

SY-G®

Empowering New Frontiers™



**ON-LINE UPS
MAVERICK SERIES**

10 KVA - 100 KVA LOW VOLTAGE
20 KVA - 200 KVA HIGH VOLTAGE

www.sy-g.com

Maverick Modular UPS System

10KVA/KW - 100KVA/KW THREE PHASE
Models for: 208/120V / 60 HZ

FEATURES:

- Modular Design N+X
- Hot Swap Plug-In Electronic Module
- Hot Swap Plug-In Battery Module (optional)
- True On-Line
- Parallel Capability
- Redundant Capability
- Double-conversion Tree Level Inverter Topology
- Green and clean power
- High efficiency
- High Input power factor (>0.99), low input THDi (<3%).
- Strong load adaptability for linear and nonlinear load.
- Intelligent module and system protection design.
- Very low noise system design.
- Double DSP controller for individual power module.
- Digital control for whole parts including rectifier, inverter, charger and discharger.
- IGBT modules rather than discrete components are applied in the power module.
- Battery cold start function.
- Inbuilt switch for cabinet input, output and maintenance connection.
- Large touch screen LCD with plenty information.
- Independent charger for batteries, intelligent battery management system.
- Digital paralleling technology, very low circulating current between modules.
- Totally front access, top and bottom cable connection.
- Each individual module is configured with independent controller, avoid single point failure risk.
- Friendly generator interface.

BENEFITS:

- Modularity for very flexible service
- High uptime
- High efficiency with energy-saving ECO mode
- Low distortion to utility power
- Extends battery lifespan
- Ease of installation and maintenance due to its hot swappable feature
- User-friendly and programmable
- Scalability and redundancy
- Higher efficiency, higher frequency modulation and



Maverick Series UPS is a modular and online double conversion UPS designed for sensitive equipments. The power rating ranges from 10KVA to 100KVA which delivers the best combination of reliability, functionality, flexibility and features, hot-swappable and flexibility at a competitive price. It is designed specially for datacenters, computer systems or critical equipments. As the result of state of art design, this innovative and reliable power system absolutely meets the market requirements.

Maverick Series UPS modular UPS combines latest IGBT three-level technology together with DSP control. Along with high input power factor, low THDi and high system efficiency, this product achieves very high adaptability for all kinds of loads. The modular design ensures reliable and trouble free operation for critical loads. Power expansion is very easy to achieve by adding modules to the system to reach 100KVA power in a single frame. It is possible to connect two frames in parallel in order to reach maximum 200KVA.

Modular Construction Design

Each power module is designed to be hot swappable which makes the power expansion and system maintenance easier. Each module is independently self controlled, thus avoiding single point failure risk. If any module fails or disconnects, the system keeps operating and supplying power without interruption. It ensures a high level of reliability and protection.

Easy Operation and Installation

This products offers flexibility during installation time. Consequently, it is very easy to maintain and control which provides the highest reliability and best protection for supplying power. With the large touch screen LCD panel, the user can easily access information of the power modules and system.

Intelligent Battery Management

Each UPS module is built in with a super charger and the charging power reaches 3200W. With 10 installed UPS modules, the total charging power rating is 32KW. The charger is controlled by DSP with intelligent digital arithmetic to prolong the lifespan of the batteries.

Intelligent Protection System

All the power modules and the system are protected simultaneously by hardware and software. All kinds of protection functions are included: under and over current and voltage, temperature, overload, short circuit, etc. The reliability of the power module and the system reaches an incredible high level through all of these technologies.

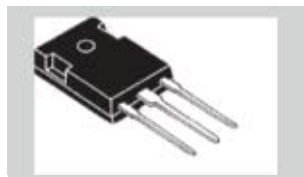
High Reliability Design

The Integrated IGBT Modules used in the Electronic Power Modules of the Maveric Series UPS product line, (shown in the upper right drawing), is a great technical improvement compared with Discrete Chips (shown in the lower right drawing), because of the component reliability and manufacture consistency. Among other technical benefits, important Low-Loss integrated three-level IGBTs modules help increase system efficiency, plus reliability is increased due to lower temperatures on IGBTs and their heatsinks.

In the case of Discrete IGBTs, more chips need to be paralleled to obtain high current ratings. In those cases, Clamped Diodes have to be placed around IGBTs which brings risks, due to voltage/current stresses and difficulty perils in the manufacturing process.



