

MARUSON[®] TECHNOLOGY

Power Solutions For All Your Needs



Uninterruptible Power Supply



Automatic Voltage Regulator



Power Distribution Unit



Inverter

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LV-1802



COMPANY INTRODUCTION

Maruson Technology Corporation (MTC) was established in 2003 with ISO 9001:2008 certification and trademark registered in the U.S.A. (Reg. No. 3,150,957). We design, manufacture, distribute and service power protection equipment including: uninterruptible power supply (UPS), automatic voltage regulator (AVR), power distribution units (PDU), and power inverters, which are employed across various sectors such as home, office, networking, datacenter, commercial, industrial, medical, etc. Our headquarters locate in Los Angeles, California, U.S.A. with additional office and factory in Taiwan and China to better service our customers globally.

The Maruson team applies over 25 years of professionalism and knowledge in power solution industry to innovate continuously our product line, offer superior quality products and provide excellent customer service. Our motto, "Power solutions for all your needs", along with our unique and high quality standards are what our customers know us by.

Choosing Maruson can help you find the right product for your applications and market demand. We also show how to maximize their productivity, provide professional after-sales service, and a variety of marketing programs to our distributors. When you need clean, reliable, power products for your equipment choose Maruson to fulfill your needs.



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PDU brochures are available upon request or visit us at www.MarusonUSA.Com

Authorized Distributor By:



Rail & Unique DC UPS Series

Perfect UPS Solution for DC Equipment

RAIL DC UPS FEATURES

- Universal full range 90~264V AC input
- Cooling by free air convection
- Can be installed on DIN rail
- Overload and short circuit protection
- Battery low and battery reverse polarity protection
- Terminal block AC input and DC output ports
- DC voltage output adjustment knob
- LED indicator for power on



RAL-40W12V / 40W24V

UNIQUE DC UPS FEATURES

- Universal full range 90~264V AC input
- Horizontal / vertical / wall-mountable design
- DC cold start function
- Dry contact communication interface
- Overload and short circuit protection
- Over temperature and battery low protection
- Overvoltage and overcurrent protection
- LEDs display status and alarm information



UNI-40W12V / 60W12V

APPLICATIONS

- Security Systems
- Access Systems
- Emergency Lighting
- Central Monitoring Systems

APPLICATIONS

- Surveillance Devices
- VoIP / VoDSL
- Emergency Lighting
- Router / Digital Camera

RAIL & UNIQUE DC UPS SPECIFICATION

SERIES	RAIL DC UPS		UNIQUE DC UPS	
MODEL	RAL-40W12V	RAL-40W24V	UNI-40W12V	UNI-60W12V
Capacity (Total)	40 W			60 W
INPUT				
Voltage	90 ~ 264 VAC			
Frequency	50 / 60 Hz			
DC OUTPUT				
Output Voltage	13.8 VDC	27.6 VDC	13.5 VDC	
Output Capacity	26.2 W		40 W	60 W
CHARGING OUTPUT				
Output Voltage	13.8 VDC	27.6 VDC	N / A	
Output Capacity	13.8 W			
BATTERY				
Battery Type	Supports lead acid battery			
Capacity	N / A		5.0 Ah	7.0 Ah
Battery Voltage	12 VDC	24 VDC	12 VDC	
Charging Voltage	13.8 VDC	27.6 VDC	13.5 VDC	
INDICATOR				
Display	Work status		Work status; battery status; auxiliary power	
PROTECTION				
Overcharge / Over Discharge	Yes			
Overload / Short Circuit	Yes			
PHYSICAL				
Dimension (D x W x H) (mm / in)	89.5 x 30 x 75 / 3.5 x 1.2 x 3.0		78 x 216.5 x 181 / 3.1 x 8.5 x 7.1	
Net Weight (kg / lb)	0.25 / 0.55		2.35 / 5.2	2.75 / 6.1

SOHO & Adapter DC UPS Series

Perfect UPS Solution for DC Equipment

SOHO DC UPS FEATURES

- User's friendly multi-LED status indicators
- Microprocessor controller guarantees high reliability
- Portable uninterruptible power supply
- Built-in adapter allows wide input voltage (85~265 V)
- Auto start when plugged in and manual power on / off switch
- Allows to set output voltage - 9 / 12VDC via switch
- USB charging port with UPS function for USB devices
- DC output Y-cable can connect 2 devices at same time



SHO-24W44U / 24W88U

ADAPTER DC UPS FEATURES

- User's friendly multi-color LED status indicators
- Microprocessor controller guarantees high reliability
- Acceptable wide input voltage (90~264 V)
- Auto start when plugged in and manual power on / off switch
- Built-in lithium battery
- Over-charge and over-discharge protection
- Overload & short-circuit protection
- Multi-size output connector (Optional)



ADP-12W26

APPLICATIONS

- Router / Modem
- Mobile Phone
- CCTV / Digital Camera
- Tablet / PSP

APPLICATIONS

- Router / Modem
- VOIP Phone Systems
- Surveillance Equipment
- Security Systems

SOHO & ADAPTER DC UPS SPECIFICATION

SERIES	SOHO DC UPS		ADAPTER DC UPS
MODEL	SHO-24W44U	SHO-24W88U	ADP-12W26
Capacity (Total)	24 W		12 W
INPUT			
Voltage Range	85 ~ 265 VAC		90 ~ 264 VAC
Frequency	50 / 60 Hz		
9 / 12V DC OUTPUT			
Output Voltage	9 / 12 VDC (Choosing via switch)		12 VDC
Output Capacity	14 W		12 W
5V DC OUTPUT			
Interface (USB & DC Jack - 2 Ports)	5 VDC / 2Amp (10 Watt) total output current		N / A
BATTERY			
Battery Type	Lithium battery		
Capacity	4400 mAh	8800 mAh	2600 mAh
Battery Voltage	3.7 VDC		
Charging Voltage	4.2 VDC		
Typical Recharge Time	3 hours recover to 90% capacity		
INDICATOR			
Display	Work status ; 9 / 12 VDC indicator ; Battery Level: 25% 50% 75% 100%		Work status ; Fault
PROTECTION			
Overcharge / Over Discharge	Yes		
Overload / Short Circuit	Yes		
PHYSICAL			
Dimension (D x W x H) (mm / in)	105 x 27 x 160 / 4.1 x 1.1 x 6.3		68 x 42 x 74 / 2.7 x 1.7 x 2.9
Net Weight (kg / lb)	0.4 / 0.9	0.52 / 1.1	0.28 / 0.6

Surveillance UPS Series

CCTV Power Distribution and UPS for Cameras and DVR / NVR



SUR-809 / 1218 / 1518UPS

SURVEILLANCE UPS FEATURES

- 12VDC / 24VAC battery power backup for CCTV cameras
- Two-boost and one-buck AVR with wide input operation voltage and stable output voltage
- 12-13VDC adjustable output voltage to enhance video quality for long-distance cameras installation
- Auto restart while AC is recovering
- Batteries are hot swappable (cameras, DVR, & monitors are always on)
- Multi-LED display for AC / DC power supply and UPS status
- 2 Amp fuse or PTC (breaker) power protection
- Two AC outlets (NEMA 5-15R or IEC) with battery backup and surge protection for DVR and monitor
- AC power failure and cameras DC power failure notification through DVR / NVR or alarm system
- Security key lock (optional)

APPLICATIONS

- Surveillance Systems
- 12VDC / 24VAC Cameras
- DVR / NVR Equipment
- Monitoring Systems



SURVEILLANCE UPS SPECIFICATION

MODEL	SUR-809UPS	SUR-1218UPS	SUR-1518UPS
Capacity	500VA / 250W	700VA / 360W	700VA / 360W
INPUT			
Nominal Voltage	110 / 120VAC or 220 / 230 / 240VAC, 50 / 60Hz (auto sensing)		
Input Voltage Range	80VAC~145VAC or 154VAC~280VAC		
OUTPUT (12VDC / CCTV)			
DC Voltage (Programmable)	12~13VDC (manually select 12,12.5,13VDC)		
Watts	120W	168W	
Port	9 Ports (10 Amps)	14 Ports (14 Amps)	18 Ports (14 Amps)
OUTPUT (24VAC / CCTV)			
Watts	None	100W	None
Port	None	4 Ports	None
OUTPUT (AC UPS)			
Output Voltage Range	110 / 120VAC ±10% or 220 / 230 / 240VAC ±10%		
Outlets (Battery Backup)	NEMA 5-15R or IEC x 1 (DVR / NVR), NEMA 5-15R or IEC x 1 (LCD monitor)		
Waveform (Battery Mode)	Simulated sine wave		
BATTERY (not included)			
Battery Capacity	7Ah X 1 (7Ah X 2 option)	7Ah X 2 (9Ah X 2 option)	
Backup Time (Basic DVR / Camera)	Up to 50 minutes	Up to 75 minutes	Up to 80 minutes
Recharge Time	<6 hours to 90% capacity	<12 hours to 90% capacity	<12 hours to 90% capacity
INDICATOR			
LED for UPS	UPS status, battery mode, fault		
LED for Camera	7 x Green LED (DC 1 AMP) 2 x Amber LED (DC 2 AMP)	10 x Green LED (12VDC 1 Amp) 4 x Amber LED (12VDC 2 Amp) 4 x Amber LED (24VAC 1 Amp)	14 x Green LED (DC 1 Amp) 4 x Amber LED (DC 2 Amp)
PHYSICAL			
Dimension (D x W x H) (mm / in)	343 x 323.9 x 102 / 13.5 x 12.75 x 4.0		
Net Weight (kg / lb)	10 / 22	11.1 / 24.5	10.9 / 24

Power Personal Series

Standby UPS with Wall-Mount Option



POP-420B



POP-625BS
POP-825BS

Power Personal Series FEATURES

- 420VA ~ 825VA standby UPS
- Microprocessor controlled for high reliability
- Support APFC equipment
- Auto restart while AC is recovering
- Wall mountable & friendly battery swap design
- Advance battery management-increases longevity, performance, and reliability
- DC cold start function enables UPS to be started without AC power supplied
- RJ-11 / 45 combo telephone / fax / network line protection port
- HID USB communications interface with power management software (BS model)



APPLICATIONS

- PC & Workstations
- Network Devices
- P.O.S & Surveillance
- Alarm & Phone Systems



