



Three-Phase Uninterruptible Power Supply

10kVA to 100kVA

3SE Series

The 3SE Series are true on-line ferroresonant transformer-based UPS 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 system enclosure.

- High reliability - exceeds 140,000 hours (16 years) MTBF
- Low audible noise <75dB(A)
- Long life LED indicators
- Unique crest factor circuitry provides full capacity for non-linear loads
- Optional remote status panel
- All components are accessible from the front – no side or back clearance required
- Integral system event recording for diagnostics
- Patented Scott-T Transformer – maintains regulation even with 100% unbalanced load
- Functional mimic panel



Applies to 3SE3000
208VAC Output Only

Model	kVA	kW	3Ø AC Input/Frequency ¹				DC Link	Inverter DC-AC Efficiency	UPS Cabinet Style	Heat Loss BTU/Hr	Circuit Breaker Ampacity						Weight ² Lbs. (Kg)	
			AC Amperes/Phase								Main AC Input				Battery Input	Bypass Input		
			208/60	480/60	380/50	415/50					208/60	480/60	380/50	415/50		208		480
3SE3010N	10	10	71	31	39	35	130	75	F	15329	90	40	50	50	150	40	20	2485 (1127)
3SE3015N	15	15	105	45	57	52	130	80	F	17610	150	60	70	70	225	60	25	2845 (1290)
3SE3020N	20	20	139	60	76	70	130	80	K	23480	175	80	100	90	300	70	35	3100 (1406)
3SE3030N	30	30	207	90	113	104	130	82	H	30437	250	125	150	125	400	125	50	3530 (1601)
3SE3040N	40	40	276	120	151	138	130	83	GH	38450	350	150	200	175	600	150	70	5000 (2268)
3SE3050N	50	50	345	150	189	173	130	84	GH	45459	450	200	225	225	800	175	80	5865 (2660)
3SE3060N	60	60	414	179	227	207	130	84	HH	54551	500	225	300	250	800	225	100	7855 (3563)

3SE6010N	10	10	71	31	39	36	260	77	F	14574	90	40	50	50	75	35	20	2485 (1127)
3SE6015N	15	15	107	46	58	54	260	82	F	17407	150	60	70	70	100	60	25	2845 (1209)
3SE6020N	20	20	141	61	77	71	260	82	K	22216	175	80	100	90	150	70	35	3100 (1406)
3SE6030N	30	30	209	90	114	105	260	84	H	28669	250	125	150	125	225	125	50	3530 (1601)
3SE6040N	40	40	279	121	153	140	260	85	GH	36170	350	150	200	175	300	150	70	5000 (2268)
3SE6050N	50	50	349	151	191	174	260	86	GH	42703	450	200	225	225	350	175	80	5865 (2660)
3SE6060N	60	60	414	179	227	207	260	86	HH	48521	500	225	300	250	400	225	100	7855 (3563)
3SE6075N	75	75	552	239	302	277	260	87	GHH	57013	700	300	400	350	600	300	125	10735 (4869)
3SE60100N	100	100	690	299	378	346	260	88	HHH	71276	900	400	500	450	800	350	150	13035 (5913)

130 VDC LINK

260 VDC LINK

¹ At Nominal Line & Current Limit ² Weight of 60Hz units, 50Hz 7% more
260VDC information preliminary and subject to change

General Specifications



Battery Charger

AC Input

Voltages: 208, 380, 415, 480VAC
3-phase, 3-wire
Range: +10, -10% (+10, -15% without discharging batteries)
Frequency: 50 or 60Hz ±5%

DC Output

Float Voltage: 130VDC, 260VDC ±5% adj.
Equalize Voltage: 140VDC, 280VDC ±5% adj.
Regulation: ±0.5% float
(+10%, -10% AC Input)
Ripple Voltage: <2% RMS with batteries
Equalize Timer: 0-100 hours, manual start, auto-reset
Current Limit: 125% of rated output