Integrated IGBT module used in Maveric Series UPS



Options

- SNMP / Web communication card
- Battery temperature compensation module
- Dust-Proof net
- Parallel kit for second cabinet
- ModBus

**Maverick Modular UPS System
Standard Battery Cabinet**



TOUCH SCREEN DISPLAY

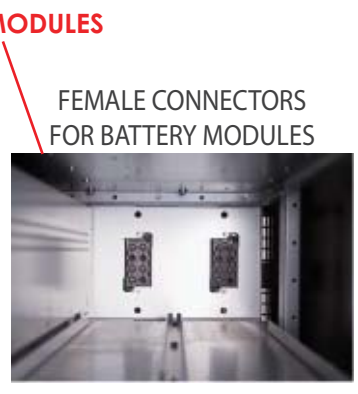
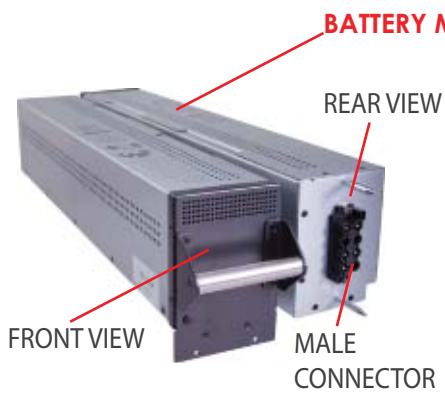


MONITORING MODULE



In the Standard Battery Cabinet the size and Amp/Hour of the batteries are configured in accordance to the required back up time, in single or multiple strings

**Maverick Modular UPS System
Modular Battery Cabinet**



**Maverick Modular UPS System
Hybrid system, with Power Modules
and Battery Modules**



**UPS
Power
Modules**

This product offers maximum flexibility during installation time, for future growth. Consequently, it is very easy to maintain and control which provides the highest reliability and best protection for supplying power. With the large touch screen LCD panel, the user can easily access information of the power modules and system.

**MODULAR BATTERIES
Up to 16 Slots
2 Slots per string**



POWER MODULES



BATTERY MODULES

MAVERICK SERIES 10 TO 100 KVA UPS Low Voltage - Technical Specifications

MODEL	MO3P30/3LH	MO3P60/6LR	MO3P100/10LR
Phase	Three Phase In / Three Phase Out		
Capacity	Grows from 10 to 30 KVA / KW	Grows from 10 to 60 KVA / KW	Grows from 10 to 100 KVA / KW
INPUT			
Input Nominal Voltage	208/220 VAC (line to line)		
Input Voltage Range	-40% ~ 20%		
Input Power Factor	At Full Load > 0.99		
Input Frequency Range	40 - 70 Hz (Selectable)		
Rectifier	IGBT		
Total Harmonic Distortion (THDi)	< 3%		
OUTPUT			
Output Voltage Range	208/220 VAC ± 1% (at balanced load)		
Output Frequency Regulation	50 - 60 Hz (Selectable)		
Power Factor	1		
Total Harmonic Distortion (THDv)	Linear Load < 1% ; Non-linear Load < 3%		
Crest Factor (CF)	3:1		
Efficiency	95% (ECO Mode 98%)		
Transfer Time	Zero		
Waveform	Pure Sine Wave		
Overload Capacity	At 105% Long time operation, at 110% Load 60 min, 125% Load 10 min, at 150% Load 1 min, >150% 200 ms		
BATTERY			
Quantity (12 V DC VRLA)	2 x 10 per string		
Type of Battery	Internal battery Modules; 10 Ah	External Battery cabinet (Option 1) or Modular Battery cabinet (Option 2)	
Nominal Voltage	± 120 VDC		
Charge Power	0-20% of The Device Power (Selectable)		
Back-up time (Full/Half load)	Depending on the configuration of electronic and battery modules		
COMMUNICATION & MANAGEMENT			
Communication Ports	RS-232, RS-485, SNMP, EPO, Generator Interface		
Compatibility	Supports Windows® 2000/2003/XP/Vista/2008, Windows®7, Linux, Unix, and MAC		
Display	Graphic LCD+LED, Touch screen and keyboard		
Dry Contacts	Included		
GENERAL			
Dimensions UPS Modules & Cabinets (WxDxH) (mm)	600 x 1020 x 2000 Hybrid Cabinet	600 x 900 x 1600 - 6 slot UPS Cabinet	600 x 900 x 2000 - 10 slot UPS Cabinet
	440 x 590 x 134 10KVA/KW Electronic Module		
Dimensions Battery Modules & Cabinets (WxDxH) (mm)	120 x 824 x 177 Battery Module	Battery Configured in Accordance to required Backup Time	
	200Kg Hybrid Cabinet	187Kg UPS Cabinet	214Kg UPS Cabinet
Weight (kg)	22.5 Kg 10KVA/KW Electronic Module - Empty of Batteries		
	45 Kg Each Batt Module	Battery Configured in Accordance to required Backup Time	
Running Humidity & Temperature	0~95 % RH (Non-condensing) @ 0~40°C		
Storage Temperature	For UPS 20~70°C; for Batteries -20~30°C		
Protection Class	IP20		
Parallel Operation	Parallel Power Increase up to 2 pcs.		
EPO (Emergency Power Off)	Standard		
Isolation Transformer	Optional		
Noise Level	< 55 dB @ 1 meter		
STANDARDS & CERTIFICATIONS			
Quality	ISO 9001; CE		
Compliance	EN50091 (1,2,3); IEC62040 (1,2,3); IEC/EN/AS60950; (IEC/EN/AS60146 series); IEC/EN/ AS61000 series and 60950)		

