VICE ENERGY

Uninterruptible Power Supply

UPS

LINE INTERACTIVE

VOLTAGE STABILIZERS

INVERTER

BATTERY

Line Interactive UPS | LITTLE-G 600/800/1000/1500/2000

Features

- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- Generator compatible(option)

CE

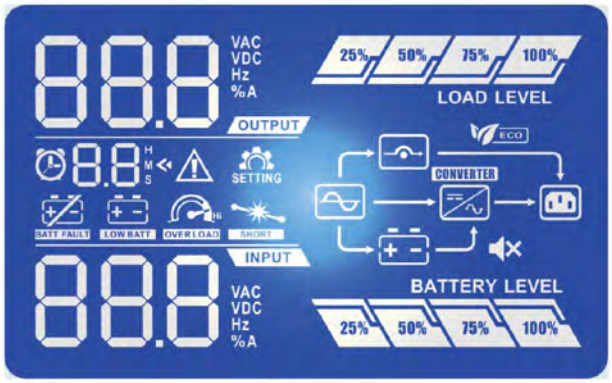
MODEL	600 VA	800 VA	1000 VA	1500 VA	2000 VA
CAPACITY	600 VA / 360 W	800 VA / 480 W	1000 VA / 600 W	1500 VA / 900 W	2000 VA / 1200 W
INPUT					
Voltage	110/120 Vac or 220/230/240 Vac				
Voltage Range	81-145 Vac / 162-290 Vac				
Frequency Range	60/50 Hz (auto sensing)				
OUTPUT					
Voltage	110/120 Vac or 220/230/240 Vac				
AC Voltage Regulation (Batt. Mode)	±10%				
Frequency Range (Batt. Mode)	60 Hz or 50 Hz ±1 Hz				
Transfer Time	Typical 2-6 ms				
Waveform (Batt. Mode)	Simulated Sinewave				
BATTERY					
Battery Type & Number	12 V/7 Ah x 1	12 V/9 Ah x 1	12 V/7 Ah x 2	12 V/9 Ah x 2	12 V/9 Ah x 2
Typical Recharge Time	4 hours recover to 90% capacity		4-6 hours recover to 90% capacity		
INDICATORS					
AC Mode	Green lighting			Green lighting	
Battery Mode	Green flashing			Yellow flashing	
Fault	N/A			Red lighting	
ALARM					
Battery Mode	Beeps every 10 seconds				
Low Battery	Beeps every second				
Overload	Beeps every 0.5 second				
Fault	Continuously beeping				
PROTECTION					
Full Protection	Overload, discharge, and overcharge protection				
PHYSICAL				320 x 130 x 182	
Dimension, D X W X H (mm)	4.25 279 x 101 x 142 4.9			10.4	11
Net Weight (kgs)			8.2		
ENVIRONMENT					
Humidity	0-90 % RH @ 0- 40°C (non-condensing)				
Noise Level	Less than 40dB				

* Product specifications are subject to change without further notice

STAR GATE 1K/2K/3K/6K/10K

Features

- Input power factor correction
- Output power factor 0.9
- Wide input voltage (110V - 300V)
- Converter mode available
- ECO mode for energy saving(Only available for 1-3KVA
- Adjustable battery string numbers only available for 6K/10K models
- Adjustable charging current via LCD or software (1A~6A)
- Emergency power off function (EPO) only available for 6K/10K models
- Generator compatible
- Smart SNMP works well with either USB or RS-233 together
- Comprehensive LCD display allows easy monitoring and access of UPS status



