alarms
 Audible Alarm
 Inverter Failure
 Low DC Disconnect
 MBS Position Indicator (counts as 2)

Meters: (Not to exceed 5)

AC Input Voltmeter (qty.-2)
 System Output Voltmeter
 Bypass Input Voltmeter
 Battery Input Voltmeter
 Battery Zero Center Ammeter

Cabinet Options:

Top-Mounted Dripshield (IP-31)
 Fungus/Moisture Spray

Circuit Breakers:

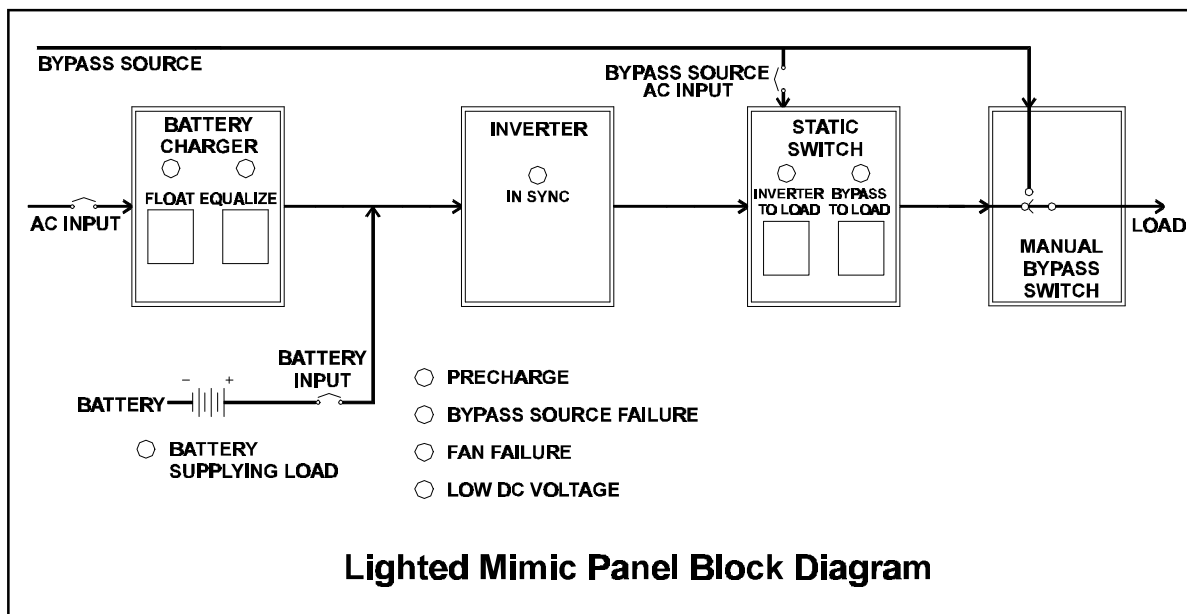
Inverter Output (Non-automatic)
 AC Output (Static Switch)
 DC Output (Charger)

Rectifier System:

Blocking Diode Added
 Float & Equalizer Controls & Lights Removed
 Equalize Timer Removed
 DC Voltage set at 2.33 volts per battery cell

* Note : Alarm supplied with one SPDT contact rated for 3 Amps at 120 VAC/28VDC

Consult factory for additional options.



General Specifications

Battery Charger

AC Input

Voltages: 208, 220, 240, 380, 415 & 480 VAC/3-phase, 3 wire
 Range: +10, -10% (+10, -15% without discharging batteries)
 Frequency: 50 or 60 Hz $\pm 5\%$

DC Output

Float Voltage: 110 VDC, 220 VDC nominal
 130 VDC, 260 VDC nominal
 $\pm 5\%$ adjustment
 Equalize Voltage: 140 VDC, 280 VDC
 $\pm 5\%$ adjustment
 Regulation; $\pm 0.5\%$ float $\pm 0.7\%$ equalize
 ($\pm 10\%$ AC Input)
 Ripple Voltage: $< 2\%$ RMS with batteries
 Equalize Timer: 0-100 hours, manual start, auto-reset
 Capacity: Sized to Recharge the battery in 8-10 times the discharge rate

Inverter

DC Input

Range: -19% - +8%

AC Output

Sizes: 3-50kVA (at 1.0 PF)
 Voltages: 120, 220 VAC, 1-phase, 2 wire*
 Regulation: $\pm 2\%$
 Frequency: 50 or 60 Hz $\pm 0.1\%$
 Sync Range: ± 0.5 HZ
 Load Power Factor: 0.8 to 1.0
 Harmonic Distortion: $< 5\%$ THD
 Overload Capacity: 500% for 1 cycle, 120% continuous
 Crest Factor: 3:1 at full load

Conversion Efficiencies

Charger AC-DC: 110/130VDC: 91-94%
 220/260VDC: 91-94%
 Inverter DC-AC: 110/130VDC: 83-88%
 220/260VDC: 84-88%

*110/220 & 120/240 VAC 3 wire output are available
 Consult factory

Environmental

Ambient Temp.: 0°C to 40°C (50°C optional)
 Relative Humidity: 0-95% non-condensing
 Operating Altitude: 0 to 2500 meters (8200 ft.)
 Audible Noise: < 67 dB(A) at 1.5 meters

Cable Entry

Bottom (front) via removable plate (one per bay)
 Top or side entry, consult factory

Controls (Push-button & Indicator)

Inverter to Load Push-button
 Bypass to Load Push-button
 Float Voltage Potentiometer
 Equalize Potentiometer
 Precharge Push-button (20 kVA and above)

