

# *Trusty-MxSeries*

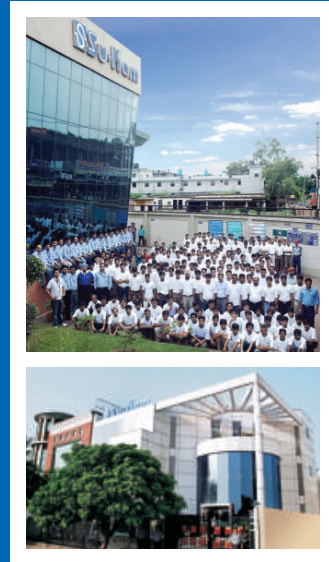
Power Rating  
1 KVA / 2 KVA / 3 KVA / 6 KVA / 10 KVA / 20 KVA

# Powering Your Connection



# KNOW SU-KAM

- India's most admired, world class power solutions provider, with a growing presence across India and over 70 countries worldwide. Target to take the tally to 100 countries by 2012.
- Su-Kam has over 2100 employees across the country, 23 offices in India and 1 each at Dubai, Nepal & Bangladesh.



## SU-KAM SYNERGISES ITS EXPERTISE IN MANUFACTURING

Su-kam has 7 state-of-the-art manufacturing facilities. All our manufacturing facilities are certified under OHAS – 18001 for operational health and safety.



### **BENEFITS:-**

- DSP based High frequency design using latest IGBT guarantees high reliability
- Active Power Factor Correction with input power factor > 0.99 for 10% to 100% load
- High efficiency in both Mains Mode & Battery Mode
- Extra wide Input voltage Window
- Noiseless operation
- SMPS Based Charger
- High-inrush current handling capacity
- User friendly LCD display

### **SILENT FEATURES:-**

- Inbuilt static bypass
- High crest factor handles all high-inrush current loads without need for power rating upgrade
- DC-start function
- Parallel redundancy is available in 6, 10 & 20 KVA

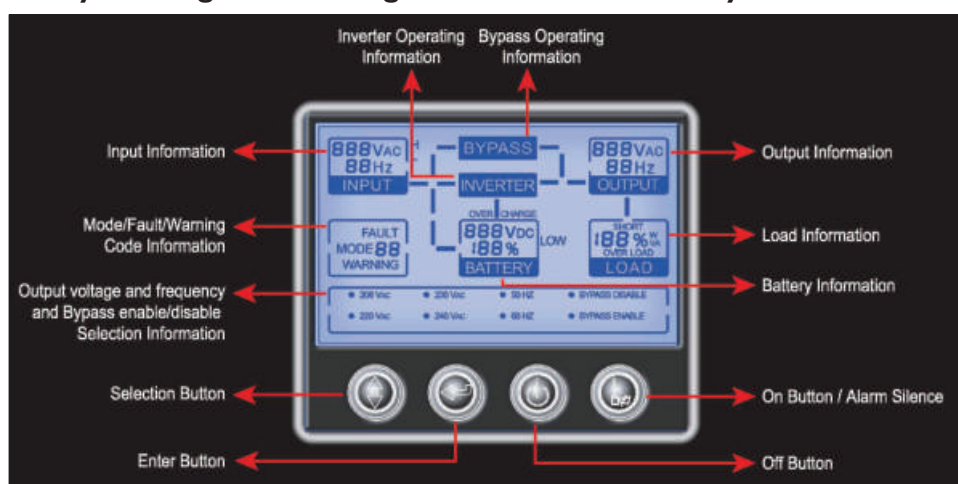


# TRUSTY -MX , BUILT FOR RELIABILITY , PURITY AND POWER

Trusty – Mx series UPS make use of double conversion circuitry to detect the electricity current and voltage output of utility power supply. The current is via the high frequency PWM to maintain uniform wave form and phase in line with the voltage, so as to attain high input power factor over 95% and avoid generating comparatively significant harmonic interference on the power.

With the use of outstanding IGBT as the power conversation component, the operating frequency of the inverter of UPS is capable of reaching tens of KHz, due to the high frequency operating characteristics of IGBT. Higher working efficiency of the inverter also improves the overall efficiency of the UPS and higher inversion frequency reduces the noise of the inverter as well.