LCD

ON LINE

CE

MODEL		SG 1KVA	SG 2KVA	SG 3KVA	SG 6KVA	SG 10KVA
PHASE		Single phase with ground				
CAPACITY		1000 VA / 900 W	2000 VA / 1800 W	3000 VA / 2700 W	6000 VA / 5400 W	10000 VA / 9000 W
INPUT						
Nominal Voltage		200/208/220/230/240 Vac			208/220/230/240 Vac	
Voltage Range		110-300 Vac (Based on load at 50%) 160-280 Vac (Based on load at 100%)			110-300 Vac (Based on load at 50%) 176-300 Vac (Based on load at 100%)	
Frequency Range		40Hz ~ 70 Hz			46~54 Hz or 56~64 Hz	
Power Factor		≧ 0.99 @ Nominal Voltage (100% load)				
OUTPUT						
Output Voltage		200/208/220/230/240 Vac			208/220/230/240 Vac	
Voltage Regulation		± 1%				
Frequency Range (Synchronized Range)		47~ 53 Hz or 57 ~ 63 Hz			46~54 Hz or 56~64 Hz	
Frequency Range (Batt. Mode)		50Hz ± 0.25Hz or 60Hz ± 0.3Hz			50 Hz or 60Hz ± 0.1 Hz	
Inverter Crest Ratio		3:1				
Harmonic Distortion (THDv)		≦ 3 % THD (Linear Load) ≦ 6 % THD (Non-linear Load)			≦ 3 % THD (Linear Load) ≦ 5 % THD (Non-linear Load)	
Transfer Time	AC Mode to Battery Mode	Zero				
	Inverter to Bypass	4 ms (Typical)			Zero	
Waveform (Batt. Mode)		Pure Sinewave				
EFFICIENCY						
AC Mode		88%	88%	90%	92%	93%
Battery Mode		83%	87%	88%	90%	91%
BATTERY						
Standard Model	Battery Type	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	
	Numbers in string	2	4	6	16	16
	Typical Recharge Time	4 hours recover to 90% capacity			9 hours recover to 90% capacity	
	Charging Current (max.)	1.0 A			1A/2A (Adjustable)	
	Charging Voltage	27.4 Vdc ± 1%	54.7 Vdc ±1%	82.1 Vdc ±1%	218.4 Vdc ±1%	218.4 Vdc ±1%
Long-run Model	Battery Type	Depending on the capacity of external batteries				
	Numbers in string	2	4	6	16	16
	Charging Current (max.)	1A/2A/4A/6A (Adjustable)			1A/2A/4A/6A (Adjustable)	
	Charging Voltage	27.4 Vdc± 1%	54.7 Vdc ±1%	82.1 Vdc ±1%	218.4 Vdc ±1%	218.4 Vdc ±1%
INDICATORS						
LCD Panel		Load level, Battery level, Line mode, Battery mode, Bypass mode, ECO mode and Fault indicators				
ALARM						
Battery Mode		Beeps every 4 seconds				
Low Battery		Beeps every second				
Overload		Beeps twice per second				
Fault		Continously beeping				
PHYSICAL						
Standard Model	Dimension, D x W x H (mm)	282 x 145 x 220	397 x 145 x 220	421 x 190 x 318	369 x 190 x 688	442 x 190 x 688
	Net Weight (kgs)	9.8	17	27.6	61	66
Long-run Model	Dimension, D x W x H (mm)	282 x 145 x 220	397 x 145 x 220	397 x 145 x 220	369 x 190 x 318	442 x 190 x 318
	Net Weight (kgs)	4.1	6.8	7.4	12	16
ENVIRONMENT						
Humidity		20-90 % RH @ 0- 40°C (non-condensing)			0-95% RH @ 0-50°C (non-condensing)	0-95% RH @ 0-40°C (non-condensing)
Noise Level		Less than 50dBA @ 1 Meter			Less than 55dBA @ 1 Meter	Less than 58dBA @ 1 Meter
MANAGEMENT						
Smart RS-232/USB		Supports Windows 2000/2003/XP/Vista/2008/7/8/10, Linux, and MAC				
Optional SNMP		Power management from SNMP manager and web browser				

* Product specifications are subject to change without further notice

On Line UPS

STAR GATE RM 1K/1.5K/2K/3K

- Gerçek çift çevrimli online UPS
- Çıkış güç faktörü 0.9
- Kullanıcı dostu ve kolay kaydırmalı LCD ekran
- Raf / Kule tasarımı
- Programlanabilir güç yönetimi çıkışları
- 50 / 60Hz frekans dönüştürücü modu
- Enerji tasarrufu için ECO ve gelişmiş ECO modu
- Acil güç kapatma işlevi (EPO)
- Çalışırken değiştirilebilir pil tasarımı

CE

ON LINE

MODEL		1 KVA	1 KVA L	1.5 KVA	1.5 KVA L	2 KVA	2 KVA L	3 KVA	3 KVA L
KAPASİTE		1000 VA / 900W	1000 VA / 800W	1500 VA / 1350W	1500 VA / 1200W	2000 VA / 1800W	2000 VA / 1600W	3000 VA / 2700W	3000 VA / 2400W
GİRİŞ									
Nominal gerilim		100*/110*/115*/120/127 Vac or 200/208/220/230/240 Vac							
Voltaj Aralığı		55-150 Vac ± 5% or 110-300 Vac ± 5%							
Frekans Aralığı		40Hz ~ 70 Hz							
Faz		Zeminli tek fazlı							
Güç Faktörü		≧ 0.99 @ Nominal Voltaj (% 100 Yük)							
ÇIKIŞ									
Çıkış Voltajı		100*/110*/115*/120/127 Vac or 200/208/220/230/240 Vac							
Voltaj regülasyonu		± 1%							
Frekans Aralığı (Senkronize Edilmiş Aralık)		47 ~ 53 Hz or 57 ~ 63 Hz							
Frekans Aralığı (Batarya Modu)		50 Hz ± 0.5% or 60Hz ± 0.5%							
Tepe Faktörü		5:1 (max.)							
Harmonik Bozulma		≤% 2 THD (Doğrusal Yük); ≤ % 4 THD (Doğrusal Olmayan Yük)							
Transfer Zamanı	AC Modundan Batarya Moduna	Sıfır							
	İnvertör Bypass	4 ms (Tipik)							
Dalga (Batt. Modu)		Saf Sinüs							
VERİMLİLİK									
AC Modu		87%		88%		88%		89%	
ECO Modu		94%		95%		95%		97%	
Batarya Modu		85%		86%		86%		87%	
BATARYA									
Batarya Türü		12 V / 9 Ah	Harici pillerin kapasitesine bağlı olarak	12 V / 9 Ah	Harici pillerin kapasitesine bağlı olarak	12 V / 9 Ah	Harici pillerin kapasitesine bağlı olarak	12 V / 9 Ah	Harici pillerin kapasitesine bağlı olarak
Sayılar		2		3		4		6	
Tipik Şarj Süresi		4 saatte % 90 kapasiteye ulaşır		4 saatte % 90 kapasiteye ulaşır		4 saatte % 90 kapasiteye ulaşır		4 saatte % 90 kapasiteye ulaşır	
Tipik Şarj Süresi		1.0A	1A/ 2A/ 4A/ 8A	1.0A	1A/ 2A/ 4A/ 8A	1.0A	1A/ 2A/ 4A/ 8A	1.0A	1A/ 2A/ 4A/ 8A
Şarj Akımı (maks.)		27.4 Vdc ± 1%		41.1 Vdc ± 1%		54.7 Vdc ±1%		82.1 Vdc ±1%	
GÖSTERGELER									
LCD Panel		Yük seviyesi, Pil seviyesi, AC modu, Pil modu, Bypass modu ve Arıza göstergesi							
ALARM									
Batarya Modu		4 saniyede bir bip sesi							
Düşük Batarya		Her saniye bip sesi							
Yük		Her saniyede iki kez bip sesi							
Hata		Sürekli bip sesi							
FİZİKSEL									
Boyutlar, D X W X H (mm)		410 x 438 x 88[2U]		510 x 438 x 88[2U]		510 x 438 x 88[2U]		630 x 438 x 88[2U]	
Net Ağırlık (kgs)		12.9	8,6	17.6	10.7	20.6	11.3	28	13.8
ÇEVRE									
Nem		20-90 % RH @ 0- 40°C (Yoğunlaşmamış)							
Gürültü Seviyesi		1 Metreden 50dBA daha az							
YÖNETİM									
Smart RS-232/USB		Windows® 2000/2003 / XP / Vista / 2008, Windows® 7/8/10, Linux, Unix ve MAC'yi destekler							
Optional SNMP		SNMP yöneticisi ve web tarayıcısından güç yönetimi							