POWER PERSONAL OFF-LINE UPS SPECIFICATION

MODEL	POP-420B	POP-625BS	POP-825BS
Capacity	420VA / 210W	625VA / 330W	825VA / 450W
INPUT			
Voltage	110-120 VAC		
Voltage Range	96-138 VAC		
Frequency	60 / 50 Hz (Auto sensing)		
OUTPUT			
Output Voltage	110-120 VAC		
Frequency Range (Batt. Mode)	60 / 50 Hz ± 1%		
Transfer Time	4ms (typical)		
Overload protection	Circuit breaker		
Waveform (Batt. Mode)	Simulated Sinewave		
Outlets	4 backup + surge & 4 surge only		
BATTERY			
Battery Type & Quantity	12 V / 4.5 Ah x 1	12 V / 6 Ah x 1	12 V / 6 Ah x 1
Backup Time (Basic PC)	Up to 30 minutes	Up to 40 minutes	Up to 41 minutes
Recharge Time	8 hours		
PROTECTION			
Full Protection	Overcharge and overload protection		
Phone / Fax / DSL / Network Surge Protection	RJ-11 / 45		
EMI / RFI Filter	Full time		
AC Surge Protection	Full time, 359 joules		
COMMUNICATION			
HID USB Interface	N / A	Windows® 10 / 8 / 7 / Server 2012 R2 / Server 2008 R2 / Linux / Mac	
PHYSICAL			
Dimension (D x W x H) (mm / in)	305 x 125 x 84 / 12.0 x 4.9 x 3.3		
Net Weight (kg / lb)	2.7 / 6.0	3.1 / 6.8	3.1 / 6.8

Power Office Series

Line Interactive UPS with USB Charger



POF-800 / 1000UA

FEATURES

- 800VA~1000VA line interactive UPS
- Six (6) LEDs indicators for UPS status, battery backup, AVR, max. load, low battery, fault warning indicators
- Advanced battery management to increase battery longevity, performance and reliability
- Two-boost and one-buck automatic voltage regulator for high and low voltage
- Auto restart while AC is recovering
- DC cold start function for greater mobility
- Two (2) USB charging ports for USB devices
- RJ-11 / 45 combo telephone / fax / network line protection port
- Power switch for energy savings on segregated outlets

APPLICATIONS

- PC / Gaming Computers
- P.O.S.
- Surveillance & Security
- A / V & Home Theater



POWER OFFICE LINE INTERACTIVE UPS SPECIFICATION

MODEL	POF-800UA	POF-1000UA
Capacity	800VA / 400W	1000VA / 500W
INPUT		
Voltage	110 / 115 / 120VAC or 220 / 230 / 240VAC	
Voltage Range	86~144VAC or 154~280VAC	
Frequency	50Hz or 60Hz (auto sensing)	
OUTPUT		
Voltage	110 / 115 / 120VAC or 220 / 230 / 240VAC	
Voltage Regulation (Battery Mode)	±10%	
Frequency	50Hz or 60Hz	
Frequency Regulation (Battery Mode)	±1Hz	
Waveform (Battery Mode)	Simulated sine wave	
Outlets	12 Outlets (6 battery backup + surge & 6 surge only)	
Typical Transfer Time	2~6ms (typical)	
BATTERY		
Battery Type & Quantity	12V / 7Ah x 1	12V / 9Ah x 1
Backup Time (Basic PC)	Up to 40 minutes	Up to 46 minutes
Typical Recharge Time	<5 Hours to 90% capacity	
PROTECTION		
Full Protection	Over discharge protection & short circuit protection	
Tel / Fax / Network Suppression	RJ-11 / 45 combo port	
Lighting & Surge Protection	175 Joules	
USB		
Charging Interface (2 Ports)	5VDC / 2.1 Amp (max.) charge current	
PHYSICAL		
Dimension (D x W x H) (mm / in)	290 x 94 x 170 / 11.4 x 3.7 x 6.7	
Net Weight (kg / lb)	5 / 11.1	5.9 / 13.1

PowerMax Series

Line Interactive UPS with Compact Design



MAX-650A

FEATURES

- 650VA line interactive UPS
- Controlled by a technologically advanced microprocessor guaranteeing high reliability
- DC cold start function enables UPS to be started without AC power supplied
- UPS will shut down upon battery low; UPS will restart automatically upon AC recovery (auto-restart)
- Equipped with two-boost and one-buck AVR to stabilize output voltage
- Constant current, constant voltage battery charger (CC / CV Battery Charger)
- UPS will charge itself even though power switch is off (Off mode charging)
- Over / Under voltage protection (UPS will go to battery mode)
- Generator compatible

APPLICATIONS

- Personal Computers
- Network Devices
- P.O.S
- Alarm & Phone Systems



POWERMAX LINE INTERACTIVE UPS SPECIFICATION

MODEL	MAX-650A
Capacity	650 VA / 360 W
INPUT	
Voltage	110 / 115 / 120 VAC or 220V / 230 / 240 VAC
Voltage Range	-30% +25%
Frequency	50 Hz or 60 Hz (Auto-Sensing)
OUTPUT	
Voltage Regulation	AC mode / Battery normal : 110 / 115 / 120 VAC or 220 / 230 / 240 VAC + / - 10%
Frequency	AC mode: 47-53 Hz for 50 Hz or 57-63 Hz for 60 Hz, Battery mode: 50 Hz or 60 Hz + / - 1 Hz
Waveform	Simulated sine wave
Transfer Time	< 6ms (typical)
Outlets	Nema 5-15R or Universal Nema * 4pcs with back-up + 4pcs surge only
BATTERY	
Battery Type & Quantity	12 V / 4.5 AH*1pc
Backup Time (Basic PC)	Up to 23 minutes
Recharge Time	5 hours to 90% after complete discharge
Safety Protection	Overcharge & over-discharge protection
Advanced Battery Management	Yes
DISPLAY	
LED Status Indicators	AC normal: Blue; Battery back-up: Red
AUDIBLE ALARM	
Battery Mode	Two short tones every 8 seconds
Low Battery	Four short tones every second
Overload	Red LED: Flashing, Buzzer: Beeping continuously
Fault	Beeping continuously
PHYSICAL	
Dimension (D x W x H) (mm / in)	210 x 98 x 131 / 8.27 x 3.86 x 5.16

Micro UPS Series

Line Interactive UPS with High Reliability Design



MIC-1100 / 1600 / 2200AS

MIC-500 / 700 / 900A

FEATURES

- Multiple LEDs indicates UPS statuses, including normal, charging, back-up, battery low, fault, and overload
- Two-boost and one-buck AVR to stabilize input voltage
- Advanced battery management increases longevity, performance, and reliability
- Auto restart while AC is recovering
- DC cold start function
- Off-mode charging function
- USB communication port with power management software (MIC-1100 / 1600 / 2200AS)
- Friendly battery door design for easy batteries replacement (1100 VA ~ 2200 VA)
- 140 ~ 295 VAC wide input voltage range version (Optional for 220 V / W models)
- LCD Display (Optional)

APPLICATIONS

- Desktop PCs
- Surveillance & Security
- P.O.S.
- Telephone Equipment



MICRO LINE INTERACTIVE UPS SPECIFICATION

MODEL	MIC-500A	MIC-700A	MIC-900A	MIC-1100AS	MIC-1600AS	MIC - 2200AS
Capacity	500 VA / 250 W	700 VA / 360 W	900 VA / 480 W	1100 VA / 600 W	1600 VA / 900 W	2200 VA / 1200 W
INPUT						
Voltage	110 / 115 / 120 VAC or 220 / 230 / 240 VAC					
Voltage Range	80 ~ 145 VAC or 154 ~ 280 VAC standard (Optional 140 ~ 295 VAC wide range version for 220 / 230 / 240 VAC models)					
Frequency	50 / 60 Hz (auto sensing)					
OUTPUT						
Voltage	110 / 115 / 120 VAC or 220 / 230 / 240 VAC					
Frequency	50 / 60 Hz					
Voltage Regulation (Battery Mode)	±10%					
Frequency Regulation (Battery Mode)	±1 Hz					
Waveform (Battery Mode)	Simulated sine wave					
Outlets	8 Outlets (4 battery backup + surge & 4 surge only)			10 Outlets (5 battery backup + surge & 5 surge only)		
BATTERY						
Battery Type & Number	12 V / 4.5 Ah x 1	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
Backup Time (Basic PC)	Up to 24 minutes	Up to 40 minutes	Up to 45 minutes	Up to 85 minutes	Up to 95 minutes	Up to 100 minutes
Charging Voltage	13.7 VDC ±2%	13.7 VDC ±2%	13.7 VDC ±2%	27.4 VDC ±2%	27.4 VDC ±2%	27.4 VDC ±2%
Recharge Time	5 hours to 90% after complete discharge					
TRANSFER TIME						
Typical	< 6ms (typical)					
PROTECTION						
AC Surge Protection	175 Joules					
Phone / Fax / Network Surge Protection	N / A	RJ-11 / 45 (1-in and 1-out)				
INTERFACE						
USB Port	N / A			Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / Linux / Unix / MAC		
PHYSICAL						
Dimension (D x W x H) (mm / in)	315.5 x 100 x 141 / 12.4 x 3.9 x 5.6			343 x 135 x 208 / 13.5 x 5.3 x 8.2		
Weight (kg / lb)	3.5 / 7.7	4.7 / 10.4	5.7 / 12.6	8.1 / 17.9	9.7 / 21.4	11.4 / 25.1

PowerPro Series

Line Interactive UPS with Power Management Solution



PRO-1000LCD /
1500LCD / 2000LCD

PRO-550LCD / 800LCD

FEATURES

- 550VA ~ 2000VA line interactive UPS
- LCD display for more reliable power status feedback
- Advance battery management, increases longevity, performance, and reliability
- Two-boost and one-buck AVR to stabilize input voltage
- Auto restart while AC is recovering
- Off-mode charging
- HID USB communications interface with power management software
- RJ-11 / 45 combo telephone / fax / network line protection port



APPLICATIONS

- Desktop PCs
- Small Server
- P.O.S. & Surveillance
- Gaming Computer



POWERPRO LINE INTERACTIVE UPS SPECIFICATION

MODEL	PRO-550LCD	PRO-800LCD	PRO-1000LCD	PRO-1500LCD	PRO-2000LCD
Capacity	550VA / 300W	800VA / 450W	1000VA / 600W	1500VA / 900W	2000VA / 1200W
INPUT					
Voltage	110-120 VAC				
Voltage Range	82-148 VAC				
Frequency Range	60 Hz / 50 Hz (Auto Sensing)				
OUTPUT					
Output Voltage	110-120 VAC				
Frequency Range (Batt. Mode)	60 Hz / 50 Hz ± 1%				
Transfer Time	4ms (typical)				
Overload Protection	Circuit breaker				
Waveform (Batt. Mode)	Simulated Sinewave				
Outlets	6 Outlets (3 battery backup + surge & 3 surge only)		8 Outlets (4 battery backup + surge & 4 surge only)		
BATTERY					
Battery Type & Quantity	12 V / 7 Ah x 1	12 V / 7.2 Ah x 1	12 V / 7 Ah x 2	12 V / 7.2 Ah x 2	12 V / 9 Ah x 2
Charging Current	1A				
Backup Time (Basic PC)	Up to 43 minutes	Up to 48 minutes	Up to 78 minutes	Up to 88 minutes	Up to 116 minutes
Recharge Time	4 hours charge to 90%				
PROTECTION					
Full Protection	Overcharge and overload protection				
Phone / Fax / DSL / Network Surge Protection	RJ-11 / 45				
EMI / RFI Filter	Full time				
AC Surge Protection	Full time, 735 joules				
COMMUNICATION					
USB Interface	Windows® 10 / 8 / 7 / Server 2012 R2 / Server 2008 R2 / Linux / Mac				
PHYSICAL					
Dimension (D x W x H) (mm / in)	286 x 96 x 138 / 11.3 x 3.8 x 5.4		298 x 148 x 178 / 11.7 x 5.8 x 7.0		
Net Weight (kg / lb)	4.35 / 9.6	5.08 / 11.2	8.66 / 19.1	10.65 / 23.5	11.36 / 25.0