Inverter

DC Input

Range: -19% – +8%

AC Output

Sizes: 10 – 100kVA
Voltages: 208/120, 380/220, 415/240, 480/277VAC
Regulation: ±2%
Frequency: 50 or 60Hz ±0.5%
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
Voltage Unbalance: For balanced loads, the voltage unbalance will be less than ±2%; for 100% load unbalance, the output voltage will be balanced to within ±5%

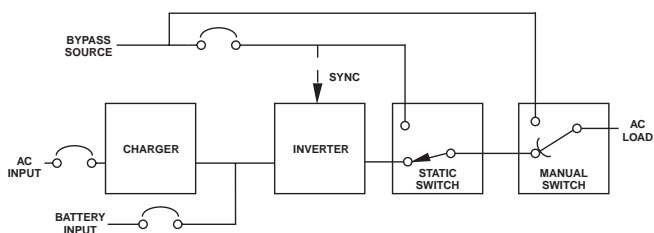
Static Switch

Normal Source: Inverter Output
Alternate Source: Bypass Supply (Must Be 4 Wire)
Voltage: Bypass Supply voltage must match the inverter output voltage
Transfer Time: Zero (make-before-break in both directions)
Transfer Criteria: 1. Inverter Bridge Failure
(from inverter to bypass) 2. Load Overcurrent
3. Low Inverter Voltage
4. Manual Pushbutton Operation
Retransfer Criteria: Inverter in Sync
(from bypass to inverter)
Overcurrent Transfer: 120%
Overload Capacity: 1000% for 1 cycle

Manual Bypass Switch (Available Internal or External)

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

On-Line UPS Block Diagram



Environmental

Ambient Temperature: 0°C to 40°C (50°C optional)
Relative Humidity: 0-95% non-condensing
Operating Altitude: 0 to 2500 meters (8200 ft.)
Audible Noise: <75dB(A) at 1.5 meters

Cable Entry

Bottom (front) via removable gland plate (one plate per bay)
Top entry (optional)

Controls

(Pushbutton & Indicator)
Inverter to Load Pushbutton
Bypass to Load Pushbutton
Float Voltage Potentiometer
Equalize Potentiometer
Precharge Pushbutton (20kVA and above)

Standard Features

Circuit Breakers:
AC Input
Battery Input
Bypass Source Input

Meters:

AC Inverter Output Voltmeter (w/switch)
AC Output Ammeter (w/switch)
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 Options:

Top-Mounted Dripshield
Fungus/Moisture Spray

Optional Features

Circuit Breakers:

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

Meters:

AC Input Voltmeter (w/switch)
System Output Voltmeter (w/switch)
Bypass Source Input Voltmeter (w/switch)
Battery Input Voltmeter
Zero Center Battery Ammeter

Indicators & Alarms*:

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

*Alarms provide one SPDT contact rated for 3 Amps at 120VAC.

Consult factory for additional options.

Cabinet Dimensions

Cabinet Style	Dimensions			Cabinet Style	Dimensions		
	H	x W	x D		H	x W	x D
	In. (mm)				In. (mm)		
F	78	x 56	x 32	GH	85	x 85	x 36
	(1981	x 1422	x 813)		(2159	x 2159	x 914)
G	85	x 29	x 36	HH	85	x 112	x 36
	(2159	x 737	x 914)		(2159	x 2844	x 914)
H	85	x 56	x 36	GHH	85	x 141	x 36
	(2159	x 1422	x 914)		(2159	x 3581	x 914)
K	85	x 56	x 32	HHH	85	x 168	x 36
	(2159	x 1422	x 813)		(2159	x 4266	x 914)

Note: The GH cabinet style is made up of G & H size cabinets.
The HH cabinet style is made up of two H size cabinets.
The GHH cabinet style is made up of one G & two H size cabinets.
The HHH cabinet style is made up of three H size cabinets.

Specifications subject to change without notice.



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