Ürün özellikleri önceden haber vermeksizin değiştirilebilir

STAR GATE RM 6K/10K

Features

- True double-conversion online UPS
- Output power factor 0.9
- User-friendly and easy-shift LCD display
- Rack/Tower design
- Programmable power management outlets
- 50/60Hz frequency converter mode
- ECO and advanced ECO mode for energy saving
- Emergency power off function (EPO)
- DSP technology applied
- Active input power factor correction 0.99
- N+X paralled redundancy available

CE

MODEL		RM6K	RM 10K
PHASE		Single phase with ground	
CAPACITY		6000 VA / 5400 W	10000 VA / 9000 W
INPUT			
Nominal Voltage		200/208/220/230/240 Vac	
Voltage Range		176 - 300 Vac ± 3% @ 100% load 110 - 300 Vac ± 3% @ 50% load	
Frequency Range		46~54 Hz or 56~64 Hz	
Power Factor		≧ 0.99 @ 100% load	
OUTPUT			
Nominal Voltage		200/208/220/230/240 Vac	
AC Voltage Regulation		± 1%	
Frequency Range (Synchronized 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)	
Transfer Time	AC mode to Battery mode	Zero	
	Inverter to Bypass	Zero	
Waveform (Batt. Mode)		Pure Sinewave	
EFFICIENCY			
AC Mode		91%	91%
ECO Mode		96%	96%
Battery Mode		88%	88%
BATTERY			
Standard Model	Battery Type	12 V / 7 Ah	12 V / 9 Ah
	Numbers	20 (18-20 pcs adjustable)*	20 (18-20 pcs adjustable)*
	Typical Recharge Time	7 hours recover to 90% capacity	9 hours recover to 90% capacity
	Charging Current (max.)	1.0A	
	Float Charging Voltage	273 Vdc (based on battery numbers at 20 pcs)	
Long-run Model	Battery Type and Numbers	Depending on applications	
	Charging Current (max.)	4.0A	
	Float Charging Voltage	273 Vdc (based on battery numbers at 20 pcs)	
INDICATORS			
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions	
ALARM			
Battery Mode		Beeps every 4 seconds	
Low Battery		Beeps every second	
Overload		Beeps twice every second	
Fault		Continuously beeping	
PHYSICAL			
Standard Model	Dimension, D X W X H (mm)	UPS unit: 606 x 438 x 133 [3U] Battery pack: 606 x 438 x 133 [3U]	UPS unit: 686 x 438 x 133 [3U] Battery pack: 606 x 438 x 133 [3U]
	Net Weight (kgs)	UPS unit: 20 Battery pack: 58	UPS unit: 23.5 Battery pack: 65
Long-run Model	Dimension, D X W X H (mm)	606 x 438 x 133 [3U]	686 x 438 x 133 [3U]
	Net Weight (kgs)	20	23.5
ENVIRONMENT			
Humidity		0-95 % RH @ 0- 40°C (non-condensing)	
Noise Level		Less than 58dBA @ 1 Meter	Less than 60dBA @ 1 Meter
MANAGEMENT			
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux, Unix, and MAC	
Optional SNMP		Power management from SNMP manager and web browser	

On Line UPS — STAR LINE (3P-1P) 10-30K

Features

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.9
- Wide input voltage range (110-300 Vac)
- Active power factor correction in all phases
- Built-in phase auto adapt function simplifies wire installation
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving
- Programmable power management outlets
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Maintenance by pass available
- Optional N+X parallel redundancy
- Optional isolation transformer available