PowerNet UPS Series

Line Interactive UPS with Pure Sine Wave Output



NET-1000TW / 1500TW

NET-500TW / 750TW

FEATURES

- Ideal for network equipment, NAS, ATM, and Kiosks
- Line-interactive UPS with sine wave output
- Cost-efficient solution without compromising the performance
- High conversion efficiency (>95%) results in energy saving
- Automatic boost and buck voltage regulation
- LCD graphic display gives comprehensive information at a glance
- Rapid charge allows the batteries to reach 90% in 3 hours
- Compact design and easy to install
- Auto restart while AC is recovering
- Easy battery replacement



APPLICATIONS

- Midsize Servers
- ATM Machines
- Telecom & Networking
- Slot Machine



POWERNET LINE INTERACTIVE UPS SPECIFICATION

MODEL	NET-500TW	NET-750TW	NET-1000TW	NET-1500TW
Capacity	500VA / 350W	750VA / 450W	1000VA / 700W	1500VA / 900W
INPUT				
Voltage	100 / 110 / 120 or 220 / 230 / 240VAC			
Voltage Range	96-144VAC or 184-276VAC			
Nominal Frequency	50 or 60Hz (auto sensing)			
OUTPUT				
Voltage	100 / 110 / 120 or 220 / 230 / 240VAC			
Regulation	-10% to +6%			
Frequency	50 or 60Hz (auto sensing)			
Transfer Time	2~6ms (typical)			
Waveform	Pure sine wave			
Outlets	8 Outlets (battery backup + surge)			
BATTERY				
Battery Type & Quantity	12V / 7Ah x 1	12V / 9Ah x 1	12V / 7Ah x 2	12V / 9Ah x 2
Backup Time (Typical PC Load)	Up to 43 minutes	Up to 52 minutes	Up to 78 minutes	Up to 116 minutes
Recharge Time	3 hours to 90%			
COMMUNICATION				
USB Interface	for Windows® 2003 / 2008 / XP / Vista / 7 / 8			
PHYSICAL				
Dimension (D x W x H) (mm / in)	240 x 150 x 209 / 9.4 x 5.9 x 8.2		340 x 150 x 209 / 13.3 x 5.9 x 8.2	
Net Weight (kg / lb)	6.4 / 14.1	6.8 / 15.0	10.8 / 23.8	11.5 / 25.3

PowerNet RM Series

Line Interactive Rack / Tower Pure Sine Wave UPS



NET-1500 / 2200RM

FEATURES

- 1500VA / 2000VA true sine wave UPS
- Microprocessor-based line interactive design
- High output power factor (0.9)
- Built-in voltage regulator stabilizes unstable AC input power
- Intelligent communication slot enables remote monitoring and optional SNMP card
- USB supported HID UPS monitoring enables integration of built-in power management and auto shutdown features on Windows®, Mac OS®, and Linux systems
- Built-in external battery connector and optional external battery bank
- Rack / tower dual set-up with rotatable LCD panel
- Load segment control available



APPLICATIONS

- Server Rooms
- Office Equipment
- Telecom Station
- Surveillance & Security



POWERNET RM LINE INTERACTIVE UPS SPECIFICATION

MODEL	NET-1500RM	NET-2200RM
Capacity	1500VA / 1350W	2000VA / 1800W
INPUT		
Input Plug Type	NEMA 5-15P	NEMA 5-20P
Nominal Voltage	120VAC	
Voltage Range	89-144VAC	
Frequency Range	50 / 60Hz+ / -5 Hz	
OUTPUT		
Voltage	120VAC	
Output Voltage	+10% / -15%	
Output Waveform	Pure sine wave	
Outlet Groups	2	
Outlets	NEMA 5-15R (8)	NEMA 5-15R (6) NEMA 5-15 / 20R (2)
EFFICIENCY		
Line Mode	>98% @full load and battery fully charged	
Battery Mode	>84% @full load	>85% @full load
BATTERY		
Number of Internal Batteries Per Set	3pcs	4pcs
Battery Type	12V / 9AH	
Typical Back Up Time @Rate Load	3min	
Recharge Time	3hours	2hours
Charge Current (max)	1.5A	3.0A
EXTERNAL BATTERY BANK (EBB) / Optional		
Number of Batteries Per Set	3pcs x 2 / 36VDC	4pcs x 2 / 48VDC
Battery Type	12V / 9AH	
TRANSFER TIME		
BAT<-> Line	2-6ms (typical), 10ms (max)	
INDICATOR		
BAT<-> Line	Load / Battery / Input / Output / Operating Mode information	
PHYSICAL		
Case (D x W x H) (mm / in)	438 x 86.5 x 436 / 17.1 x 3.4 x 17.0	
Rack / Tower	2U	
Weight (N.W.) (kg / lb)	19.0 / 41.8	21.5 / 47.4
ENVIRONMENT		
Operation Temperature	0~40°C	
Humidity	20~80%(Non-Condensing)	
Line Mode Noise level	<40dB	<45dB
Battery Mode	<45dB	<50dB
INTERFACE		
Management	USB / RS232	
RS232 / USB	USB 2.0 compliant local communication / DB9 female (RS232+dry contact)	
Intelligent Slot	Optional SNMP / AS400 Relay Card	
EPO	Emergency power off	

Ultima W Series

Double Conversion Online Tower UPS



ACCESSORY ITEM



MBS-123TW

FEATURES

- True double-conversion technology
- Microprocessor control optimizes reliability
- Input power factor correction
- Wide input voltage (110–300VAC)
- Charger capacity expandable up to 6A for long run (L) models
- USB or RS-232 smart port for power management software
- Intelligent communication slot enables remote monitoring
- Comprehensive display allows easy monitoring and access of UPS status
- External PDU / maintenance bypass switch (optional)
- ECO mode for energy saving
- Converter mode available
- Generator compatible

APPLICATIONS

- Server Rooms
- Office Equipment
- Telecom & Networking
- Security System



ULTIMA W ON-LINE UPS SPECIFICATION

MODEL		ULT-W1K(L)	ULT-W2K(L)	ULT-W3K(L)
Capacity		1000VA / 800W	2000VA / 1600W	3000VA / 2400W
INPUT				
Voltage		100 / 110 / 115 / 120 / 127VAC		
Voltage Range		85~140VAC at 100% load; 55~145VAC at 50% load		
Frequency Range		40Hz~70Hz		
OUTPUT				
Voltage		100 / 110 / 115 / 120 / 127VAC		
Frequency Range		47~53Hz or 57~63Hz (synchronized range)		
Current Crest Ratio		3:1		
Harmonic Distortion		≦ 3% THD (linear load) / ≦ 6% THD (non-linear load)		
Transfer Time		Zero (AC mode to battery mode), typical 4ms (inverter to bypass)		
EFFICIENCY				
To AC Mode		88%	88%	90%
To Battery Mode		83%	85%	88%
BATTERY				
Standard Model	Type & Number	12V / 9Ah x 2	12V / 9Ah x 4	12V / 9Ah x 6
	Typical Recharge Time	4 hours recover to 90% capacity		
	Charging Current (Max.)	1.0 A		
	Charging Voltage	27.4VDC ±1%	54.7VDC ±1%	82.1VDC ±1%
Long Run (L) Model	Charging Current (Max.)	1.0A / 2.0A / 4.0A / 6.0A		
LCD Display		Load level, battery level, AC mode, battery mode, bypass mode, and fault indicators		
INTERFACE				
Smart RS-232 / USB		Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / Linux / Unix / MAC		
Optional SNMP		Power management from SNMP manager and web browser		
PHYSICAL				
Standard Model	Dimension (D x W x H) (mm / in)	282 x 145 x 220 / 11.1 x 5.7 x 8.7	397 x 145 x 220 / 15.6 x 5.7 x 8.7	421 x 190 x 318 / 16.6 x 7.5 x 12.5
	Net Weight (kg / lb)	9.8 / 21.6	17 / 37.5	27.6 / 60.9
Long Run (L) Model	Dimension (D x W x H) (mm / in)	282 x 145 x 220 / 11.1 x 5.7 x 8.7		
	Net Weight (kg / lb)	4.1 / 9.0	6.8 / 15.0	7.4 / 16.3

Tacoma LV Series

Double Conversion Online Tower UPS



TAC-LV2K / LV2KL / LV3K / LV3KL TAC-LV1K / LV1KL

FEATURES

- High-frequency design and full-digital DSP control for optimal performance
- High-output power factor (0.9)
- Wide input voltage range (55~150VAC)
- Precise output voltage regulation (1%)
- Intelligent communication slot enables remote monitoring
- Supports ECO mode and power segments
- External battery connector for longer runtime
- DSP technology guarantees high performance
- Graphic LCD display



APPLICATIONS

- ATM
- Server Rooms
- Telecom & Networking
- Office Equipment



TACOMA LV ON-LINE UPS SPECIFICATION

MODEL	TAC-LV1K	TAC-LV2K	TAC-LV3K
Capacity	1000VA / 900W	2000VA / 1800W	3000VA / 2700W
INPUT			
Voltage Range	55~150VAC		
Frequency Range	50 / 60Hz ± 4Hz		
OUTPUT			
PF	0.9		
Voltage	100 / 110 / 115 / 120 / 127VAC		
Regulation	≤ 1%		
THDv for Linear-Load	4%		
THDv for Non-linear Load	8%		
Crest Factor	3:1		
EFFICIENCY			
Line Mode	>89%		
BAT Mode	>86%		
ECO Mode	>95% @ full load and battery fully charged		
BATTERY			
Number of Internal Batteries Per Set	3 PCS x 7Ah	6 PCS x 7Ah	6 PCS x 9Ah
Backup Time (100% load)	Up to 5 minutes		
Recharge Time	5 hours to 90% (with internal BAT only)		
TRANSFER TIME			
BAT <-> LINE	0ms		
INV <-> BYPASS	<4ms		
ECO-> BAT	<10ms		
INDICATORS			
LCD Panel	Load / Battery / Input / Output / Operating Mode Information		
INTERFACE			
RS-232 / USB Software	Software supports Windows® family / Linux / Sun Solaris / IBM Aix / Compaq True64 / SGIRIX / FreeBSD / HP-UX / MAC		
Intelligent Slot	Webpower SNMP / AS400 card		
EPO	Emergency power off		
PHYSICAL			
Dimension (D x W x H) (mm / in)	345 x 145 x 220 / 13.5 x 5.7 x 8.6	383 x 190 x 318 / 14.9 x 7.4 x 12.4	
Net Weight (kg / lb)	13 / 28.6	25 / 55.1	27 / 59.5

