

# MAX+ SERIES

HIGH FREQUENCY HIGH PERFORMANCE ONLINE UPS

1KVA/2KVA/3KVA  
INTERNAL BATTERIES

1KVA/2KVA/3KVA  
EXTERNAL BATTERIES

Max+ series operates with programmable power management outlet along with the availability of hot standby feature and it's static bypass improves its reliability. The SNMP card is also available on demand as an option. This series is based on High Frequency Double Conversion IGBT technology with static bypass which improves reliability and consists of advanced PFC technology or battery management. The fixed output frequency can be synchronized with the input frequency.



## FEATURES:

- Inbuilt charger of 9.5 Amps
- Smart display for real time information
- Inbuilt over voltage cut off device with surge protection
- Robust design with enhanced reliability
- Frequency convert mode (50Hz/60Hz)
- Generator Compatible
- External Charger: Capacity expansion to 8 Amps (Optional)
- EMI/RFI Noise Filter
- SNMP Card (Optional)
- Power Factor: 0.9
- Waveform (Battery Mode): Pure Sine wave

## BENEFITS:

- Efficient micro controller based
- Hot standby feature
- Programmable power management outlets
- Static bypass
- Over heating indication and protection.
- Noise Level: Less than 50dBA@ 1meter (with fan speed control)
- SNMP (Optional): Power management from SNMP manager and web browser.

## TECHNICAL SPECIFICATIONS

MODEL	NM36MX1KK11/IB MODEL	NM72MX2KK11/IB MODEL	NM72MX3KK11/IB MODEL
<b>CAPACITY</b>	<b>1KVA/900W</b>	<b>2KVA/1800W</b>	<b>3KVA/2700W</b>
<b>INPUT</b>			
VOLTAGE RANGE	110VAC±5% ~ 300VAC±5%		
FREQUENCY RANGE	40Hz~70Hz		
PHASE	Single Phase with Ground		
INPUT POWER FACTOR	≥0.99 @ Full Load		
<b>OUTPUT</b>			
VOLTAGE RANGE	200/208/220/230/240VAC		
AC VOLTAGE REGULATION	±1%(Battery Mode)		
FREQUENCY RANGE (Battery Mode)	50Hz±0.25Hz or 60Hz±0.3Hz		
CURRENT CREST RATIO	3:1		
HARMONIC DISTORTION	≤2% THD(Linear Load); 4% THD(Non-Linear Load)		
OVERLOAD CAPABILITY	105%~110% : UPS shuts down after 10 minutes at battery mode or transfer to bypas when the utility is normal. 110%~130% : UPS shuts down after 1 minute at battery mode or transfer to bypas when the utility is normal. >130% : UPS shuts down after 3 seconds at battery mode or transfer to bypas when the utility is normal.		
<b>TRANSFER TIME</b>			
AC MODE TO BATTERY MODE	Zero		
INVERTER TO BYPASS	<4ms(Typical 2.5ms)		
<b>WAVEFORM(BATTERY MODE)</b>	Pure Sine Wave		
<b>EFFICIENCY</b>	85%~92%		
<b>BATTERY</b>			
DC VOLTAGE	36VDC/IB(3Battery 7AH inside)	72VDC/IB(6Battery 7AH inside)	72VDC/IB(6Battery 7AH inside)
TYPE AND NUMBERS	SMF/Lead Acid/Tubular depending on the capacity of the External Batteries		
CHARGE CURRENT	1.5A~9.5A		
CHARGING CURRENT(Adjustable)	2.0A/4.0A/6.0A/8.0A(Maximum) Selectable via LCD setting		
<b>PHYSICAL</b>			
DIMENSIONS PRODUCT(LxWxH)	397x145x220( in mm)	421x190x318( in mm)	421x190x318( in mm)
NET WEIGHT PRODUCT(KGS.)	7.8 Kgs./(IB-12.5Kgs.)	12.10 Kgs./(IB-25.8Kgs.)	12.52 Kgs./(IB-27.0Kgs.)
<b>ENVIRONMENT</b>			
OPERATING HUMIDITY	20-95% RH@ 0-40°C(Non-Condensing)		
NOISE LEVEL	Less than 50dBA@1Meter(With Fan Speed Control)		
<b>LED/LCD INDICATION</b>	LCD Indications		
<b>MANAGEMENT</b>			
SMART RS-232 OR USB	Supports Windows® 2000/2003/XP/Vista/2008/7/8, Linux, Unix, MAC		
OPTIONAL SNMP	Power Management from SNMP Manager and Web Browser		

\*Product specifications are subject to change without prior notice.