CE

MODEL		3/1-10K (L)	3/1-15K (L)	3/1-20K (L)	3/1-30K (L)
PHASE		3 phase in / 1 phase out			
CAPACITY		10,000 VA / 9,000 W	15,000 VA / 13,500 W	20,000 VA / 18,000 W	230,000 VA / 27,000 W
INPUT					
Nominal Voltage		3 x 400 Vac (3Ph+N)			
Voltage Range		190-520 Vac (3-phase) @ 50% load 305-478 Vac (3-phase) @ 100% load			
Frequency Range		46~54 Hz or 56~64Hz			
Power Factor		≧ 0.99 @ 100% load			
THDi		< 6% @ 100% load			
OUTPUT					
Output Voltage		208/220/230/240Vac			
AC Voltage Regulation (Batt. Mode)		± 1%			
Frequency Range (Synchronized Range)		46~54Hz or 56~64Hz			
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), ≦ 5 % THD (Non-linear Load)			
Transfer Time		Zero			
	AC Mode to Battery Mode	Zero			
Waveform (Batt. Mode)	Inverter to Bypass	Pure Sinewave			
EFFICIENCY					
AC Mode		91.5%	91.8%	91.8%	92.1%
ECO Mode		97%	97%	97%	97%
Battery Mode		87%	88%	88%	89%
BATTERY					
Standard Model	Battery Type	12 V / 9 Ah			
	Numbers in string	20 pcs (18 - 20 pcs adjustable)*	20 pcs (18 - 20 pcs adjustable)* x 2 strings		20pcs(18 - 20 pcs adjustable)* x 3 strings
	Typical Recharge Time	9 hours recover to 90% capacity			
	Charging Current (max.)	1A	2A	2A	4A
	Charging Voltage	273 Vdc ± 1% (Based on 20pcs batteries)			
Long-run Model	Battery Type	Depending on the applications			
	Numbers in string				
	Charging Current (max.)	4A	8A	8A	12A
	Charging Voltage	273 Vdc ± 1% (Based on 20pcs batteries)			
INDICATORS					
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Beeps every 4 seconds			
Low Battery		Beeps every second			
Overload		Beeps twice every second			
Fault		Continuously beeping			
PHYSICAL					
Standard Model	Dimension, D x W x H (mm)	592 x 250 x 576	815 x 250 x 826		815 x 300 x 1000
	Net Weight (kgs)	83	164		234
Long-run Model	Dimension, D x W x H (mm)	592 x 250 x 576	592 X 250 X 576		815 x 250 x 826
	Net Weight (kgs)	28	40		64
ENVIRONMENT					
Humidity		0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 58dB @ 1 Meter	Less than 60dB @ 1 Meter		Less than 65dB @ 1 Meter
MANAGEMENT					
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

STAR LINE (3P-3P) 10-30K

Features

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.9
- Wide input voltage range (110-300 Vac)
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving
- Accepts dual-mains inputs
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Maintenance by pass available
- Optional N+X parallel redundancy
- Optional isolation transformer offers full isolation and complete common mode noise rejection

CE

MODEL		3/3-10K (L)	3/3-15K (L)	3/3-20K (L)	3/3-30K (L)
PHASE		3 phase in / 3 phase out			
CAPACITY		10,000 VA / 9,000 W	15,000 VA / 13,500 W	20,000 VA / 18,000 W	30,000 VA / 27,000 W
INPUT					
Nominal Voltage		3 x 400 Vac (3Ph+N)			
Voltage Range		305-478 Vac (3-phase) @ 100% load 190-520 Vac (3-phase) @ 50% load			
Frequency Range		46~54 Hz or 56~64Hz			
Power Factor		≧ 0.99 @ 100% load			
OUTPUT					
Output Voltage		3 x 400 Vac (3Ph+N)			
AC Voltage Regulation (Batt. Mode)		± 1%			
Frequency Range (Synchronized Range)		46~54Hz or 56~64Hz			
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) ≦ 5 % THD (Non-linear Load)			
Transfer Time	AC Mode to Battery Mode	Zero			
	Inverter to Bypass	Zero			
Waveform (Batt. Mode)		Pure Sinewave			
EFFICIENCY					
AC Mode		90.5%	91.5%	91.5%	92.1%
ECO Mode		96%			
Battery Mode		87%	88%	88%	89%
BATTERY					
Standard Model	Battery Type	12 V / 9 Ah			
	Numbers in string	20 pcs (18 - 20 pcs adjustable)*	20 pcs (18 - 20 pcs adjustable)* x 2 strings		20pcs(18 - 20 pcs adjustable)* x 3 strings
	Typical Recharge Time	9 hours recover to 90% capacity			
	Charging Current (max.)	1A	2A	2A	4A
	Charging Voltage	273 Vdc ± 1%			
Long-run Model	Battery Type	Depending on the applications			
	Numbers in string				
	Charging Current (max.)	4A	4A	4A	12A
	Charging Voltage	273 Vdc ± 1%			
INDICATORS					
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Beeps every 4 seconds			
Low Battery		Beeps every second			
Overload		Beeps twice every second			
Fault		Continuously beeping			
PHYSICAL					
Standard Model	Dimension, D x W x H (mm)	815 x 250 x 826	815 x 250 x 826		815 x 300 x 1000
	Net Weight (kgs)	109	164		233.5
Long-run Model	Dimension, D x W x H (mm)	592 x 250 x 826	592 X 250 X 576		815 x 250 x 826
	Net Weight (kgs)	38	40		64
ENVIRONMENT					
Humidity		0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 60dB @ 1 Meter	Less than 65dB @ 1 Meter		
MANAGEMENT					
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