Tacoma Series

Double Conversion Online Tower UPS



TAC-20KLD(CE type) TAC-6 / 10K(L)D

FEATURES

- 6KVA~20KVA DSP, true double conversion UPS
- 0.9 High output power factor
- High efficiency mode (ECO)
- Output voltage regulation < 1%
- Input |THDi <5% and output THDv <2%
- Frequency converter mode
- Maintenance bypass switch
- N+X Parallel redundancy
- Emergency Power Off (EPO)
- Fan speed controller based on UPS load
- RS-232 and USB ports for power management software
- Intelligent communication slot enables remote monitoring



APPLICATIONS

- Server Rooms
- Office Equipment
- Telecom & Networking
- Automation Equipment



TACOMA ON-LINE UPS SPECIFICATION

MODEL	TAC-6KD	TAC-6KLD	TAC-10KD	TAC-10KLD	TAC-20KLD
Capacity	6KVA / 5.4KW	6KVA / 5.4KW	10KVA / 9KW	10KVA / 9KW	20KVA / 18KW
INPUT					
Nominal Voltage	208 / 220 / 230 / 240VAC				
Input Voltage Range	176~276VAC, 110~276VAC (half load)				
Frequency Range	45-55Hz / 54-66Hz				
Power Factor	> 0.99 @ 100% load				
OUTPUT					
Voltage (with Isolation-Transformer)	208 / 220 / 230 / 240VAC & 110 / 115 / 120VAC			220 / 230 / 240 / 250VAC & 110 / 115 / 120 / 125VAC	
Current Crest Ratio	3:1				
Harmonic Distortion	≤ 2% @ linear load / ≤ 5% @ non-linear load				
Output Waveform	Pure sine wave				
Parallel	Up to 2				N / A
EFFICIENCY					
Line Mode	>92% @ full load and battery fully charged				
BAT Mode	>92% @ full load and 12VDC / battery				
BATTERY					
Number of Internal Batteries Per Set	20 PCS	Depend on the capacity of external batteries	20 PCS	Depend on the capacity of external batteries	
Battery Type	12VDC / 7.2Ah		12VDC / 9Ah		
Backup Time	> 5 minutes		> 5 minutes		
Recharge Time	5 hours charge to 90%		5 hours charge to 90%		
Charging Current (max)	1.2A	4.0A	1.2A	4.0A	4.0A (8A optional)
Rated Battery Voltage	240VDC				288VDC
TRANSFER TIME					
LINE <-> BAT	0ms				
INV <-> BYPASS	0ms				
INDICATORS					
LCD Panel	Load level / battery voltage / battery mode / AC mode / bypass mode information				
INTERFACE					
RS-232 / USB Software	Software supports Windows® family / Linux / Sun Solaris / IBM Aix / Compaq True64 / SGIIRIX / FreeBSD / HP-UX / MAC				
Intelligent Slot	SNMP / AS400 / relay card				
PHYSICAL					
Dimension (D x W x H)	550 x 260 x 708 / 21.7 x 10.2 x 27.9				650 x 350 x 890 / 25.5 x 13.8 x 35
Net Weight (kg / lb)	90 / 198.5	40 / 88.2	93 / 205.1	41 / 90.4	183 / 403.5

Ultima RT Series

Double Conversion Online Rack / Tower UPS



APPLICATIONS

- Server Rooms
- Office Equipment
- Telecom & Networking
- Surveillance System



ULTIMA RT ON-LINE UPS SPECIFICATION

MODEL	ULT-1KRT	ULT-1KLRT	ULT-1.5KRT	ULT-1.5KLRT	ULT-2KRT	ULT-2KLRT	ULT-3KRT	ULT-3KLRT	
Capacity	1000VA / 900W	900VA / 810W	1500VA / 1350W	1250VA / 1125W	2000VA / 1800W	1700VA / 1530W	3000VA / 2700W	2500VA / 2250W	
INPUT									
Nominal Voltage	100 / 110 / 115 / 120VAC								
Voltage Range	55-150VAC ±5%								
Frequency Range	40Hz~70Hz								
Power Factor	≧ 0.99 @ nominal voltage (100% load)								
OUTPUT									
Output Voltage	100 / 110 / 115 / 120VAC								
Current Crest Ratio	5:1 (max.)								
Harmonic Distortion	≧ 2% THD (linear load)								
Transfer Time	Line Mode <-> Battery Mode	Zero							
	Inverter to Bypass	4ms (typical)							
EFFICIENCY									
AC Mode	87%	88%	88%	88%	89%				
Battery Mode	85%	86%	86%	86%	87%				
ECO Mode	94%	95%	95%	95%	97%				
BATTERY									
Battery Type	12V / 9Ah	Depending on The capacity of external batteries	12V / 9Ah	Depending on The capacity of external batteries	12V / 9Ah	Depending on The capacity of external batteries	12V / Ah	Depending on The capacity of external batteries	
Battery Numbers	2		3		4		6		
Typical Recharge Time	4 Hours recover to 90% capacity		4 Hours recover to 90% capacity		4 Hours recover to 90% capacity		4 Hours recover to 90% capacity		
Charging Current (max.)	1.0 A	1A / 2A / 4A / 8A	1.0A	1A / 2A / 4A / 8A	1.0A	1A / 2A / 4A / 8A	1.0 A	1A / 2A / 4A / 8A	
Charging Voltage	27.4VDC ±1%		41.1VDC ±1%		54.7VDC ±1%		82.1VDC ±1%		
INDICATOR									
LCD Panel	Load level, battery level, AC mode, battery mode, bypass mode, and fault indicator								
INTERFACE									
Smart RS-232 / USB	Supports windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / Linux / Unix / MAC								
Optional SNMP	Power management from SNMP manager and web browser								
PHYSICAL									
Dimension (2U) (D x W x H) (mm / in)	410 x 438 x 88 / 16.1 x 17.2 x 3.5		510 x 438 x 88 / 20.1 x 17.2 x 3.5				630 x 438 x 88 / 24.8 x 17.2 x 3.5		
Net Weight (kg / lb)	12.9 / 28.4	8.6 / 19.0	17.6 / 38.8	10.7 / 23.6	20.6 / 45.4	11.3 / 24.9	28 / 61.7	13.8 / 30.4	

FEATURES

- True double-conversion online UPS
- 0.9 Output power factor
- DSP control technology (6K~10KVA models)
- ECO and advanced ECO mode for energy saving
- Easy-shift LCD display for rack / tower models
- Programmable power management outlets (1K~3KVA models)
- Emergency Power Off (EPO) function
- 50 / 60Hz frequency converter mode
- Pure sine wave output
- N+X parallel redundancy up to 3 units for 6KVA & 10KVA models (optional)
- External PDU / maintenance bypass switch (optional)
- Extendable runtime feature ("L" model)

EXTERNAL MAINTENANCE BYPASS SWITCH



MBS-610RM



MBS-123RM

ULTIMA RT ON-LINE UPS SPECIFICATION

MODEL		ULT-6K(L)RT	ULT-6K(L)RTD	ULT-10K(L)RT	ULT-10K(L)RTD
Capacity		6000VA / 5400W		10000VA / 9000W	
INPUT					
Nominal Voltage		200 / 208 / 220 / 230 / 240VAC			
Voltage Range		176-300VAC at 100% load; 110-175VAC de-rating up to 50% load			
Frequency Range		46Hz~54Hz or 56Hz~64Hz			
Power Factor		≧ 0.99 @ Nominal voltage (100% load)			
OUTPUT					
Output Voltage		200 / 208 / 220 / 230 / 240VAC	(104 / 110 / 115 / 120VAC) x 2	200 / 208 / 220 / 230 / 240VAC	(104 / 110 / 115 / 120VAC) x 2
Current Crest Ratio		3:1 (max.)			
Harmonic Distortion		≧ 2% THD (linear load), ≧ 4% THD (non-linear load)	≧ 3.5% THD (linear load), ≧ 7% THD (non-linear load)	≧ 2% THD (linear load), ≧ 4% THD (non-linear load)	≧ 3.5% THD (linear load), ≧ 7% THD (non-linear load)
Transfer Time	Line mode <-> Battery mode	Zero			
	Inverter <-> Bypass	Zero			
EFFICIENCY					
Line Mode		91%	85%	91%	85%
Battery Mode		88%	82%	88%	82%
ECO Mode		96%	87%	96%	87%
BATTERY					
Standard Model	Nominal Voltage	240VDC			
	Battery Type	12V / 7Ah		12V / 9Ah	
	Numbers	20 (18-20PCS Programmable)		20 (18-20PCS Programmable)	
	Typical Recharge Time	7 Hours recover to 90% capacity		9 Hours recover to 90% capacity	
	Charging Current (max.)	1.0A			
	Float Charging Voltage	273VDC (based on battery numbers at 20 pcs)			
Long Run (L) Model	Battery Type And Numbers	Depending on applications			
	Charging Current (max.)	4.0A			
	Float Charging Voltage	273VDC (based on battery numbers at 20 pcs)			
INDICATOR					
LCD Panel		UPS status, load level, battery level, input / output voltage, discharge timer, and fault conditions			
INTERFACE					
Smart RS-232 / USB		Supports windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / Linux / Unix / MAC			
Optional SNMP		Power management from SNMP manager and web browser			
PHYSICAL					
Dimension (3U) (D x W x H) (mm / in)	UPS Unit / Battery Bank : 580 x 438 x 133 / 22.8 x 17.2 x 5.2	UPS Unit / Battery Bank / ISO Bank: 580 x 438 x 133 / 22.8 x 17.2 x 5.2	UPS Unit: 668 x 438 x 133 / 26.3 x 17.2 x 5.2, Battery Bank: 580 x 438 x 133 / 22.8 x 17.2 x 5.2	UPS Unit / ISO Bank: 668 x 438 x 133 / 26.3 x 17.2 x 5.2, Battery Bank: 580 x 438 x 133 / 22.8 x 17.2 x 5.2	
Net Weight (kg / lb)	UPS Unit: 20 / 44.1 Battery bank: 57 / 125.7	UPS Unit: 20 / 44.1 Battery Bank: 57 / 125.7 ISO Bank: 67 / 147.7	UPS Unit: 23.5 / 51.8 Battery Bank: 63 / 138.9	UPS Unit: 23.5 / 51.8 Battery Bank: 63 / 138.9 ISO Bank: 90 / 198.5	

Ultima LV33 Series

3-Phase UPS with Double Conversion Technology



FEATURES

- Online double conversion technology with DSP control
- AFC technology for very low harmonic distortion
- 0.9 output power factor
- Input current distortion THDi <1%
- Input power factor 0.99 at 10% load
- Front access makes maintenance and replacement easy
- Control designed to with stand all kinds of loads
- Variety of communication options available
- Output efficiency up to 95%
- Space-saving compact design
- Touch screen LCD display panel
- Dual input power source (optional)



APPLICATIONS

- Factory Equipment
- Industrial Equipment
- Telecom & Networking
- Medium Data Center