# MAX+ SERIES

HIGH FREQUENCY HIGH PERFORMANCE ONLINE UPS

## ONLINE UPS

6KVA/10KVA

EXTERNAL BATTERIES



Max+ series operates with programmable power management outlet along with the availability of hot standby feature and it's static bypass improves its reliability. The SNMP card is also available on demand as an option. This series is based on High Frequency Double Conversion IGBT technology with static bypass which improves reliability and consists of advanced PFC technology or battery management. The fixed output frequency can be synchronized with the input frequency.

### SALIENT FEATURES:

- Unity Power Factor Output with 20-Battery Option
- High Efficiency up to 94%
- True Double-Conversion
- DSP technology guarantees High Performance
- Wide Input Voltage Range (110-300 VAC)
- Light Weight UPS
- Active Input Power Factor correction 0.99
- 50Hz/60Hz Frequency Converter mode
- Emergency Power Off function (EPO)
- ECO mode for Energy Saving
- SNMP/USB/RS-232 Communications
- Adjustable Battery Numbers
- Maintenance Bypass & Static Bypass Available
- Optional N+X Parallel Redundancy
- Inbuilt Surge Protection with OVCD Available
- Generator Compatible
- External Charger: Capacity expansion to 4 Amps (Optional)

### TECHNICAL SPECIFICATIONS

MODEL	MAX+ 6KVA	MAX+ 10KVA
CAPACITY	6000VA/4800W**	10000VA/8000W**
DC VOLTAGE	DEFAULT=192VDC, ADJUSTABLE=216VDC & 240VDC	
PHASE	1 PHASE IN - 1 PHASE OUT	
<b>INPUT</b>		
NOMINAL VOLTAGE	208/220/230/240 VAC	
VOLTAGE RANGE	110~300VAC ± 3% at 50% Load / 176~300VAC ± 3% at 100% load	
FREQUENCY RANGE	46~54 Hz	
POWER FACTOR	≥ 0.99 @100% Load	
TOTAL HARMONIC DISTORTION THD(i)	<4%@100% Load, <6%@50% Load	
<b>OUTPUT</b>		
OUTPUT POWER FACTOR	DEFAULT = 0.8, Optional = 0.9 With 18-Battery, 1 With 20-Battery**	
NOMINAL VOLTAGE	208*/220/230/240 VAC	
AC VOLTAGE REGULATION	±1%(Battery Mode)	
FREQUENCY RANGE	46~54Hz(Synchronized Range) / 50Hz ± 0.1 Hz (Battery Mode)	
CURRENT CREST RATIO	3:1(Max)	
HARMONIC DISTORTION	≤ 1% THD (Linear Load); ≤ 4% THD (Non-Linear Load)	
OVERLOAD CAPABILITY	AC Mode: 100%~110%: 10min ; 110%~130%: 1min ; >130% : 1sec Battery Mode: 100%~110%: 30sec ; 110%~130%: 10sec ; >130% : 1sec	
<b>TRANSFER TIME</b>		
AC MODE TO BATTERY MODE	Zero	
INVERTER TO BYPASS	Zero	
WAVEFORM (BATTERY MODE)	Pure Sine Wave	
EFFICIENCY	AC Mode: 94% / BATTERY Mode: 91%	
<b>BATTERY</b>		
BATTERY TYPE	VRLA / SMF	
NUMBER OF BATTERIES	Default: 16 Nos. Adjustable: 18 & 20 Nos.	
CHARGING CURRENT (Max.)	4.0A	
CHARGING VOLTAGE	(13.65VDC x Battery Number) ± 1%	
<b>PHYSICAL</b>		
DIMENSIONS PRODUCT(LxWxH)	555x250x830(in mm)	
NET WEIGHT PRODUCT(KGs.)	32.5 Kgs.	33.0 Kgs.
<b>ENVIRONMENT</b>		
OPERATING HUMIDITY / TEMP.	20~90%RH and Non-Condensing / 0.40oC	
NOISE LEVEL	Less than 55dB @ 1 Meter	Less than 58dB @ 1 Meter
LCD INDICATION	UPS Status, Load Level, Battery Level, Input/Output Voltage, Input/Output Freq. / Discharge Timer / Fault Status	
<b>MANAGEMENT</b>		
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	

\* Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC or parallel system is operated.  
 \*\*When Using 20 Pcs of Batteries. Output Power Factor will be Unity. With 18 Pcs of Battery Output Power Factor will be 0.9.  
 \*\*\*If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.  
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# MAX+ SERIES

HIGH FREQUENCY HIGH PERFORMANCE ONLINE UPS

1KVA / 2KVA / 3KVA ISO TX

## EXTERNAL BATTERIES

Max+ series operates with programmable power management outlet along with the availability of hot standby feature and it's static bypass improves its reliability. The SNMP card is also available on demand as an option. This series is based on High Frequency Double Conversion IGBT technology with static bypass which improves reliability and consists of advanced PFC technology or battery management. The fixed output frequency can be synchronized with the input frequency.