GALAXY DS Series

10-80 kVA 3 Phase Input - 3 Phase Output (HF) Online UPS with Transformer

MODEL	5010	5015	5020	5030	5040	5060	5080
Apparent Power (kVA)	10	15	20	30	40	60	80
Active Power (kW)	8	12	16	24	32	48	64
INPUT							
Voltage	380/400/415 (Optional 400) Vac (3 P+N+PE)						
Voltage Tolerance	± %5...%20 (Adjustable with %1 step)						
Frequency	50 Hz (Optional 60 Hz)						
Frequency Range	±5%						
THDi	<%5						
Power Factor	0,99						
OUTPUT							
Voltage	380/400/415 (Optional 440) Vac (3 P+N+PE)						
Voltage Regulation	<±1%						
Frequency	50 Hz (Optional 60 Hz)						
Frequency Range	Synchronized to Network±%2 in Line Mode: ± 0,05 Hz in Free Running						
Power Factor	0,8						
Overload	%100<Load<%125 for 10 min., %125<Load<%150 for 1 min., Load>150 :Bypass						
Efficiency (100% Load)	Up to %91						
Crest Ratio	3:1						
THDv	<3% Linear Load, <5% Non-Linear Load						
BYPASS							
Voltage Range	380/400/415 Vac (3 P+N+PE) (Optional 440 Vac)						
Frequency Range	50 (Optional 60) Hz ±%10						
BATTERY							
Battery Type	Maintenance Free Lead Acid Battery 12 Vdc (On request other types)						
Quantity	60						
Charge Voltage	810 Vdc						
Min. Discharge Voltage	630 Vdc						
Battery Protection	Deep Discharge Protection						
GENERAL							
Display	Graphic LCD Monitor, Control Panel, Mimic Diagram						
LED	Line, Battery, Inverter, Load, Fault Indications						
Operating Type	Static, Online,DSP Control						
Topology	High Frequency PWM, IGBT Technology, Output Isolation Transformer						
COMMUNICATION							
Interface	Modbus RTU RS232, Dry Contacts (Battery Low, Input Failure, System Bypass)						
ENVIRONMENTAL							
Operating Temperature	0~40°C						
Storage Temperature	-25~70°C						
Relative Humidity	%20-%90 (Non-Condensing)						
Altitude	<1000 m						
Protection Level	IP20						
Acoustic Noise (from 1m.)	<55 dBA				<60 dBA		
PHYSICAL							
Dimensions (WxDxH)mm	350x800x1650				500x810x1900		
Weight (kg)	195	205	215	225	260	290	410
OPTIONS							
Functions	Parallel Operation, Emergency Stop (EPO)						
Communication	SNMP, Modem						
STANDARDS							
Harmonized Standars	EN 62040-1(LVD), EN62040-2(EMC), EN62040-3						

Features

- IGBT Rectifier and Inverter
- Input Current Harmonic < %5
- Regenerative Operating
- Re-adjustable Battery Charge Current
- Built-in Self-Test
- Silent Performance
- Up to 6 Unit Parallel Operation
- DSP Controlled
- Up to 0.99 Input Power Factor Correction
- Static Bypass at UPS Overload or UPS Failure
- Advanced LCD Panel
- Up to 500 Event History
- High Performance for Medical Instruments
- Parallel Operating without Communication
- CE Certificate
- Patented Technology

Online Ups

GALAXY DS Series are, 3 Phase in/3 Phase out 10-300 kVA True Online, with isolation transformer, Double Conversion UPS Systems with IGBT rectifier providing high input power factor and low input current THD. They produce microprocessor controlled pure sine wave output to critical loads. Industrial manufacturing machines, hospital and monitoring equipment, heavy, medical, communication and laboratory equipment, etc. are the main fields of use with a proved reliable high technology.