## Trendy and Elegant LCD design for the real time UPS system information.



### Microprocessor Control:

By mean of innovative software and control programs, the complicated hardware circuitry is inlaid in the powerful microprocessor. Apart from reduced size it also lowers the defective rate of UPS.

### Communication Port:

Trusty offer three different communication ports for the user selection : RS-232, USB card, SNMP card and AS-400 card. Through either one of them, the user can control and monitor UPS status easily.

### Extended Backup Time:

Long backup models are allowed to connect external batteries to get prolonged backup time. The feature is particularly suitable for the areas where power supply are consistently in shortage .

### Auto Self- Testing System:

When turning on the Trusty UPS system, it immediately performs an inspection of the components such as the inverter , the battery , and the load. The system will also detect any problems in time to avoid causing any damage to the system.

### Modular Design:

Trusty 1-3 KVA is the modular design UPS . there are many small modular boards on the power board. They

are fan module , charger module , power supply module, DC-DC module , PFC module and PWM driver module etc. The modular design helps technicians to maintain and repair the UPS easily and the product performance will be more stable.

### N+X Parallel Redundancy:

The parallel redundancy feature is available for high level 6 KVA to 20 KVA models. Comparing to current 1 + 1 parallel redundancy architecture technology in the market , Su-Kam N+X parallel redundancy architecture technology can even achieve the saving of purchasing an extra UPS with corresponding backup rating . this feature benefits on the reducing the cost on your IT equipment investment.

### User Selectable Output Voltage.

Trusty enables users to select corresponding output voltage to the local mains power without changing hardware. User can select output voltage by just pushing a button.

### Power Management Software :

To provide the battery control of the trusty UPS system , we developed a free download software , Winpower , available online for you to monitor and manage UPS working status easily and in real time.

Model		1000	1000 XL	2000	2000XL	3000	3000XL
CAPACITY	VA / W	1000VA/800W		2000VA/1600W		3000VA/2400W	
INPUT	Voltage Range	110 ~ 300VAC Depends on load Level					
	Frequency Range	45Hz ~ 55Hz / 54Hz ~ 66Hz					
	Phase	Single phase with ground					
	THDI	< 5% with Full load					
	Power Factor	≥0.99					
OUTPUT	Voltage	200/208/220/230/240VAC					
	Voltage Regulation	± 2%					
	Frequency (Synchronized Range)	45Hz ~ 55Hz / 54Hz ~ 66Hz					
	Frequency (Battery Mode)	50/60 ± 0.2 Hz					
	Harmonic Distortion	≤3% @ Linear Load≤ 5% @ Non-Linear Load					
	Current Crust Ratio	3:1					
	Output Waveform	Pure Sine Wave					
	Over Load Capacity line mode	1min @105% ~ 110% load					
		30s @ 110% ~ 120% load					
	Over Load Capacity BAT mode	10s @ 125% ~ 150% load					
		1s @ >150% load"					
EFFICIENCY	Line Mode	>88%					
	BAT Mode	>85%					
	ECO Mode	>93%		>94%			
Battery	Numbers of Batteries	3	Depending upon the capacity of external batteries	8	Depending upon the capacity of external batteries	8	Depending upon the capacity of external batteries
	Battery Type	12V/7Ah		12V/7Ah		12V/7Ah	
	Backup Time (Full Load)	> 5 minutes		> 9 minutes		> 9 minutes	
	Recharge Time	5 hours to 90%		5 hours to 90%		5 hours to 90%	
	Charging Current	1A	8A	1A	8A/12A optional	1A	8A/12A optional
TRANSFER TIME	BAT <--> LINE	0ms					
	INV <--> BYPASS	<4ms					
	INV --> ECO	<4ms					
	ECO --> INV	<10ms					
INDICATOR	LCD	Load Level / Battery Level / Battery Mode / AC Mode / Bypass Mode / Fault					
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds					
	Low Battery	Sounding every second					
	Fault	Continuously Sounding					
	Overload	Sounding twice every second					
DIMENSION	Tower Case (WxHxD)mm	145 x 220 x 400		192 x 347 x 460			
ENVIRONMENT	Operating Environment	0-45° C					
	Relative Humidity	20-90% (NON-CONDENSING)					
	Noise Level	<50dB @ 1 Meter					
INTERFACE	USB	Software supports Windows 98/NT/2000/XP/2003/ME, Linux, and MAC					
	External Slot	SNMP/AS400/Relay Card					
	EPO	Emergency Power Off					