Online UPS Models  
With inbuilt Isolation Transformers

## FEATURES:

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Wide input voltage (110 V – 300V)
- 50/60Hz Frequency Converter Mode
- ECO mode for energy saving
- Emergency power off (EPO) function
- Adjustable charging current via LCD panel
- SNMP/USB/RS-232 multiple communications (SNMP is Optional)
- 3-stage smart battery charger design to optimize battery performance
- Comprehensive display allows easy monitoring and access of UPS status
- Generator compatible
- Built in galvanic isolation transformer

## BENEFITS:

- Efficient micro controller based
- Hot standby feature
- Programmable power management outlets
- Static bypass
- Over heating indication and protection.
- Noise Level: Less than 50dBA@ 1meter (with fan speed control)
- SNMP (Optional): Power management from SNMP manager and web browser.

## TECHNICAL SPECIFICATIONS

MODEL	MAX+ 1KVA ISO TX	MAX+ 2KVA ISO TX	MAX+ 3KVA ISO TX
<b>CAPACITY</b>	1000VA / 900W	2000VA / 1800W	3000VA / 2700W
<b>Input</b>			
Nominal Voltage	200/208/220/230/240 VAC		
Voltage Range	Low Line Transfer	160 VAC / 140 VAC / 120 VAC / 110 VAC ± 3 % based on load percentage 100 % - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0	
	Low Line Comeback	175 VAC / 155 VAC / 135 VAC / 125 VAC ± 3 %	
	High Line Transfer	300 VAC ± 3%	
	High Line Comeback	290 VAC ± 3%	
Frequency Range	40Hz ~ 70Hz		
Phase	Single phase with ground		
Power Factor	≥ 0.99 @ full load		
THDi	≤5% @ 220-230VAC on Full Charged battery THDU < 1.6% @ input and full linear load condition		
<b>OUTPUT</b>			
Output Voltage	200/208/220/230/240 VAC		
AC Voltage Regulation (Batt. Mode)	± 2%		
Frequency Range (Synchronized Range)	50Hz system:47 ~ 53 Hz (60Hz system:57-63Hz)		
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz (60Hz ± 0.1 Hz)		
Current Crest Ratio	3:1		
Harmonic Distortion at output	≤ 3 % THD (Linear Load)		
	≤ 6 % THD (Non-linear Load)		
Transfer Time	AC to DC	Zero	
	Inverter to Bypass	4 ms (Typical)	
	ECO to Battery mode	8 ms (Typical), 10 ms(max)	
Waveform (Batt. Mode)	Pure Sinewave		
<b>EFFICIENCY</b>			
AC Mode	78% @ full charged battery	83% @ full charged battery	84% @ full charged battery
ECO mode	84% @ full charged battery	90% @ full charged battery	90% @ full charged battery
Battery Mode	75%	81%	81%
<b>BATTERY</b>			
Long-run Model	Battery Type	SMFVRLA / LEAD-ACID	
	Numbers	12V x 3Pcs	12V x 6Pcs
	Charging Current (max.)	1A/2A/4A/6A/8A (Selectable), default 8A	
	Charging Voltage	41.1VDC ± 1%	82.2VDC ± 1%
<b>INDICATORS</b>			
Status on LCD	UPS status, Load level, Battery level, Input/Output voltage/Frequency, and Fault conditions Via LCD		
<b>ALARM</b>			
Battery Mode	Sounding every 5 seconds		
Low Battery	Sounding every 2 seconds		
Overload	Sounding every second		
Fault	Continuously sounding		
<b>PHYSICAL</b>			
Dimension, D X W X H (mm)	421 X 190 X 318		
Net Weight (kgs)	15.3	17.8	23.3
Outlet types & Number	3-Pin 6Amp India type Sockets, 4-pcs		
Inlet type	IEC C14 10A Socket	IEC C20 16A Socket	3-Pin 50A Hard-Wire terminal
<b>ENVIRONMENT</b>			
Humidity & Operating Temperature	20-95 % RH @ 0 - 40°C ** (non-condensing)		
Noise Level	Less than 55dBA @ 1 Meter with Fan speed control	Less than 65dBA @ 1 Meter with Fan speed control	
Degree of Ingress Protection	IP-20		
<b>MANAGEMENT</b>			
Smart RS-232 or USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC		
Optional external Slot (for SNMP, Dry contact, ...)	Power management from SNMP manager and web browser		

\* Derate capacity to 80% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 200VAC or 208VAC.

\*\* Above 40C, output power shall derate to 12% of nominal power capacity for every 5C rise in temperature upto 50C.

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