

Super MAX+ SERIES

SUPER PERFORMANCE HIGH FREQUENCY ONLINE UPS

20KVA / 30KVA / 40KVA

3 PHASE IN ~ 3 PHASE OUT

Super Max+ series works on the principle on the principle of 3-level IGBT technology which maximizes the efficiency and the 3-stage extendable charging design optimizes the battery performance. This series is generator compatible and parallel operation up to 3 units is possible. The communication over SNMP, USM and RS-232 is available

FEATURES:

- Unity Output Power Factor
- DSP Technology with IGBT based PFC & Inverter section
- 3-Level IGBT Inverter design Maximizes Efficiency
- Active Power Factor Correction in all 3-Phases
- 50Hz/60Hz Frequency Converter mode
- ECO mode operation for Energy Saving (ECO)
- Backfeed Energy Absorption Box (OPTIONAL), if Need to Operate Motor type Loads on UPS
- Generator Compatible
- USB+RS-232 Multiple Communications available, SNMP (Optional)
- 3-Stage extendable Charging Design for Optimized Battery Performance
- Adjustable Battery Numbers (from 32 to 40-Batteries in pairs of 2)
- Built-In Maintenance Bypass & Static Bypass Switches
- Parallel Operation upto 3 Units (Optional), (with Common Battery Bank)
- Isolation Transformer (Optional)



BENEFITS:

- Smart 4.3" Touch Panel LCD Display for Real-time information for measurement & adjustment of maximum parameters
- EMI Protection (C3-Level) available at Input & Output
- Surge Protection available at Input across R/S/T - N & R/S/T/N - G

TECHNICAL SPECIFICATIONS

MODEL	SUPER MAX+ 30KVA & 40KVA HIGH FREQUENCY ONLINE UPS		
CAPACITY	20KVA/20KW	30KVA/30KW	40KVA/40KW
DC VOLTAGE	DEFAULT: ±192VDC (32-Battery), ADJUSTABLE: ±240VDC (40-Battery)		
PHASE	3 PHASE IN ~ 3 PHASE OUT		
INPUT			
NOMINAL VOLTAGE	3 x 400 VAC (3Ph+N)		
ACCEPTABLE 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		
INPUT CURRENT HARMONIC DISTORTION THD(i)	<4% @ 100% R-Load, <5% @ 100% RCD Load at 230VAC <6% @ 50% R-Load, < 12% @ 50% RCD Load at 230VAC		
OUTPUT			
NOMINAL VOLTAGE	3 x 360*/380/400/415 VAC (3Ph+N)		
AC VOLTAGE REGULATION	±1%(Battery Mode)		
FREQUENCY RANGE	46~54Hz or 56~64Hz (Synchronized Range) 50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz (Battery Mode)		
CURRENT CREST RATIO	3:1 (Max)		
HARMONIC DISTORTION	≅ 2 % THD (Linear Load) ; ≅ 5% THD (Non-Linear Load)		
OVERLOAD CAPABILITY	AC Mode: 100-110% for 60 min, 110-125% for 10 min, 125%~150% 1min, >150% immediately Battery Mode: 100-110% for 60 min, 110-125% for 10 min, 125%~150% 1min, >150% immediately		
TRANSFER TIME			
AC MODE TO BATTERY MODE	Zero		
INVERTER TO BYPASS	Zero		
WAVEFORM(BATTERY MODE)	Pure Sine Wave		
EFFICIENCY	AC Mode: 95.5% / ECO Mode: 98.5% / BATTERY Mode: 94.5%		
BATTERY			
BATTERY TYPE	VRLA / LEAD-ACID Type		
NUMBER OF BATTERIES	Default:32 Nos. Adjustable: 40 Nos. (NOTE: Double Bank in Series of (16~20) + (16~20) Battery with Centre-Tapped Configuration)		
CHARGE CURRENT (Max.)	12A Maximum, Adjustable = 1A/2A/3A/4A/5A/6A/7A/8A/9A/10A/11A/12A, Factory Setting = 4A		
CHARGING VOLTAGE	+/-13.65V*N (N = 16~20)		
INDICATORS			
LCD PANEL	UPS Status, Load Percentage, Load Amperes on each Phase, Output VA & Output Wattage per Phase, Battery level (Charging Ampere & Discharging Ampere), Input/Output Voltage (Phase to Neutral & Phase to Phase Voltage information), Input/Output Frequency, Input Line Current per Phase, Input VA & Input Wattage Per Phase, Temperature information and Data Log Events.		
PHYSICAL			
DIMENSIONS PRODUCT(LxWxH)	630x250x750(in mm)	815x300x1000(in mm)	
NET WEIGHT PRODUCT(KGS.)	43 Kgs.	60 Kgs.	61 Kgs.
ENVIRONMENT			
OPERATING HUMIDITY / TEMP.	<95% and Non-Condensing / 0-40°C		
NOISE LEVEL	Less than 65dB @ 1 Meter		
INGRESS PROTECTION (IP Rating)	IP-20		
MANAGEMENT			
SMART RS-232 OR USB	Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux and MAC		
OPTIONAL SNMP	Power Management from SNMP Manager and Web Browser		

*When output voltage is set as 3 x 360VAC, the output power of the unit will be de-rated to 90%.
*Product specifications are subject to change without prior notice.