ULTIMA LV33 ON-LINE UPS SPECIFICATION

MODEL	ULT-LV10K33	ULT-LV15K33	ULT-LV20K33	ULT-LV30K33
Phase	3-Phase in / 3-phase out			
Capacity	10KVA / 9KW	15KVA / 13.5KW	20KVA / 18KW	30KVA / 27KW
INPUT				
Nominal Voltage	3 x 208V (3Ph + N)			
Acceptable Voltage Range	+15% or -20%			
Frequency	50 / 60Hz ±5%			
Total Harmonic Distortion (THDi)	< 1.5% @ 100% Load, < 2.5% @ 50% Load, < 6.0% @ 10% Load	< 1.0% @ 100% Load, < 2.0% @ 50% Load, < 5.0% @ 10% Load		
Power Factor	0.99 from 10% load			
INVERTER				
Nominal Voltage	3 x 208V (3Ph + N)			
Total Harmonic Distortion (THDv)	< 0.5% (linear load); < 1.5% (non-linear load)			
Phase Displacement	120° ±1% (balanced load); 120° ±2% (imbalances 50% of the load)			
Admissible Overload	125%~135% for 5 min., 135%~150% for 60 s			
Admissible Crest Factor	3.4 : 1	3.2 : 1		
Admissible Power Factor	0.7 inductive to 0.7 capacitive			
Current Limit	High overload, short-circuit: RMS voltage limit; high crest-factor current: peak voltage limit			
STATIC BYPASS				
Type	Solid state			
Voltage	3 x 208V (3Ph + N)			
Transfer Time	Zero			
Admissible Overload	400% for 10 sec.			
Transfer To Bypass	Immediate, for overloads above 150%			
Retransfer	Automatic after alarm clear			
MAINTENANCE BYPASS				
Voltage	3 x 208V (3Ph + N)			
Overall Efficiency (Line Mode)	90.0%	91%	91.5%	92%
BATTERY				
Built-in Battery Type (2x19)	12V 7Ah	12V 9Ah	12V 12Ah	--
Max. Charging Current	23.5A		47A	
PHYSICAL				
Dimension (D x W x H) (mm / in)	770 x 450 x 1100 / 30.3 x 17.7 x 43.3			
Net Weight (w / o Battery) (kg / lb)	94 / 207.3	110 / 242.6	122 / 269.0	162 / 357.2
Net Weight (w / built-in Battery) (kg / lb)	195 / 430.0	227 / 500.5	272 / 599.8	--

- Remaining backup time calculation
- Parallel redundancy operation up to 4 units
- High flexibility in single-phase and three-phase setups. AC input adjustable to four options:

Three-phase input / three phase output (3 / 3)

Three-phase input / single phase output (3 / 1)

Single phase input / single phase output (1 / 1)

Single phase input / three-phase output (1 / 3)

- Pure sine wave output
- Remaining backup time calculation.

By using powerful algorithms, an estimated remaining backup time can be calculated and help users for further arrangement in the event of a prolonged power outage.

5.7"LCD TOUCH SCREEN



EXTERNAL BATTERY CABINET

MODEL	ULT-LV33BB26	ULT-LV33BB40
Dimension (D x W x H) (mm)	700 x 450 x 1100	805 x 590 x 1320
Built-in Battery Type (2 x 19)	12V 26Ah	12V 40Ah
Net Weight (kg)	380	610

ULTIMA LV33 ON-LINE UPS SPECIFICATION

MODEL	ULT-LV40K33	ULT-LV50K33	ULT-LV60K33	ULT-LV80K33	ULT-LV100K33
Phase	3-Phase in / 3-phase out				
Capacity	40KVA / 36KW	50KVA / 45KW	60KVA / 54KW	80KVA / 72KW	100KVA / 90KW
INPUT					
Nominal Voltage	3 x 208V (3Ph + N)				
Acceptable Voltage Range	+15% or -20%				
Frequency	50 / 60Hz ±5%				
Total Harmonic Distortion (THDi)	< 1.0% @ 100% load, < 2.0% @ 50% load, < 5.0% @ 10% load	< 1.5% @ 100% load, < 2.0% @ 50% load, < 6.0% @ 10% load			
Power Factor	0.99 from 10% load				
INVERTER					
Nominal Voltage	3 x 208V (3Ph + N)				
Total Harmonic Distortion (THDv)	< 0.5% (linear load); < 1.5% (non-linear load)				
Phase Displacement	120° ±1% (balanced load) ; 120° ±2% (imbalances 50% of the load)				
Admissible Overload	125%~135% for 5 min., 135%~150% for 60 s				
Admissible Crest Factor	2.8 : 1	3.2 : 1		3.0 : 1	
Admissible Power Factor	0.7 inductive to 0.7 capacitive				
Current Limit	High overload, short-circuit: RMS voltage limit; high crest-factor current: peak voltage limit				
STATIC BYPASS					
Type	Solid state				
Voltage	3 x 208VAC (3Ph+N)				
Transfer Time	Zero				
Admissible Overload	400% for 10 sec.				
Transfer To Bypass	Immediate, for overloads above 150%				
Retransfer	Automatic after alarm clear				
MAINTENANCE BYPASS					
Voltage	3 x 208V (3Ph + N)				
Overall Efficiency (Line Mode)	93%	92.5%	92%	93%	
BATTERY					
Max. Charging Current	70.5A			188A	
PHYSICAL					
Dimension (D x W x H) (mm / in)	805 x 590 x 1320 / 31.7 x 23.2 x 52.0			805 x 900 x 1900 / 31.7 x 35.4 x 74.8	
Net Weight (w / o Battery) (kg / lb)	231 / 509.4	255 / 562.3		550 / 1212.8	
Net Weight (w / built-in Battery) (kg / lb)	--				

Matrix VX33 Series

3-Phase UPS with Double Conversion Technology



Power Module (3U)

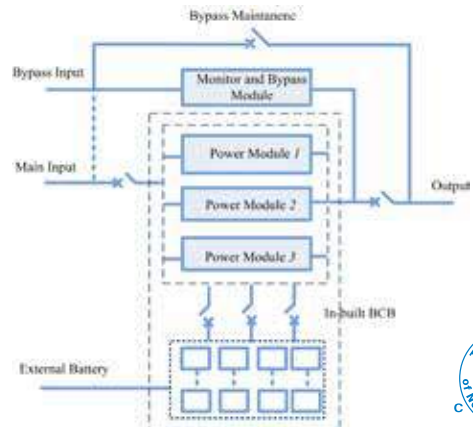


20KVA-60KVA

UPS with battery cabinet

INTRODUCTION

Matrix VX33 is a modular UPS system comprised of 1 to 3 power modules of 20KVA. It provides power protection from 20KVA to 60KVA in single cabinet design. A Digital Signal Processor (DSP) control provides an improved solution with high performance. This UPS is easily upgraded by users through adding plug-and-play power modules. Additionally, this UPS system is stacked with battery pack as a tower for smaller footprint. It's a perfect power solution for small to medium enterprise.



APPLICATIONS

- Commercial Equipment
- Small / Medium Data Center
- Business Equipment
- Management & Monitoring Center

MATRIX VX33 ON-LINE UPS SPECIFICATION

MODEL	MAT-VX20KLV
Capacity	20KVA-60KVA
UPS Cabinet	3-Slot
One Power Module Capacity	20 KVA / 18 KW
INPUT	
Nominal Voltage	3 x 208 / 220 VAC (3Ph+N)
Voltage Range	156 ~ 253 VAC at 100% load; 121 ~ 253 VAC at < 70% load
Frequency Range	40 ~ 70 Hz
Power Factor	>0.99 @ 100% load, >0.98 at 50% load
OUTPUT	
Nominal Voltage	3 x 208 / 220 VAC (3Ph+N)
Voltage Regulation (Steady State)	≤ ±1% Typical (balanced load), ≤ ±2% Typical (unbalanced load)
Frequency Range (Synchronized)	46 ~ 54 Hz or 56 ~ 64 Hz
Overload Capability	1 hour for 110%, 10 mins for 125%, 1 min for 150% and 200ms for > 150%
Harmonic Distortion	≤ 2% THD (Linear Load); ≤ 4% THD (Non-linear Load)
Efficiency	Up to 92.5%
BATTERY / CHARGER	
Nominal Voltage	+/- 120V (12V x 20 pcs)
Float Charging Voltage	2.25 V / Cell
Boost Charging Voltage	2.35 V / Cell
Temperature Compensation	Yes
Maximum Charging Current (Each Power Module)	8A (User-adjustable)
INTERFACE	
Smart RS-232/USB	Supports Windows 2000 / 2003 / XP / Vista / 2008, Windows 7 / 8 / 10, Linux and MAC
Optional SNMP	Power management from SNMP manager and web browser
PHYSICAL	
Power Module Dimension (D x W x H) (mm/in)	690 x 440 x 132 / 27.2 x 17.3 x 5.2
Power Module Weight (kg/lb)	34 / 75
Cabinet Dimension (D x W x H) (mm/in)	1000 x 515 x 760 / 39.4 x 20.3 x 29.9 (w/ wheels)
Cabinet Weight (kg/lb)	179 / 394.7
Battery Cabinet Dimension (D x W x H) (mm/in)	1000 x 515 x 640 / 39.4 x 20.3 x 25.2 (w/ wheels)
Battery Cabinet Weight (kg/lb) w/ 120pcs 9AH Batt.	407 / 897.4

FEATURES

- **High efficiency online double conversion technology**

Matrix VX33 offers online double conversion technology with high efficiency up to 92.5% to significantly reduces overall total cost of ownership.

- **Full DSP of high stability, reliability, scalability and safety**

DSP control provides an improved solution with high performance.

Integrated with modular design and parallel technology,

Matrix VX33 simplifies future power expansion.

- **0.9 High output power factor**

The high output power factor provides higher performance and efficiency to critical applications.

- **Modular design lowers MTTR**

Modular design is applied in power module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair)

- **Output voltage regulation <1%**

Provides quality, stable output power.

- **Adjustable charge current**

Matrix VX33 provides each 18KW power module an 8A charge current and is adjustable based on requirement.

- **Built-in Maintenance bypass function**

Designed for systems which uptime is critical, the maintenance bypass allows seamless transfer of an electrical load from UPS power to mains.

- **High overload capability**

Matrix VX33 support, 110% overload for 60 minutes, 125% for 10 minutes, and 150% for 1 minute.

- **Easy for installation and maintenance**

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are easy accessible.

- **RS-232 and USB ports for power management software**

Easily monitor the current status of the UPS with software for control and monitor UPS.

- **Graphic 5.7" LCD design for easy configuration**

Designed for easy management, Matrix VX33 is equipped with 5.7" graphic LCD screen. Intuitive design enhances display information identified and advanced configuration.