GALAXY DS Series

100-800 kVA 3 Phase Input - 3 Phase Output (HF) Online UPS

MODEL	5100	5120	5160	5200	5250	5300	5400	5500	5600	5800
Apparent Power (kVA)	100	120	160	200	250	300	400	500	600	800
Active Power (kW)	80	96	128	160	200	240	320	400	480	640
INPUT										
Voltage	380/400/415 (Optional 440) Vac (3P+N+PE)									
Voltage Tolerance	±%5...%20 (Adjustable with 1% step)									
Frequency	50 Hz (On Reequest 60 Hz)									
Frequency Range	%5									
THDi	<5%									
Power Factor	0,99									
OUTPUT										
Voltage	380/400/415 (Optional 440) Vac (3P+N+PE)									
Voltage Regulation	<±1%									
Frequency	50 Hz(On Request 60 Hz)									
Frequency Range	Synchronized to Network ±2% in Line mode; ±0,05 Hz in Free Running									
Crest Ratio	3:1									
Efficiency (100% Load)	> %93									
Power Factor	0,8									
THDv	<3% Linear Load, <5% Non Linear Load									
Owerload	%100<Load<%125 for min., %125<Load<150for 1 min., Load>150: Bypass									
Short Circuit Protection	Electronic Protection									
BYPASS										
Voltage Range	380/400/415 Vac (3 P+N+PE) (Optional 440 Vac)									
Frequency Range	50 Hz±10%									
BATTERY										
Type	Maintenance Free Lead Acid Battery									
Quantity	60									
Charge Voltage	810 Vdc									
End of Discharge Voltage	630 Vdc									
Battery Protection	Deep Discharge Protection									
Battery Test	Automatic / Manuel									
DISPLAY PANEL										
LCD	Graphic LCD Panel, Mimic Panels and Control Panel									
LED	Line, Battery, Inverter, Load, Fault Indications									
COMMUNICATION										
Interface	Modbus RTU RS232, Dry Contacts (Battery Low, Input Failure, System Bypass)									
ENVIRONMENTAL										
Operating Temperature	0~40°C									
Storage Temperature	-25~+70°C									
Relative Humidity	%0-95 (Non-Condensing)									
Altitude	<1000 m									
Cooling	Air Cooling									
Protection Level	IP20									
Acoustic Noise	<65dBA		<70 dBA		<74 dBA		<75 dBA			
PHYSICAL										
Dimesions (WxDxH)cm	55x80x134		68x101x175		78x126x190		160x87x180	219x81x203		322x87x180
Weight without Batteries(kg)	240	250	380	400	820	850	950	990	1400	2100
OPTIONS										
Connections	Without Neutral for Input and / or Output									
Functions	Up to 6 Units Parallel Operation, EPO Emergency Stop, Split Bypass, Battery Temperature Compensation, Transportable LCD Panel									
Communication	SNMP, Modem									
STANDARDS										
Harmonized Standards	EN 62040-1 (LVD), EN 62040-2 (EMC), EN 62040-3									

Features

- IGBT Rectifier and Inverter
- Input Current Harmonic < %5
- Regenerative Operating
- Re-adjustable Battery Charge Current
- Built-in Self-Test
- Silent Performance
- Up to 6 Parallel Operation
- DSP Controlled
- Up to 0.99 Input Power Factor Correction
- Static Bypass at UPS Overload or UPS Failure
- Advanced LCD Panel
- Up to 500 Event History
- High Performance for Medical Instruments
- Parallel Operating without Communication
- CE Certificate
- Patented Technology

Online Ups

GALAXY DS Series are, 3 Phase in / 3 Phase out 10-800 kVA True Online, Transformer-less, Double Conversion UPS Systems with IGBT rectifier providing high input power factor and low input current THD. They produce microprocessor controlled pure sine wave output to critical loads. Industrial manufacturing machines, hospital and monitoring equipment, heavy, medical, communication and laboratory equipment, etc. are the main fields of use with a proved reliable high technology.

GALAXY RG Series

1-3250 kVA 1 Phase Input / 1 Phase Output - 3 Phase Input / 3 Phase Output

Servo Voltage Stabilizers Technical Specifications

MODEL (See Below Table)	1 PHASE	3 PHASE
Power Range	1-1000 kVA	3-3250 kVA
Input Voltage Range	150-250 Vac*	275-450 Vac*
Min. Input Range (Optional)	120-230 Vac	210-400 Vac
Output Voltage	220 Vac (Optional 230-240Vac)	380 Vac (Optional 400-415 Vac)
Output Voltage Tolerance	±2%	
Frequency	50 Hz (On Request 60 Hz)	
Correction Speed	150 V/sn.	
Control Method	Microprocessor Controlled	
Display	Input / Output Voltage and Currents	
Efficiency	>%95	
Conductor Type	Aluminium (On Request Copper)	
High Voltage Protection	Optional	
Phase Protection Unit	Optional	
Over Temperature Protection	Optional	
Over Current Protection	Optional	
Short Circuit Protection Unit	Optional	
Operating Temperature	-10 ~ +40ºC	
Storage Temperature	-25 ~ +60ºC	
Altitude	<3000 m.	
Protection Class	IP 20 (21,22,31,44,31,44,54 Optional)	
Acoustic Noise	<60 dBA (from 1 m.)	
Standards	TS EN 61000, EN 55011:2009, EN 1558-1	

* Other Voltage ranges can be manufactured per request

Features

- Wide power range from 1kVA to 3250kVA
- Provides stable voltage to your critical loads like as industrial and military devices, CNC machine tools, elevators, medical system etc.
- Excellent Voltage Regulation.
- TOROS Series stabilizers quickly pay itself with his long-lasting and maintenance free structure.
- High speed correction by PWM control technology.