Static Switch

Normal Source: Inverter Output
 Alternate Source: Bypass Supply
 Voltage: Bypass Supply voltage must match the inverter output voltage
 Transfer Time: Zero (make-before-break in both directions)
 Transfer Criteria: (from inverter to bypass)

1. Inverter Bridge Failure
2. Load Overcurrent
3. Low Inverter Voltage
4. Manual Push-button Operation

 Retransfer Criteria: (from bypass to inverter)

1. Inverter in Sync
2. Auto Retransfer Defeat Switch Off

 Overcurrent Transfer: 120% of rated full load current
 Overload Capacity: 1000% for 1 cycle

Manual Bypass Switch

(optional Remote Bypass Switch available)**

Switch Style: 600 VAC, rotary drum, make-before-break switching
 Transfer Time: Zero
 Transfer Criteria: The inverter must be in sync with the bypass

**Internal Manual Bypass Switch is normally removed when a Remote Bypass Switch is selected

General Specifications

110,130 VDC LINK

Model	kVA	kW	3Ø AC Input/Frequency ¹				Inverter DC-AC Efficiency	UPS Cabinet Style	Heat Loss (Watts)	Circuit Breaker Ampacity								Weight ² Lbs. (Kg)
			AC Amperes/Phase							Main AC Input				DC Link	Battery Input	Bypass Input		
			208/60	480/60	380/50	415/50				208/60	480/60	380/50	415/50			120	220	
SE3003U-*	3	3	23	10	13	11	83	E	972	30	15	15 20	15 15	110 130	50 50	35	20	1025 (466)
SE3005U-*	5	5	28	12	16	14	85	E	1464	35	15	30 20	25 20	110 130	100 70	60	30	1075 (489)
SE3007U-*	7.5	7.5	43	18	23	21	85	E	2196	60	25	40 30	35 30	110 130	125 100	80	45	1250 (568)
SE3010U-*	10	10	56	24	31	28	85	E	2788	70	30	50 40	40 40	110 130	175 125	125	60	1450 (659)
SE3015U-*	15	15	84	36	46	42	86	F	3755	125	50	70 60	70 60	110 130	250 200	175	90	1850 (841)
SE3020U-*	20	20	112	48	61	56	86	F	5006	150	60	90 80	80 70	110 130	350 250	225	125	2150 (977)
SE3030U-*	30	30	166	72	91	83	87	H	6684	225	90	125 125	110 125	110 130	500 400	350	175	3300 (1490)
SE3040U-*	40	40	221	96	121	111	88	GH	8356	300	125	175 150	150 150	110 130	600 500	450	250	4400 (2000)
SE3050U-*	50	50	276	120	151	138	88	GH	10445	400	150	175 200	175 175	110 130	600 600	600	300	4900 (2227)

220,260 VDC LINK

SE6003U-*	3	3	23	10	12	11	84	E	925	30	15	20 20	20 15	220 260	35 25	35	20	1025 (466)
SE6005U-*	5	5	34	15	19	17	87	E	1316	50	20	25 25	20 25	220 260	40 40	60	30	1075 (489)
SE6007U-*	7.5	7.5	46	20	25	23	88	E	1866	60	25	40 35	35 30	220 260	70 50	80	45	1250 (568)
SE6010U-*	10	10	56	24	31	28	88	E	2352	70	30	50 40	40 35	220 260	80 70	125	60	1450 (659)
SE6015U-*	15	15	84	36	46	42	88	F	3328	125	50	70 60	60 60	220 260	125 100	175	90	1850 (841)
SE6020U-*	20	20	112	48	61	56	88	F	4438	150	60	90 80	80 70	220 260	175 125	225	125	2150 (977)
SE6030U-*	30	30	166	72	91	83	88	H	6267	225	90	125 125	125 110	220 260	225 200	350	175	3300 (1490)
SE6040U-*	40	40	221	96	121	111	88	GH	8356	300	125	175 150	175 150	220 260	350 250	450	225	4400 (2000)
SE6050U-*	50	50	276	120	151	138	88	GH	10445	350	150	225 200	200 175	220 260	400 350	600	300	4900 (2227)

¹At Nominal Line & Current Limit, ² Weight of 60Hz units, 50Hz 7% more

*A complete UPS model number includes the AC input voltage, DC bus (link) voltage), AC output voltage, and system frequency. To "build" a model number, use the "code" in the matrix shown below.

Model Number: SE3030U-XX-YY-ZZ-AA

where XX=AC Input Voltage
YY=DC Bus Voltage
ZZ=AC Output Voltage
AA=System Frequency

AC Input Volts	Code	DC Bus Volts	Code	AC Output Volts	Code	Freq	Code
480	48	130	13	120	12	60Hz	60
220	22	260	26	120/240**	24	50Hz	50
380	38	110	11	220	22		
415	41	220	22				
208	20						

** Note: For 120/240 volt output, also place a "2" before the "SE".

Example: A 30 kVA UPS with 415 VAC input voltage; 260 VDC bus, 220 VAC output voltage, 50 Hz:
Model No. SE3030U-41-26-22-50. If voltage code is not listed...place a "C" after the "U". Example:
Model No. SE3030UC.

Cabinet Dimensions					
Cabinet Style	Inches (mm)				
	H	x	W	x	D
E	78 (1981)	x	29 737	x	32 813)
F	78 (1981)	x	56 1422	x	32 813)
G	85 (2159)	x	29 1422	x	36 914)
H	85 (2159)	x	56 2159	x	36 914)
³ GH	85 (2159)	x	85 2159	x	36 914)

³Note: the GH cabinet style is made up of G & H sections

Consult your local Solidstate Controls representative or factory if you have any questions.

Specifications subject to change without notice



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