Super MAX+ SERIES

SUPER PERFORMANCE HIGH FREQUENCY ONLINE UPS

60KVA / 80KVA / 100KVA / 120KVA

3 PHASE IN ~ 3 PHASE OUT

Super Max+ series works on the principle of 3-level Inverter technology which maximizes the efficiency by reducing conversion heat-loss and the 3-stage extendable charging design optimizes the battery performance. This series is generator compatible and parallel operation up to 4 units is possible. The communication feature over SNMP, USB and RS-232 is available.

FEATURES:

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 1
- Active power factor correction in all phases at Input
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving (ECO)
- 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 32-40 battery
- Maintenance bypass available
- Parallel can be done with either individual battery bank on each UPS, or with Common Battery Bank.
- Parallel can be done with either individual battery bank on each UPS, or with Common Battery Bank (But Parallel & Share current cables are Optional, need to Order separately for Parallel)
- Optional External backfeed Absorb box, for Regenerative type loads like Elevators\Lifts, some CNC Machines etc. The indication of such type of loads on UPS is, it will trip its output detecting UPS internal bus voltage high error\fault.

100\120KVA (Transformer-Less Design)



60\80KVA (Transformer-Less Design)

BENEFITS:

- Smart 5" touch Panel LCD display in 60\80KVA & 7" in 100\120 KVA for Real-time information for measurement & adjustment of maximum parameters.
- EMI Protection (C3-Level) available at Input & Output.
- ± 6KVA Surge Protection available at Input across R/S/T - N & R/S/T/N - G
- Swappable Power Modules in 100KVA & 120KVA, with 2 x 50KW Power modules in 100KVA & 2x 60KW Power Modules in 120KVA, with Common Control Boards, for ease of service\ maintenance.
- Dual-Input design for ease of connecting 2 UPS in hot-standby or to provide other secondary source on the bypass input.

TECHNICAL SPECIFICATIONS

MODEL	SUPERMAX+ 3P/3P 60K-120KVA ONLINE UPS			
CAPACITY	60KL	80KL	100KL	120KL
PHASE	3-Phase in / 3-Phase out			
CAPACITY	60KVA/60KW	80KVA/80KW	100KVA/100KW	120KVA/120KW
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			
HARMONICS DISTORTION (THDi)	< 4% at full Linear Load			
OUTPUT				
OUTPUT VOLTAGE	3 x 360**/380/400/415 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 (THDv) AT OUTPUT	≤ 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 SINE WAVE			
OVERLOAD	AC MODE	100-110% for 60 min, 110-125% for 10 min, 126%-150% for 1 min, >150% for 400ms		
	BATTERY MODE	100-110% for 60 min, 110-125% for 10 min, 126%-150% for 1 min, >150% for 400ms		
PARALLEL CAPACITY	up to 4 units in parallel with Either Common battery bank or Separate battery bank			
EFFICIENCY (peak efficiency)				
AC MODE	95.5%			
ECO MODE	98.5%			
BATTERY MODE	94.5%			
BATTERY				
BATTERY TYPE	SMF (VRLA) / LEAD-ACID BATTERIES			
NUMBERS	32-40 pcs (Adjustable)			
CHARGING CURRENT (MAX.)	2A-18A (Adjustable)	2A-32A (Adjustable)	2A - 24A (Adjustable)	2A - 36A (Adjustable)
CHARGING VOLTAGE	+/-13.65V*N (N = 16-20)			
INDICATORS				
LCD PANEL (5-INCH TOUCH SCREEN LCD IN 60-80K & 7-INCH IN 100-120KVA)	UPS status, Load percentages & amperes on each phase at output, Output VA & Wattage in each phase, Battery level (Charging ampere & discharging ampere), Input/Output voltage (Phase to Neutral & phase to phase information), Input / output Frequency, Input Line Current per phase, Input VA/ Wattage/ PF per phase, Temperature information, Data Log Events (max 500-events) and Fault conditions			
ALARM				
BATTERY MODE	Sounding every 4 seconds			
LOW BATTERY	Sounding every second			
OVERLOAD	Sounding twice every second			
FAULT	Continuously sounding			
PHYSICAL				
DIMENSION, D X W X H (MM)	815 x 300 x 1000	790 x 360 x 1010	974 x 600 x 1600	
NET WEIGHT (KGS)	74	113	250	
ENVIRONMENT				
OPERATION TEMPERATURE	0-40°C			
OPERATION HUMIDITY	<95% and non-condensing			
NOISE LEVEL	Less than 70dBA @ 1-meter		Less than 75dBA @ 1-meter	
MANAGEMENT				
SMART RS-232/USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux and MAC			
POTENTIAL-FREE CONTACT (DRY-CONTACT) PORT	8-Input & 6-Output Dry-Contact port available			
OPTIONAL SNMP	Power management from SNMP manager and web browser			