SINGLE PHASE	THREE PHASE	
POWER	POWER	POWER
1 kVA	3 kVA	250 kVA
2 kVA	6 kVA	300 kVA
3,5 kVA	10,5 kVA	400 kVA
5 kVA	15 kVA	500 kVA
7,5 kVA	22,5 kVA	600 kVA
10 kVA	30 kVA	800 kVA
15 kVA	45 kVA	1000 kVA
20 kVA	60 kVA	1200 kVA
25 kVA	75 kVA	1600 kVA
30 kVA	100 kVA	2000 kVA
40 kVA	150 kVA	2500 kVA
50 kVA	200 kVA	3250 kVA

- Scalable: Parallel operation up to 9 units only available for 4k & 5kVA
- Output power factor = 1
- Selectable input voltage range for PC or home appliances
- Smart battery charging algorithm to optimize battery life
- Configurable AC/Solar input priority via LCD panel
- Mains or generators compatible
- Auto restart while AC back and cold start function available
- Various operations, available for balanced 3 phase or unbalanced 3 phase

Expert Off Grid Inverter

MODEL NUMBER	FSP102PV-230FW-12	FSP202PV-230FW-24	FSP302PV-230FW-24	FSP402PV-230FW-48	FSP502PV-230FW-48
Grid system	Single Phase, 230Vac				
Rated power	1,000VA/ 1,000W	2,000VA/ 2,000W	3,000VA/3,000W	4,000VA/ 4,000W	5,000VA/ 5,000W
Parallel ability	No	No	No	Yes, 9 units	Yes, 9 units
Max. PV input power	600W	1,200W	1,200W	2,400W	2,400W
Max. PV voltage (OC)	50Vdc	60Vdc	60Vdc	90Vdc	90Vdc
Number of MPPT	0	0	0	0	0
INPUT CHARACTERISTIC					
AC voltage	Single Phase, 230Vac				
Selectable Voltage Range	170-280 Vac (For PC/ SPS applications), 90-280 Vac (For Home facilities)				
Frequency range	50 Hz/ 60 Hz (Auto)				
OUTPUT CHARACTERISTIC					
AC voltage regulation @ backup mode	230Vac ± 5%				
Surge ability	2,000VA	4,000VA	6,000VA	8,000VA	10,000VA
Transfer time	10 ms (For PC/ SPS) ; 20 ms (For home facilities)				
Output waveform	Pure sinewave				
Efficiency (Line mode)	95%	95%	95%	95%	95%
Efficiency (Battery to AC)	90%	93%	93%	93%	93%
CHARGING CHARACTERISTIC					
Max. charging power	600W	1200W	1,200W	5,280W	5,280W
Max. charging current	50A	50A	50A	110A	110A
Max. PV charging current	50A	50A	50A	50A	50A
Max. AC charging current	20A	30A	30A	60A	60A
Nominal Battery voltage	12Vdc	24Vdc	24Vdc	48Vdc	48Vdc
Over charge protection	15.5Vdc	31Vdc	31Vdc	60Vdc	66Vdc
Battery floating voltage	13.5Vdc	27Vdc	27Vdc	54Vdc	64Vdc
Rated backup time w/ 12V/24V/48V/ 100Ah (min)	50	50	28	50	40
Standby power consumption	<1W	<2W			
PHYSICAL & ENVIRONMENT DATA					
Operating temp range	0℃ - 55℃				
Storage temp range	-15℃ - 60℃				
Humidity	5 - 95% RH, non-condensing				
Altitude	0 - 1000m				
Dimensions (W x H x D)	240 x 316 x 95 mm	272 x 355 x 100 mm	272 x 355 x 100 mm	295 x 455 x 155 mm	295 x 455 x 155 mm
Net weight	5.0 kg	6.5 kg	7.0 kg	9.8 kg	9.8 kg
Protect function	Overload, short circuit, over voltage, high temperature				
Cooling	Air forced				
Enclosure environmental rating	IP20				
INTERFACE					
HMI	LCD display				
Communication port	USB	USB	USB	USB/ RS232	USB/ RS232
Dry contact port	Yes	Yes	Yes	Yes	Yes
Optional accessories	Remote control panel, Parallel kits (Only for 4k & 5k model)				
FEATURES					
Monitoring software	Yes				
Compliance	IEC 55022 Class A ; IEC 60950				
Certification	CE				

*Power derating 1% per 100m while higher than 1000m

*Product specification are subject to change w/o further notice

EMERGY 1000/3000

PORTABLE ENERGY STORAGE SYSTEM

All in One

Charger, Inverter, Battery
Plug and Play

Portable

Compact Size Design,
Easy to Transport

High Efficiency

No Fan, Quiet Operating

EMERGY SERIES

Reference Running Time for Select Loads

Electrical Equipment		Power Consumption	EMERGY 1000 Running Time	EMERGY 3000 Running Time
Lighting	Camping Lantern	5W	22.4 hr	66.9 hr
	LED Lighting	10W	19.6 hr	58.5 hr
	LED Searchlight	30W	13.1 hr	39.0 hr
	Fluorescent Lamp	36W	11.9 hr	35.5 hr
Home Appliance	Radio	10W	19.6 hr	58.5 hr
	Electric Fan	66W	8.2 hr	24.4 hr
	Refrigerator	130W	4.9 hr	14.6 hr
	42" LCD TV	200W	3.4 hr	10.2 hr
	Sound System	200W	3.4 hr	10.2 hr
	Electric Pot	800W	0.9 hr	2.8 hr
	Induction Cooker	1,200W	0.6 hr	1.9 hr
3C Device	Smart Phone	2W	24.5 times	73.1 times
	Tablet	20W	15.7 times	46.8 times
	Notebook Computer	40W	11.2 hr	33.4 hr
	Projector	200W	3.4 hr	10.2 hr
	Desktop PC & Monitor	310W	2.3 hr	6.9 hr
	Laser Printer	500W	1.5 hr	4.4 hr