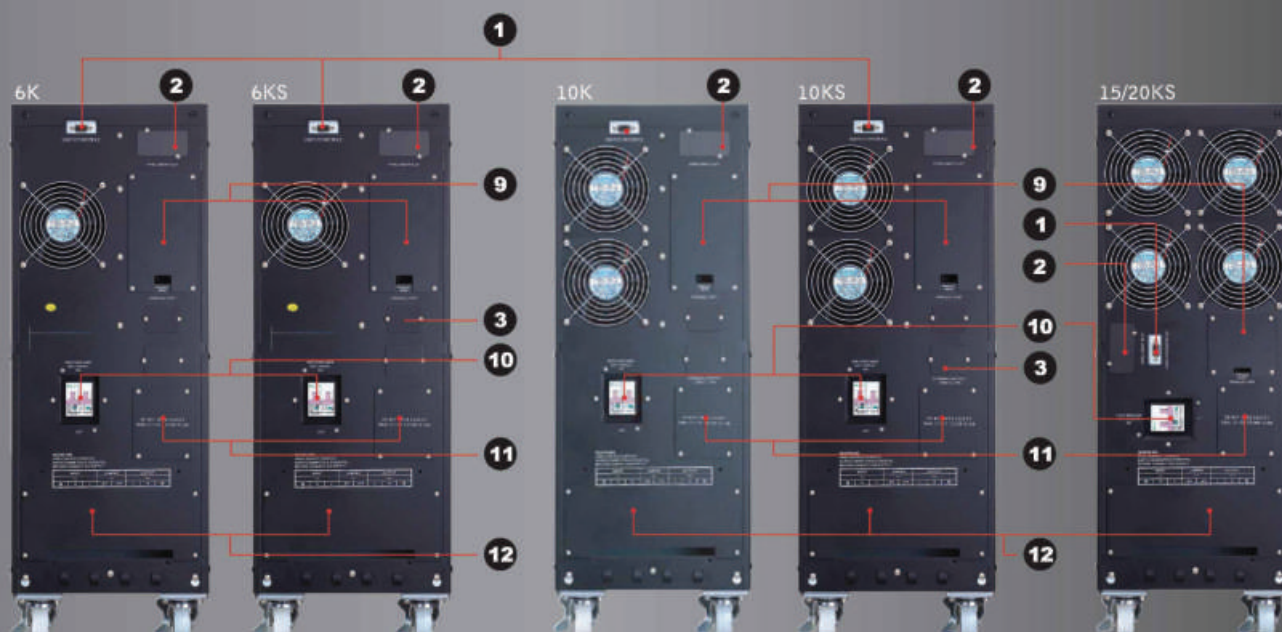
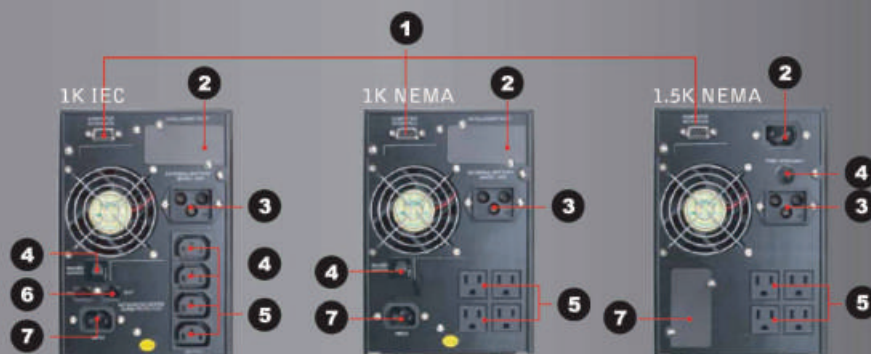
Model		6000	6000 XL	10K	10K-XL
CAPACITY	VA / W	6000VA/5400W		10000VA/9000W	
INPUT	Adjustable Input Voltage	110 ~ 276VAC			
	Adjustable By Pass Voltage	110 ~ 276VAC			
	Frequency Range	45Hz ~ 55Hz/ 54Hz ~ 66Hz			
	Phase	Single phase with ground			
	THDI	< 5% @ R Full Load			
	Power Factor	0.99			
OUTPUT	Voltage	208/220/230/240VAC			
	Voltage Regulation	< 1%			
	Current Crest Ratio	3:1			
	Frequency (Synchronized Range)	45Hz ~ 55Hz/ 54Hz ~ 66Hz			
	Frequency (Battery Mode)	50/60 +/- 0.05 Hz			
	Harmonic Distortion	2% @ Linear Load 5% @ Non-Linear Load			
	Output Waveform	Pure Sine Wave			
	Over Load Capacity line mode	2 min @ 105% ~ 125%			
	Over Load Capacity BAT mode	30 sec @ 125% ~ 150% 1 sec @ 150% ~ 150% load			
	Parallel	upto 4			
EFFICIENCY	Line Mode	> 92% @ Full Load and Battery Fully Charged			
	BAT Mode	> 92% @ Full Load and 12Vdc/Battery			
	ECO Mode	> 96% @ Full Load and Battery Fully Charged			
