



*SE Plus - Total UPS System
3 - 50 kVA
Single Phase Output*

SE^{Plus}

Total UPS System

Single Phase 3-50 kVA

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.

Benefits of the Ferroresonant System:

- *High Reliability - exceeds 140,000 hours (16 Years) MTBF*
- *Industrial grade - built to operate in extreme environments, (VPI) vacuum impregnated magnetics with 200°C epoxy insulations.*
- *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*



AMETEK[®]
SOLIDSTATE CONTROLS



General Specifications

Standard Features	Optional Features
<p>Circuit Breakers: AC Input Battery Input Bypass Source Input</p> <p>Meters: AC Inverter Output Voltmeter AC Output Ammeter Inverter Output Frequency Meter DC Output Ammeter DC Output Voltmeter</p> <p>Indicators & Alarms*: Battery Supplying Load Bypass Source Failure In Sync (Pilot Light) Fan Failure Low DC Voltage Static Switch Transfer (Alarm) Battery Breaker Open</p> <p>Cabinet: NEMA-1 (IP-20)</p>	<p>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)</p> <p>Meters: (Not to exceed 5) AC Input Voltmeter (qty. -2) System output Voltmeter Bypass Input Voltmeter Battery Input Voltmeter Battery Zero Center Ammeter</p> <p>Cabinet Options: Top-Mounted Dripshield (IP-31) Fungus/Moisture Spray</p> <p>Circuit Breakers: Inverter Output (non-automatic) AC Output (Static Switch) DC Output (Charger)</p> <p>Rectifier System: Blocking Diode Added Float & Equalizer Controls & Lights Removed Equalize Timer Removed DC Voltage set at 2.33 volts per battery cell</p>

***Note: Alarm supplied with one SPDT contact rated for 3 Amps at 120 VAC/28VDC. Consult factory for additional options.**

Battery Charger		Environmental	
AC Input Voltages	208,220,240,380, 415 & 480 VAC/ 3-phase, 3 wire	Ambient Temp	0°C to 40°C (50°C optional)
Range	+10, -10% (+10, - 15% without discharging batteries)	Relative Humidity	0-95% non-condensing
Frequency	50 or 60 Hz ± 5%	Operating Altitude	0 to 2500 meters (8200 ft)
DC Output Float Voltage	110 VDC, 220 VDC nominal 130 VDC, 260 VDC nominal ±5% adjustment	Audible Noise	65-72db(A) at 1.5 meters
Equalize Voltage	140 VDC, 280 VDC ±5% adjustment	Cable Entry Bottom (Front) via removable plate (one per bay), for Top or side entry, consult factory	
Regulation	±0.5% float ±0.7% equalize (+10% AC Input)	Controls (Push-button & Indicator) Inverter to Load Push-button, Bypass to Load Push-button, Float Voltage Potentiometer, Equalize Potentiometer, and Pre-charge Push-button (20kVA and above)	
Ripple Voltage Equalize Timer	<2% RMS with batteries 0-100 hours, manual start, auto-reset	Static Switch	
Capacity	Sized to Recharge the battery in 8-10 times the discharge rate	Normal Source	Inverter Output
Inverter		Alternate Source	Bypass Supply
DC Input Range	-19 - +18%	Voltage	Bypass Supply Voltage must match the inverter output voltage
AC Output Sizes Voltages	3-50kVA 120,220 VAC, 1-phase, 2 wire*	Transfer Time	Zero (make-before-break in both directions)
Regulation	±2%	Transfer Criteria: (From Inverter to Bypass)	1. Inverter Bridge Failure 2. Load Overcurrent 3. Low Inverter Voltage 4. Manual Push-button Operation
Frequency	50 or 60 Hz ±0.1%	Retransfer Criteria: (From Bypass to Inverter)	1. Inverter in Sync 2. Auto Retransfer Defeat Switch Off
Sync Range	±0.5Hz	Overcurrent Transfer	120% of rated full load Current
Load Power Factor	0.8 to 1.0 (Harmonic Power Factor)	Overload Capacity	1000% for 1 cycle
Harmonic Distortion	<5% THD	Manual Bypass Switch (optional Remote Bypass Switch available)**	
Overload Capacity	500% for 1 cycle, 120% continuous	Switch Style	600 VAC, rotary drum, make-before-break switching
Crest Factor	3:1 at full load	Transfer Time	Zero
Conversion Efficiencies		Transfer Criteria	The inverter must be in sync With the bypass
Charger AC-DC	110/130VDC: 91-94% 220/260VDC: 91-94%		
Inverter DC-AC	110/130 VDC: 83-88% 220/260VDC: 84-88%		

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

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



The Purpose of our business is to provide continuity of electrical power to keep businesses in business.

All Facilities are ISO 9001 Certified

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