MODULAR UPS SYSTEM



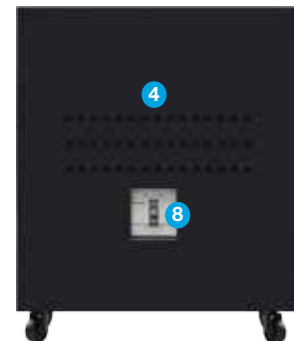
UPS W/ Battery Cabinet
D x W x H: 1000 x 515 x 1415mm

- 1 LCD (5.7" Graphic display brings all measured parameters)
- 2 STS & Control Module (Includes control, power, communication circuits, an internal Static Transfer Switch)
- 3 Power module (20KVA)
- 4 Battery Cabinet (120 pcs x 9 AH batteries max. load)
- 5 Remote EPO & Battery Temperature Detection Port (Optional Temperature Sensor Cable)
- 6 RS-232 & USB Port (Use in UPS commissioning and service or monitor the UPS information by Monitoring Software)
- 7 SNMP Card Port (Optional SNMP Card)

- 8 External Battery Input / Output Breaker

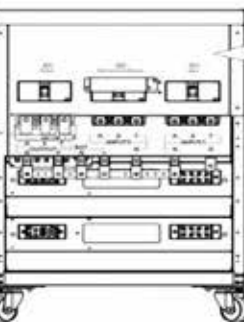
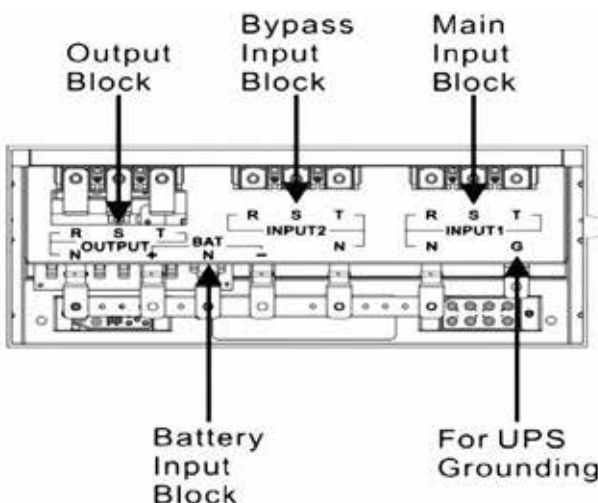


UPS Cabinet (Front Panel)
D x W x H: 1000 x 515 x 760mm

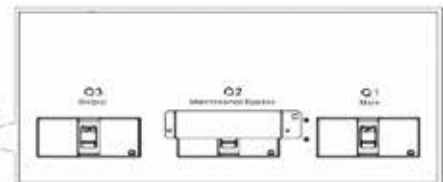


External Battery Cabinet
D x W x H: 1000 x 515 x 741mm

REAR SIDE VIEW



UPS Cabinet (Rear Panel)



Q1 : Input Breaker

Q2 : Maintenance Bypass Breaker

Q3 : Output Breaker

Matrix RX33 Series

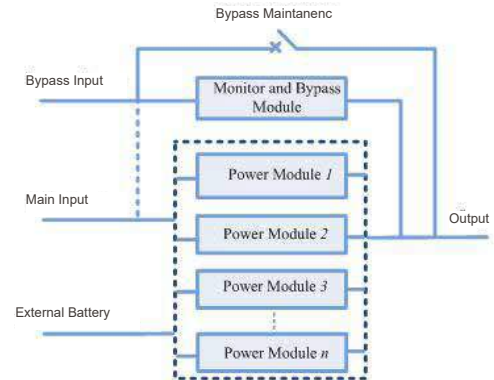
3-Phase UPS with Double Conversion Technology

INTRODUCTION

Matrix RX33 modular online UPS series for ultra-critical equipment. Provides power protection from 15KVA to 200KVA in single cabinet design, parallel capable up to 600KVA. The RX33 delivers the best combination of reliability and flexibility, with the latest 3-Level IGBT and DSP control technology, making this system the best choice for data centers and critical equipment.



External Battery Bank 15 / 20KVA-200KVA 15 / 20KVA-120KVA



APPLICATIONS

- Commercial Equipment
- Medium / Large Data Center
- Business Equipment
- Management & Monitoring Center

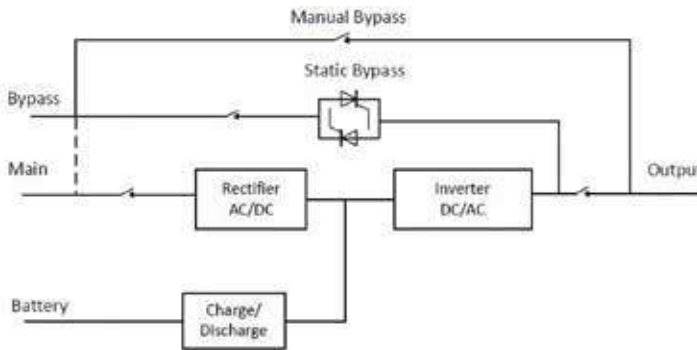
MATRIX RX33 ON-LINE UPS SPECIFICATION

MODEL	MAT-RX15KLV		MAT-RX20KLV	
	15KVA-90KVA	15KVA-150KVA	20KVA-120KVA	20KVA-200KVA
Capacity	15KVA-90KVA	15KVA-150KVA	20KVA-120KVA	20KVA-200KVA
UPS Cabinet	6-Slot	10-Slot	6-Slot	10-Slot
INPUT				
Phase	3 phases + neutral + ground			
Nominal Voltage	3 x 200 / 208 / 220VAC (line to line)			
Voltage Range	166~261VAC (line to line), 100% load; 125~166VAC (line to line), load decreases linearly according to the min. phase voltage			
Frequency Range	40 ~ 70Hz			
Power Factor	> 0.99 @ 100% load			
OUTPUT				
Phase	3 phases + neutral + ground			
Nominal Voltage	3 x 200 / 208 / 220VAC (line to line)			
Voltage Regulation (Steady State)	±1.5%			
Overload Capability	1 hour for 110%, 10 minutes for 125%, 1 minutes for 150%, 200ms for >150%			
Harmonic Distortion	≤ 1.0% THD (linear load); ≤ 6% THD (non-linear load)			
Power Factor	1.0		0.8	
Crest Factor	3:1			
SYSTEM				
Efficiency	Normal mode: 93%; ECO mode: 98%; Battery mode: 93%			
Display	10.4" LCD+LED, Color touch screen + keyboard			
Communication Port	RS-232, RS-485, Dry Contacts, USB			
Optional SNMP	Power management from SNMP manager and web browser			
BATTERY / CHARGER				
Float Charge Voltage	±135V default @ 12V x 20PCS battery (selectable from ±132V ~ ±141V)			
Charge Power	Max. 20% system power			
Temperature Compensation	Optional			
PHYSICAL				
Cabinet Dimension (D x W x H) (mm / in)	1100 x 600 x 1600 / 43.3 x 23.6 x 63.0	1100 x 600 x 2000 / 43.3 x 23.6 x 78.7	1100 x 600 x 1600 / 43.3 x 23.6 x 63.0	1100 x 600 x 2000 / 43.3 x 23.6 x 78.7
Cabinet Weight (kg / lb)	6-Slot cabinet: 165 / 363.8; 10-Slot cabinet: 220 / 485.1			
Power Module Dimension (D x W x H) (mm / in)	790 x 460 x 134 / 31.1 x 18.1 x 5.3			
Power Module Weight (kg / lb)	15KVA module: 32 / 70.6; 20KVA Module: 34 / 75			

FEATURES

- **High reliability modular UPS system**

Matrix RX33 is configured by the following part: Power modules, Bypass & Monitoring unit, and cabinet with manual Bypass switch. One or several battery strings should be installed to provide backup energy once the utility fails.



- **High efficiency online double conversion technology**

Matrix RX33 is applied online double conversion technology with high efficiency 98% at ECO mode and 93% at AC mode and 93% at battery mode. It significantly reduces overall total cost of ownership.

- **Modular design lowers MTTR**

Modular design is applied in power module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair).

- **Full DSP of high stability, reliability, scalability and safety**

DSP control provides an improved solution with high performance. Integrated with modular design and parallel technology, Matrix RX33 simplifies future power expansion.

- **Monitor runtime of critical components**

Monitor runtime of critical components, such as fan and capacitors, settable alarm for service period.

- **Independent LCD display for each power module**

Independent LCD display for each power module with self-starting function.

- **N+X parallel redundancy and online hot swapping**

Scalable architecture allows you to optimize cost expense to meet power demands by vertically expanding in a single rack enclosure from 15KVA to 200KVA and achieve N+X redundancy and online hot swapping in the same rack.

- **Fully coating PCBAs**

All PCBAs are coated for anti-moisture, anti-dust and anti-corrosion.

- **Self-Aging mode**

Self-Aging mode for full load test with less than 10% of the total power capacity needed.

- **Programmable dry contacts**

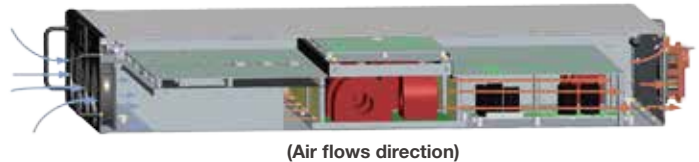
The function of each port can be defined by users.

- **Easy for installation and maintenance**

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are easy accessible.

- **Isolated air flow**

Cooling air flows in the lower layer, keeping the upper PCB free of dust. One air flow channel ensures fans redundancy, even one fan fails, power module can run normally.



(Air flows direction)

- **High overload capability**

Matrix RX33 support, 110% overload for 60 minutes, 125% for 10 minutes, 150% for 1 minute and >150% for 200 msec.

- **Adjustable charge power**

Matrix RX33 provides maximum 20% system power charge capacity and it's adjustable based on requirement.

- **Smart sleeping mode**

Smart sleeping mode for energy saving and prolong the life time of the system.

- **Automatically record function**

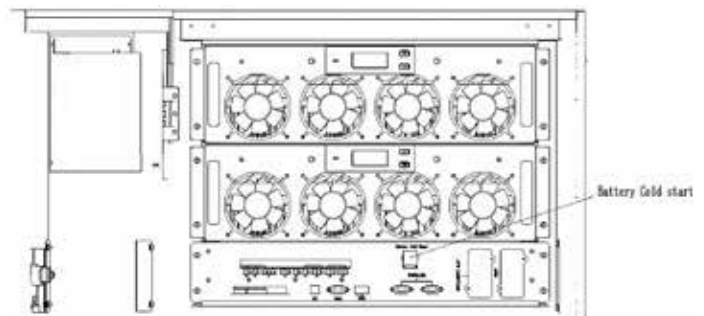
Automatically record the critical wave information when fault happens, easy for trouble shooting.

- **Integrated IGBT module design**

Integrated IGBT module with improved performance and reduced size.

- **Battery cold start function**

UPS can be powered on from the battery without utility.



- **Graphic 10.4" colorful LCD touch screen for easy management**

Designed for easy management, Matrix RX33 is equipped with 10.4" colorful LCD touch screen. Intuitive design enhances display identified and advanced configuration. Users can easily browse the information, operate the UPS, and set the parameters through the LCD touch screen, which is friendly for users.