BATTERY	Numbers of Batteries	20	Depending upon the capacity of external Batteries	20	Depending upon the capacity of external Batteries
	Battery Type	12V/7Ah		12V/9Ah	
	Backup Time (Full Load)	> 5 minutes		> 9 minutes	
	Recharge Time	5 hours to 90%		5 hours to 90%	
	Charging Current	1.2A	4.0A	1.2A	4.0A
	Rated Battery Voltage	240VDC			
TRANSFER TIME	BAT <--> LINE	0ms			
	INV <--> BYPASS	0ms			
	ECO --> INV	< 10ms			
INDICATOR	LCD	Load Level / Battery Level / Battery Mode / AC Mode / Bypass Mode / Fault			
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds			
	Low Battery	Sounding every second			
	Fault	Continuously Sounding			
	Overload	Sounding twice every second			
DIMENSION	Tower Case (WxHxD)mm	260 x 708 x 550			
ENVIRONMENT	Operating Environment	0-40° C			
	Relative Humidity	0-95% (NON-CONDENSING)			
	Noise Level	< 50dB @ 1 Meter			
INTERFACE	USB/RS232	Software supports Windows Family, Linux, Sun Solaris, IBM Aix, Compaq True64, SGI IRIX, FreeBSD, HP-UX, and MAC			
	External Slot	SNMP/AS400/Relay Card			
	EPO	Emergency Power Off			