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- ECO mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
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- Adjustable battery numbers 32-40 battery
- Maintenance bypass available
- Parallel can be done with either individual battery bank on each UPS, or with Common Battery Bank.
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- Optional External backfeed Absorb box, for Regenerative type loads like Elevators\Lifts, some CNC Machines etc. The indication of such type of loads on UPS is, it will trip its output detecting UPS internal bus voltage high error\fault.



BENEFITS:

- Smart 5" touch Panel LCD display in 60\80KVA & 7" in 100\120 KVA for Real-time information for measurement & adjustment of maximum parameters.
- EMI Protection (C3-Level) available at Input & Output.
- ± 6KVA Surge Protection available at Input across R/S/T - N & R/S/T/N - G
- Swappable Power Modules in 100KVA & 120KVA, with 2 x 50KW Power modules in 100KVA & 2x 60KW Power Modules in 120KVA, with Common Control Boards, for ease of service\ maintenance.
- Dual-Input design for ease of connecting 2 UPS in hot-standby or to provide other secondary source on the bypass input.

TECHNICAL SPECIFICATIONS

MODEL		SUPERMAX+ 3P/3P 60K~120K ONLINE UPS WITH ISO TX AT OUTPUT			
CAPACITY		60KL	80KL	100KL	120KL
PHASE					
CAPACITY		Isolation Trx Inbuilt 60KVA/60KW	Isolation Trx Inbuilt 80KVA/80KW	External Isolation Transformer Optional 100KVA/100KW 120KVA/120KW	
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			
OUTPUT					
OUTPUT VOLTAGE		3 x 360**/380/400/415 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		2.6:1 (max.)		3:1 (max.)	
HARMONIC DISTORTION		≤ 2 % THD (Linear Load) ≤ 10 % THD (Non-linear Load)		≤ 2 % THD (Linear Load) ≤ 10 % THD (Non-linear Load)	
TRANSFER TIME	AC MODE TO BATTERY MODE	Zero			
	INVERTER TO BYPASS	Zero			
WAVEFORM (BATT. MODE)		PURE SINE WAVE			
OVERLOAD	AC MODE	100-110% for 60 min, 110-125% for 10 min, 126%-150% for 1 min, >150% for 400ms			
	BATTERY MODE	100-110% for 60 min, 110-125% for 10 min, 126%-150% for 1 min, >150% for 400ms			
PARALLEL CAPACITY		Max upto 4-Units, with either Individual battery bank OR Common battery bank			
EFFICIENCY					
AC MODE		87.5%		87.5%	
ECO MODE		93.5%		93.5%	
BATTERY MODE		86.5%		86.5%	
BATTERY					
BATTERY TYPE		Depending on the capacity of external batteries		SMF (VRLA) / LEAD-ACID BATTERIES	
NUMBERS		32~40 pcs (Adjustable)			
CHARGING CURRENT (MAX.)		2A~18A (Adjustable)	2A~32A (Adjustable)	2A - 24A (Adjustable)	2A - 36A (Adjustable)
CHARGING VOLTAGE		+/-13.65V*N (N = 16~20)			
INDICATORS					
LCD PANEL (5-INCH TOUCH SCREEN LCD)		UPS status, Load percentages & amperes on each phase at output, Output VA & Wattage in each phase, Battery level (Charging ampere & discharging ampere), Input/Output voltage (Phase to Neutral & phase to phase information), Input / output Frequency, Input Line Current per phase, Input VA/ Wattage/ PF per phase, Temperature information, Data Log Events (max 500-events) and Fault conditions			
ALARM					
BATTERY MODE		Sounding every 4 seconds			
LOW BATTERY		Sounding every second			
OVERLOAD		Sounding twice every second			
FAULT		Continuously sounding			
PHYSICAL					
DIMENSION, D X W X H (MM)		790 x 720 x 1060		974 x 600 x 1600	
NET WEIGHT (KGS)		440	475	250	
ENVIRONMENT					
OPERATION TEMPERATURE		0-40°C			
OPERATION HUMIDITY		<95% and non-condensing			
NOISE LEVEL		Less than 75dB @ 1 Meter		Less than 75dB @ 1 Meter	
MANAGEMENT					
SMART RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux and MAC			
OPTIONAL SNMP		Power management from SNMP manager and web browser			

*When output voltage is set as 3 x 360VAC, the output power of the unit will be de-rated to 90%.
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