SmartDual Series

Line Interactive UPS with Bi-Voltage Input



DUL-2000A

DUL-800 / 1200 / 1500A

FEATURES

- 800~2000VA true sine wave UPS
- Bi-voltage 120V or 220V input (auto sensing) and 120V voltage output
- Smart microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Generator Compatible
- Off-mode auto charging
- Cold start function (DC power on)
- Auto restart while AC is recovering
- Built-in smart charger
- Built-in HID USB communication port
- Communication port with power management software

APPLICATIONS

- Medical Equipment
- Electronic Equipment
- Commercial Devices
- Telecom Equipment



SMARTDUAL LINE INTERACTIVE UPS SPECIFICATION

MODEL	DUL-800A	DUL-1200A	DUL-1500A	DUL-2000A
Capacity	800VA / 490W	1200 VA / 700 W	1500 VA / 900 W	2000 VA / 1200 W
INPUT				
Voltage	120 / 220 VAC (auto sensing)			
Voltage Range	90 ~ 148 VAC / 169 ~ 270 VAC			
Frequency	50 / 60 Hz ± 3Hz			
OUTPUT				
Voltage	110 ~ 120 VAC			
AC Voltage Regulation (Battery Mode)	±10%			
Frequency	50 Hz or 60 Hz			
Frequency Regulation (Battery Mode)	±1%			
Waveform (Battery Mode)	Pure sine wave			
TRANSFER TIME				
Typical	2 ~ 6ms			
BATTERY				
Battery Type	12 V / 7 Ah	12 V / 7 Ah	12 V / 9 Ah	12 V / 9 Ah
Battery Number	2	2	2	4
Battery Voltage	24 VDC			48 VDC
Backup Time (Half Load)	16 minutes	11.5 minutes	11 minutes	16 minutes
Typical Recharge Time	4 hours recover to 90% capacity			
INDICATOR				
Display	LEDs			
Alarm	Battery Mode, Low battery, Overload, Fault			
PROTECTION				
Full Protection	Overload, over discharge and overcharge protection			
MANAGEMENT				
HID USB Port	Windows® 10 / 8 / 7 / Server 2012 R2 / Server 2008 R2 / Linux / Mac			
PHYSICAL				
Dimension (D x W x H) (mm / in)	327 x 140 x 191 / 12.9 x 5.5 x 7.5			390 x 151 x 225 / 15.4 x 5.9 x 8.9
Net Weight (kg / lb)	10.1 / 22.3	11.6 / 25.6	13.6 / 30.0	20.7 / 45.6

Dual Power Converter Series

Step-up / Step-down Voltage Converter



DPC-200VA / 500VA



DPC-3000VA / 5000VA



DPC-800VA / 1000VA



DPC-8000VA / 10000VA



DPC-1500VA / 2000VA

FEATURES

- 200VA ~ 10 KVA double way voltage converter
- Converter single phase 220 / 240 VAC down to 110 / 120VAC or 110 / 120VAC up to 220 / 240VAC
- Taylor-made C.R.G.O. toroidal transformer
- High efficiency, low loss, low rising temperature, and long lifespan
- Air cooling with fanless design
- Lower power consumption and better performance
- Attached heavy cord that allows you to easily carry and move it with you from one place to another
- Durable design with strong duty metal case
- Fuse overload and short circuit protection (200 VA ~ 500 VA)
- Resettable circuit breaker overload and short circuit protection (800 VA ~ 10 KVA)
- Terminal block input (3000 VA ~ 10 KVA)
- Universal output sockets are suitable for most countries

APPLICATIONS

- Home Appliances
- Office Equipment
- Factory Application
- Industrial Application

DUAL POWER CONVERTER SPECIFICATION

MODEL	DPC-200VA	DPC-500VA	DPC-800VA	DPC-1000VA	DPC-1500VA	DPC-2000VA	DPC-3000VA	DPC-5000VA	DPC-8000VA	DPC-10000VA
Capacity (VA)	200 VA	500 VA	800 VA	1000 VA	1500 VA	2000 VA	3000 VA	5000 VA	8000 VA	10000 VA
Capacity (Watt)	160 W	400 W	640 W	800 W	1200 W	1600 W	2400 W	4000 W	6400 W	8000 W
Power Factor	0.8									
INPUT										
Phase	Single phase									
Voltage	110 / 115 / 120 VAC or 220 / 230 / 240 VAC									
Frequency	50 / 60 Hz									
Inlet	Power cord						Terminal block			
OUTPUT										
Phase	Single phase									
Voltage	220 / 230 / 240 VAC or 110 / 115 / 120 VAC									
Frequency	50 / 60 Hz (Same as input frequency)									
Efficiency	> 98%									
Socket	(NEMA 5-15 + Universal) * 1	Universal * 2		Universal * 3		Universal * 4				
TRANSFORMER										
Transformer	Taylor-made, C.R.G.O., toroidal transformer									
DISPLAY										
Display	LED									
PROTECTION										
Overload	Yes									
Short Circuit	Yes									
PHYSICAL										
Dimension (D x W x H) (mm / in)	125 x 158 x 90 / 4.9 x 6.2 x 3.5		148 x 192 x 120 / 5.8 x 7.6 x 4.7		168 x 218 x 138 / 6.6 x 8.6 x 5.4		285 x 190 x 201 / 11.2 x 7.5 x 7.9		220 x 335 x 230 / 8.7 x 13.2 x 9.1	
Net Weight (kg / lb)	1.7 / 3.7	2.6 / 5.7	3.3 / 7.3	3.9 / 8.6	4.2 / 9.3	5.6 / 12.3	10 / 22.1	15.5 / 34.2	23 / 50.7	26 / 57.3

PC & Logic AVR Series

AVR for Stable Power Protection

PC AVR FEATURES

- 800VA AVR
- 4 outlets (AVR + surge)
- Desktop and wall-mountable design
- Resettable input overload protection circuit breaker
- Automatically regulates low voltage
- User-friendly visual indicators

LOGIC AVR FEATURES

- 1000~2200VA AVR
- 6 outlets (4 AVR + surge & 2 surge only) for 1000VA
- 10 outlets (5 AVR + surge & 5 surge only) for 1200VA / 2200VA
- Desktop and wall-mountable design
- Resettable input overload protection circuit breaker
- Automatically regulates high and low voltage
- RJ-11 / 45 telephone / fax / internet data line surge protection
- User-friendly visual indicators
- Overheating protection



AVR-800



AVR-1000A



AVR-1200 / 2200A

APPLICATIONS

- VOIP Phone System
- Personal Computers
- Network Peripherals
- Router

APPLICATIONS

- Home Entertainment Systems
- Personal Computers
- Network Peripherals
- Printers & Copiers

PC & LOGIC AVR SPECIFICATION

SERIES	PC AVR		LOGIC AVR	
MODEL	AVR-800	AVR-1000A	AVR-1200A	AVR-2200A
Capacity	800VA / 400W	1000VA / 500W	1200VA / 600W	2200VA / 1100W
AC INPUT				
Nominal Voltage	120 / 230VAC		120 / 230VAC	
Input Voltage Range	96~140VAC / 176~278VAC		95~150VAC / 176~278VAC	
Phase	1 phase 2 wires		1 phase 2 wires	
Frequency	50 / 60Hz (auto sensing)		50 / 60 Hz (auto sensing)	
AC OUTPUT				
Nominal Voltage	120 / 230VAC		120 / 230VAC	
Phase	1 phase 2 wires		1 phase 2 wires	
Frequency	50 / 60Hz			
Outlets	4 outlets (4 AVR + surge)	6 outlets (4 AVR + surge & 2 surge only)	10 outlets (5 AVR + surge & 5 surge only)	
PROTECTION				
Surge Suppression	N / A	84 Joules	110 Joules	
Tel / Fax / Network Surge Suppression	None	RJ-11	RJ-11 / RJ-45	
Overload	Manual reset circuit switch			
Over Current				
Short Circuit				
PHYSICAL				
Dimension (D x W x H) (mm / in)	220 x 80 x 77 / 8.7 x 3.1 x 3.0	70 x 200 x 140 / 2.8 x 7.9 x 5.5	78 x 227 x 160 / 3.1 x 8.9 x 6.3	
Net Weight (kg / lb)	1.2 / 2.6	1.49 / 3.3	1.65 / 3.6	2.3 / 5.1

Pro AVR & Micro AVR

AVR for Stable Power Protection

PRO AVR FEATURES

- 1200~2000VA AVR
- 8 outlets (4 AVR + surge & 4 surge only) for 1200VA / 2000VA
- Desktop and wall-mountable design
- RJ-11 / 45 telephone / fax / internet data line surge protection
- Resettable input overload protection circuit breaker
- Automatically regulates high and low voltage
- User-friendly visual indicators
- Overheating protection



AVR-1200AC / 2000AC

MICRO AVR FEATURES

- Input voltage and output voltage LCD display
- 8 outlets for 3000VA~5000VA
- Two-boost and buck AVR to stabilize input voltage
- Resettable circuit breaker for overload protection
- Selectable delay time setting (2 / 10 / 30 seconds)
- RJ-11 / 45 combo telephone / fax / network line protection port
- High voltage & Low voltage protection
- Overheating protection



AVR-3000 / 4000 / 5000LCD

APPLICATIONS

- Home Entertainment Systems
- Network Peripherals
- Personal Computers
- Printers & Copiers

APPLICATIONS

- Home Appliances
- Office Equipment
- Personal Computers
- Factory Automation

PRO AVR & MICRO AVR SPECIFICATION

SERIES	PRO AVR		MICRO AVR		
MODEL	AVR-1200AC	AVR-2000AC	AVR-3000LCD	AVR-4000LCD	AVR-5000LCD
Capacity	1200VA / 600W	2000VA / 1000W	3000VA / 1500W	4000VA / 2000W	5000VA / 2500W
AC INPUT					
Nominal Voltage	120 / 230VAC		120 / 220VAC		
Input Voltage Range	95~150VAC / 176~278VAC		85~145VAC / 175~290VAC		
Phase	1 phase 2 wires				
Frequency	50 / 60Hz (auto sensing)				
AC OUTPUT					
Nominal Voltage	120 / 230VAC		120 / 220VAC		
Output Voltage Range	±10%		±10%		
Phase	1 phase 2 wires				
Frequency	50 / 60Hz				
OUTLETS					
Surge only	4 PCS		N / A		
AVR + Surge Protection	4 PCS		8 PCS		
PROTECTION					
Surge Suppression	110 Joules		240 Joules		
Network Surge Suppression	RJ-11 / RJ-45				
Overload	Manual reset circuit switch				
Over Current	Manual reset circuit switch				
Short Circuit	Manual reset circuit switch				
PHYSICAL					
Dimension (D x W x H) (mm / in)	80 x 95 x 250 / 3.15 x 3.74 x 9.84		250 x 150 x 157 / 9.8 x 5.9 x 6.2		
Net Weight (kg / lb)	1.4 / 3.1	2.3 / 5.1	5 / 11	6 / 13.2	7 / 15.4