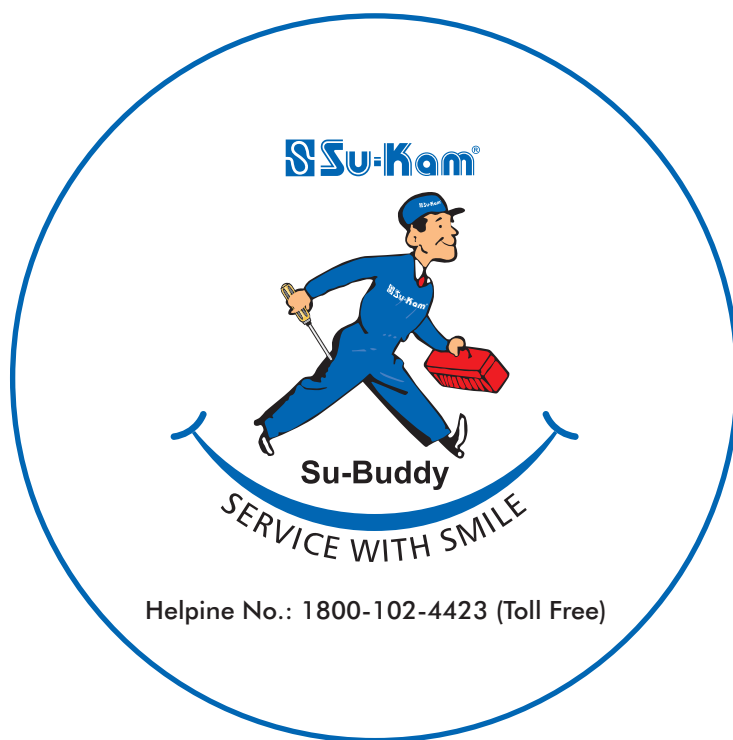
Model		3/1 - 10K	3/1 - 20K Combo
CAPACITY	VA / W	10000VA/9000W	20000VA/18000W
INPUT	Adjustable Input Voltage	190VAC-478VAC Depends on Load Level	110VAC-276VAC Depends on Load Level For Single Phase Input 190VAC-478VAC Depends on Load Level For Three Phase Input
	Adjustable By Pass Voltage	110 ~ 276VAC	
	Frequency Range	45Hz ~ 55Hz / 54Hz ~ 66Hz	
	Phase	Three phase with ground	
	THDI	< 5% with R Full load	
	Power Factor	0.99 @ R Full load	
OUTPUT	Voltage	200/208/220/230/240VAC	
	Voltage Regulation	< 1%	
	Current Crest Ratio	3:1	
	Frequency (Synchronized Range)	45Hz ~ 55Hz / 54Hz ~ 66Hz	
	Frequency ( Battery Mode )	50/60 ± 0.05 Hz	
	Harmonic Distortion	2% @ Linear Load 5% @ Non-Linear Load	
	Output Waveform	Pure Sine Wave	
	Over Load Capacity line mode	5min @ 100% ~ 110% load 1min @ 110% ~ 130% load	
	Over Load Capacity BAT mode	10s @ 130% ~ 150% load 2s @ > 150% load	
	Parallel	upto 4	
EFFICIENCY	Line Mode	> 93% @ Full Load and Battery Fully Charged	
	BAT Mode	> 93% @ Full Load and 12Vdc/Battery	
	ECO Mode	> 97% @ Full Load and Battery Fully Charged	
BATTERY	Numbers of Batteries	20 pcs	24 pcs
	Battery Type	12V	12V
	Charging Current	4A (Expandable)	4A (Expandable)
	Rated Battery Voltage	240VDC	288VDC
TRANSFER TIME	BAT <--> LINE	0ms	
	INV <--> BYPASS	0ms	
	ECO --> INV	< 10ms	
INDICATOR	LCD	Load Level / Battery Level / Battery Mode / AC Mode / Bypass Mode	
AUDIBLE ALARM	Battery Mode	Sounding every 4 seconds	
	Low Battery	Sounding every second	
	Fault	Continuously Sounding	
	Overload	Sounding twice every second	
DIMENSION	Tower Case (WxHxD)mm	350 x 890 x 650	
ENVIRONMENT	Operating Environment	0-45° C	
	Relative Humidity	0-95% (NON-CONDENSING)	
	Noise Level	< 50dB @ 1 Meter	
INTERFACE	USB/RS232	Software supports Windows Family, Linux, Sun Solaris, IBM Aix, Compaq True64, SGI IRIX, FreeBSD, HP-UX, and MAC	
	External Slot	SNMP/AS400/Relay Card	
	EPO	Emergency Power Off	



# BACK PANEL FOR ALL MODEL:

- |  |                                       |                        |
|--|---------------------------------------|------------------------|
| 1. Communication Port.                           | 5. Output Socket                      | 9. Parallel port       |
| 2. Intelligent Slot.                             | 6. Network/Fax/Modem/Surge Protector. | 10. Input breaker      |
| 3. External Battery Socket (For XL models only). | 7. Input Socket                       | 11. Maintenance Switch |
| 4. Breaker                                       | 8. Output Terminal block              | 12. Terminal Block     |
|  |                                       | 13. Fuse               |





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#### Certifications

ISO  
9001:2008  
ISO  
14001:2004

R&D  
Recognised  
by  
MINISTRY OF SCIENCE & TECHNOLOGY  
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