Features

- Dual input - AC & PV
- High power charger (600W) and Inverter (1.5kW)
- High conversion efficiency (>90%)
- Quiet operating (no fan)
- Selectable on-line UPS or stand-by UPS mode
- In-house battery management techniques (patent pending) including active battery block balancing
- Master system control switch (for prolong storage) and output control switch
- LED capacity indicator
- Stable & reliable name-brand battery cells from fully automatic production lines

Specification

Product Name		EMERGY 1000		EMERGY 3000	
Product Type		PP0915ADN[1]	PP0915EZN[1]	DP2615ADN[1]	DP2615EZN[1]
Battery		Lithium Ion			
Rated Energies		0.9kWh		2.6kWh	
Output Power		1.5kVA			
Inputs	AC	100-120V, 50-60Hz	220-240V, 50-60Hz	100-120V, 50-60Hz	220-240V, 50-60Hz
	PV	50-110V[2]	65-110V[2]	50-110V[2]	65-110V[2]
Outputs	AC	100V or 120V,	220V or 230V,	100V or 120V,	220V or 230V,
		50Hz or 60Hz	50Hz or 60Hz	50Hz or 60Hz	50Hz or 60Hz
	DC	5V@2A (USB)			
Transfer Time		16 mS typical			
Operating Temperatures		0-40℃[3]			
Protections	Battery	Over-charge, Over-discharge, Over-temperature, Under-temperature, Over-current, Short-circuit			
	Charger/Inverter/DC	OVP, OCP, SCP, OTP			
UPS Operating Mode		Standby or On-Line[4], Selectable		Stand by	
Dimensions, LxDxH		472 x 212 x 370 mm		390 x 220 x 680 mm	
Weight		17 kg		30 kg	
Safety		IEC 62133, UN38.3			

1. AC socket(s) varies with country.
2. Will charge battery as long as PV voltage is higher than battery voltage, but may be at slower rate.
3. Consult factory for operations beyond normal operating temperatures
4. Continuous power from 400VA to 550VA, transient power up to 1.5kVA depending on battery status.

INVERTERS

1-500 kW Inverters Systems

G Series

G Series On-Grid String Inverters

20-30 kW (HF) On-Grid Inverters

The inverter by its own cannot produce electric, but just converts the existing DC voltage (direct current) into AC (alternating current). Inverter converting the DC voltage into AC voltage is a device designed to satisfy the energy requirements of instruments where there is no mains. In other words, the inverter can be described as a device that converter 12, 24, 48 and 110 VDC battery voltage into 220 VAC, 50/60 Hz voltage. Inverters are manufactured mainly in 3 types as Square wave inverters, sinusoidal analogy output inverters and Modified Sine wave inverters. Today, Grid Connected inverters have been developed having high DC voltage input range for renewable energy applications. There are two types Inverter as On-Grid and Off-Grid. Ongrid Inverters can feed the grid while Off-Grid inverters work independent from grid and feed its own loads.

C Series

C Series On-Grid String Inverters

110-500 kW (HF) On-Grid Central Inverters

Inverters are usually used in various places for different applications as wind and solar energy applications, sea and land transport vehicles, the GSM network and other communication areas, in zones in where no mains, applications need to store energy (backed up energy) etc. Recently, solar charger, wind charger, solar and wind inver ter&battery charging rectifier in solar and wind energy applications.

K Series

K Series String Inverters

3-20 kW (LF) Off-Grid Inverters

M Series

M Series

1-6 kW (LF) Off-Grid Inverter with Charger

Voltage	Ah (20Hours)	Width	Depth	Height	Weight
12 Volt	1.3 Ah	43	97	52	0.60 kg
12 Volt	2.3Ah	35	178	67	0.97 kg
12 Volt	3.2 Ah	67	135	60	1.30 kg
12 Volt	4.5 Ah	70	90	101	1.40 kg
12 Volt	7.2 Ah	65	151	94	2.15 kg
12 Volt	7 Ah	65	151	94	2.10 kg
12 Volt	9 Ah	65	151	94	2.55 kg
12 Volt	12 Ah	98	151	95	3.60 kg
12 Volt	18 Ah	77	181	167	5.00 kg
12 Volt	26 Ah	175	166	125	8.10 kg
12 Volt	40 Ah	166	198	171	13.50 kg
12 Volt	55 Ah	138	229	210	18 kg
12 Volt	65 Ah	167	350	180	21kg
12 Volt	70 Ah	167	350	180	23 kg
12 Volt	80 Ah	167	350	180	24 kg
12 Volt	90 Ah	169	307	229	28.5 kg
12 Volt	100 Ah	172	328	222	30 kg
12 Volt	120 Ah	177	407	225	35 kg
12 Volt	150 Ah	170	483	240	45 kg
12 Volt	200 Ah	240	522	240	60 kg

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Uninterruptible Power Supply

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