SY-G reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on SY-G products previously or subsequently sold.



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MAVERICK SERIES 20 TO 200 KVA UPS High Voltage - Technical Specifications

MODEL	MO3P60/3HIH	MO3P120/6HIR	MO3P200/10HIR
Phase	Three Phase In / Three Phase Out		
Capacity	Grows from 20 to 60 KVA	Grows from 20 to 120 KVA	Grows from 20 to 200 KVA
INPUT			
Input Nominal Voltage	380V/400V/415V (line to line)		
Input Voltage Range	-20% to +25%		
Input Power Factor	At Full Load > 0.99		
Input Frequency Range	40 - 70 Hz (Selectable)		
Rectifier	IGBT		
Total Harmonic Distortion (THDi)	< 3%		
OUTPUT			
Output Voltage Range	380V/400V/415VAC ± 1% (at balanced load)		
Output Frequency Regulation	50 - 60 Hz (Selectable)		
Power Factor	0.9		
Total Harmonic Distortion (THDv)	Linear Load < 1% ; Non-linear Load < 3%		
Crest Factor (CF)	3:1		
Efficiency	95% (ECO Mode 98%)		
Transfer Time	Zero		
Waveform	Pure Sine Wave		
Overload Capacity	At 105% Long time operation, at 110% Load 60 min, 125% Load 10 min, at 150% Load 1 min, >150% 200 ms		
BATTERY			
Quantity (12 V DC VRLA)	4 x 10 per string		
Type of Battery	Internal battery Modules; 10 Ah	External Battery cabinet (Option 1) or Modular Battery cabinet (Option 2)	
Nominal Voltage	± 240 VDC		
Charge Power	0-20% of The Device Power (Selectable)		
Back-up time (Full/Half load)	Depending on the configuration of electronic and battery modules		
COMMUNICATION & MANAGEMENT			
Communication Ports	RS-232, RS-485, SNMP, EPO, Generator Interface		
Compatibility	Supports Windows® 2000/2003/XP/Vista/2008, Windows®7, Linux, Unix, and MAC		
Display	Graphic LCD+LED, Touch screen and keyboard		
Dry Contacts	Included		
GENERAL			
Dimensions UPS Modules & Cabinets (WxDxH) (mm)	600 x 1020 x 2000 Hybrid Cabinet	600 x 900 x 1600 - 6 slot UPS Cabinet	600 x 900 x 2000 - 10 slot UPS Cabinet
	440 x 590 x 134, 10KVA/9KW Electronic Module		
Dimensions Battery Modules & Cabinets (WxDxH) (mm)	120 x 824 x 177 Battery Module	Battery Configured in Accordance to required Backup Time	
	200Kg Hybrid Cabinet	187Kg UPS Cabinet	214Kg UPS Cabinet
Weight (kg)	22.5 Kg 10KVA/9KW Electronic Module - Empty of Batteries		
	45 Kg Each Batt Module	Battery Configured in Accordance to required Backup Time	
Running Humidity & Temperature	0~95% RH (Non-condensing) @ 0~40°C		
Storage Temperature	For UPS 20~70°C; for Batteries -20~30°C		
Protection Class	IP20		
Parallel Operation	Parallel Power Increase up to 2 pcs.		
EPO (Emergency Power Off)	Standard		
Isolation Transformer	Optional		
Noise Level	< 55 dB @ 1 meter		
STANDARDS & CERTIFICATIONS			
Quality	ISO 9001 ; CE		
Compliance	EN50091 (1,2,3); IEC62040 (1,2,3); IEC/EN/AS60950; (IEC/EN/AS60146 series); IEC/EN/ AS61000 series and 60950)		

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