Digital AVR Series

AVR for Stable Power Protection

C.R.G.O. TRANSFORMER



DIG-1 / 1.5 / 2KVA

DIG-3 / 5KVA
DIG-8 / 10KDV

DIG-15 / 20KDV

CHASSIS VARIATION



Desk top (DT type)



Wall mount (WM type)

FEATURES - Toroidal Transformer Type

- 1 KVA ~ 20 KVA automatic voltage regulator
- Authentic zero-crossing technology catches real current zero-crossing
- Taylor-made C.R.G.O. toroidal transformer
- High efficiency, low loss, low rising temperature, and long lifespan
- High performance and high speed MCU control for lower power consumption and better efficiency
- Resettable circuit breaker for overload protection
- Full function, graphic LED display indicator for easy status reading
- Selectable delay time settings: 6 sec. delay for computers appliances, 180 sec. for home & motorized equipments
- Optional W Series for input range of 100 ~ 285 VAC @ HV and 52 ~ 145 VAC @ LV
- Chassis variation: 1KVA ~ 10KVA desk top DT type and wall mount WM type (optional)

APPLICATIONS

- Office Equipment
- Home Appliances
- Factory Application
- Industrial

DIGITAL AVR SPECIFICATION

MODEL	DIG-1KVA	DIG-1.5KVA	DIG-2KVA	DIG-3KVA	DIG-5KVA	DIG-8KDV	DIG-10KDV	DIG-15KDV	DIG-20KDV
Capacity	1000 VA	1500 VA	2000 VA	3000 VA	5000 VA	8000 VA	10000 VA	15000 VA	20000 VA
INPUT									
Voltage	67 ~ 145 VAC (single phase)					140 ~ 285 VAC (single phase)			
Frequency	50 / 60 Hz (auto sensing)								
OUTPUT									
Capacity	1000 VA	1500 VA	2000 VA	3000 VA	5000 VA	8000 VA	10000 VA	15000 VA	20000 VA
Voltage	110 / 115 / 120 VAC					Max. 3000 VA @ 110 / 115 / 120 VAC 110 & 220 / 115 & 230 / 120 & 240 VAC both			
Precision	±8% ~ ±10%					±8% ~ ±10% @ 220 / 230 / 240 VAC ±15% ~ ±17% @ 110 / 115 / 120 VAC			
Frequency	50 / 60 Hz								
Outlets	NEMA 5-15R * 4		NEMA 5-15R * 2 & NEMA 5-20R * 2		Terminal block & NEMA 5-20R * 2				
Efficiency	98%								
TRANSFORMER									
Transformer	Taylor-made, C.R.G.O., toroidal transformer								
DISPLAY									
Digital Display	Display indicates input load, output load, frequency, and load level								
PROTECTION									
Delay Time Setting	Selectable between 6 / 180 seconds								
Overload	Yes								
Over Current	Yes								
High Temperature	Yes								
High / Low Voltage	Yes								
Short Circuit	Yes								
Cooling Fan	N / A				Smart cooling				
PHYSICAL									
Dimension (D x W x H) (mm / in)	237 x 146 x 170 / 9.3 x 5.7 x 6.7			335 x 220 x 230 / 13.2 x 8.7 x 9.1			350 x 220 x 230 / 13.8 x 8.7 x 9.1		
Net Weight (@ 220 VAC) (kg / lb)	N / A					10.6 / 23.4	12.3 / 27.1	17.7 / 39.0	20.9 / 46.1
Net Weight (@ 120 VAC) (kg / lb)	3.0 / 6.6	3.4 / 7.5	3.7 / 8.2	6.8 / 15.0	7.8 / 17.2	N / A			

MegaPro 33 AVR Series (480 VAC)

Three-Phase AVR for Stable Power Protection



MGA-P50KLV33

FEATURES - Servo Motor Type

- 50 KVA three phase automatic voltage regulator
- Servo motor type AVR for combined high precision without instant high voltage surge and fast response
- Authentic zero-crossing technology catches real current zero-crossing
- Low loss columnar transformer for compact size and efficiency
- High performance and high speed MCU control with accurate detection for lower power consumption and better efficiency
- High efficiency, low loss, low rising temperature, and long lifespan
- Resettable circuit breaker for overload protection
- Full function, LCD display indicator for easy status reading
- Built-in maintenance bypass function
- RS-232 communication port with monitoring software and monitor AVR status

APPLICATIONS

- Factory & Office equipment
- Air Conditioning & Motor
- Three-Phase Load Device
- Industrial Equipment



MEGAPRO 33 AVR (480 VAC) SPECIFICATION

MODEL	MGA-P50KLV33
Capacity	50 KVA / 40 KW
INPUT	
Nominal Voltage	3 X 480 VAC (3 phase+N+G)
Voltage Range	± 15%
Inlet	Terminal block
Frequency	50 / 60 Hz (auto sensing)
OUTPUT	
Nominal Voltage	3 X 480 VAC (3 phase+N+G)
Precision	± 2%
Outlet	Terminal block
Efficiency	98%
TRANSFORMER	
Transformer	Low loss columnar transformer
INDICATOR	
LCD Display	Showing input voltage, output voltage, output current
PROTECTION	
Overload	Yes
High Temperature	Yes
High / Low Voltage	Yes
Short Circuit	Yes
Cooling System	Yes
COMMUNICATION	
RS-232	Monitoring AVR status, input voltage, output voltage, output current
PHYSICAL	
Dimension (D x W x H) (mm / in)	540 x 800 x 1230 / 21.3 x 31.5 x 48.4

MegaPro 33 AVR Series

Three-Phase AVR for Stable Power Protection

FEATURES - Servo Motor Type

- 60 KVA ~ 2000 KVA three-phase automatic voltage regulator
- Servo motor type AVR for combined high precision without instant high voltage surge and fast response
- Authentic zero-crossing technology catches real current zero-crossing
- Low loss columnar transformer for compact size and efficiency
- High performance and high speed MCU control with accurate detection for lower power consumption and better efficiency
- High efficiency, low loss, low rising temperature, and long lifespan
- Resettable circuit breaker for overload protection
- Robust design suitable for wide operating temperature of harsh environment

Ambient temperature: -20 ~ +50°C

Storage temperature: -30 ~ +60°C

Relative humidity: 5 ~ 95%

- Pointer type meter can display input voltage, input current, and output voltage



- Provides multi-function rotary switch - the left switch can choose automatic or manual voltage regulator and the right switch can select the phase sequence



APPLICATIONS

- Factory & Office equipment
- Industrial Equipment
- Air Conditioning & Motor
- Three-Phase Load Device

MEGAPRO 33 AVR SPECIFICATION

MODEL	MGA-P60K33	MGA-P80K33	MGA-P100K33	MGA-P150K33	MGA-P200K33	MGA-P250K33	MGA-P300K33	MGA-P320K33
Capacity	60 KVA	80 KVA	100 KVA	150 KVA	200 KVA	250 KVA	300 KVA	320 KVA
INPUT								
Voltage	300 ~ 456 VAC (3 phase+N+G)							
Inlet	Terminal block							
Frequency	50 / 60 Hz (auto sensing)							
OUTPUT								
Voltage	380 VAC (3 phase+N+G)							
Outlet	Terminal block							
Efficiency	> 97%							
Precision	±1% ~ ±5%							
TRANSFORMER								
Transformer	Low loss columnar transformer							
METER								
Pointer Type Meter	showing input voltage, input current, output voltage							
PROTECTION								
Over Current	Yes							
Overload	Yes							
High Temperature	Yes							
High / Low Voltage	Yes							
Short Circuit	Yes							
Cooling System	Yes							
PHYSICAL								
Dimension (D x W x H) (mm / in)	800 x 540 x 1230 / 31.5 x 21.3 x 48.4	850 x 620 x 1390 / 33.5 x 24.4 x 54.7	1000 x 700 x 1600 / 39.4 x 27.6 x 63.0	1100 x 800 x 1900 / 43.3 x 31.5 x 74.8				

MegaPro 33 AVR Series

Three-Phase AVR for Stable Power Protection



60 KVA ~ 320 KVA STYLE



400 KVA ~ 1200 KVA STYLE

1600 KVA ~ 2000 KVA STYLE

MEGAPRO 33 AVR SPECIFICATION

MODEL	MGA-P400K33	MGA-P500K33	MGA-P600K33	MGA-P800K33	MGA-P1000K33	MGA-P1200K33	MGA-P1600K33	MGA-P2000K33
Capacity	400 KVA	500 KVA	600 KVA	800 KVA	1000 KVA	1200 KVA	1600 KVA	2000 KVA
INPUT								
Voltage	300 ~ 456 VAC (3-phase+N+G)							
Inlet	Terminal block							
Frequency	50 / 60 Hz (auto sensing)							
OUTPUT								
Voltage	380 VAC (3-phase+N+G)							
Outlet	Terminal block							
Efficiency	> 97%							
Precision	±1% ~ ±5%							
TRANSFORMER								
Transformer	Low loss columnar transformer							
METER								
Pointer Type Meter	showing input voltage, input current, output voltage							
PROTECTION								
Over Current	Yes							
Overload	Yes							
High Temperature	Yes							
High / Low Voltage	Yes							
Short Circuit	Yes							
Cooling System	Yes							
PHYSICAL								
Dimension (D x W x H) (mm / in)	1000 x 800 x 2000 / 39.4 x 31.5 x 78.7 (2cases)			1000 x 800 x 2000 / 39.4 x 31.5 x 78.7 (3cases)			1200 x 1200 x 2200 / 47.2 x 47.2 x 86.6 (4cases)	1200 x 1300 x 2200 / 47.2 x 51.2 x 86.6 (4cases)

Home Inverter Series

Long Runtime & High Performance Inverter



INV - H500 / H1000 / H2000

SOLAR CHARGE CONTROLLER (OPTIONAL)



APPLICATIONS

- Personal Computers
- Home Appliances
- Campus
- Portable AC



FEATURES

- User selectable for accepting wider input voltage
- Available in five AC outlets configurations: NEMA, Schuko, French, India, and BS1363
- Compact size for convenient use and storage
- Built-in 8Amp super charger for up to 100Ah battery
- Small scale and cost effective inverter for home appliances and office equipment
- Two-steps intelligent charging control to reduce the recharging time
- Full automatic and silent operation
- High Frequency design
- Rack Tower design
- Off mode charging

HOME INVERTER SPECIFICATION

MODEL	INV-H500	INV-H1000	INV-H2000
Capacity	500VA / 300W	1000VA / 600W	2000VA / 1200W
INPUT			
Nominal Voltage	110 / 120VAC or 220 / 230 / 240VAC		220 / 230 / 240VAC
Voltage Range	90~145VAC or 170~280VAC (narrow range)		
	50~145VAC or 90~280VAC (wide range)		
OUTPUT			
Voltage	110 / 120VAC or 220 / 230 / 240VAC		220 / 230 / 240VAC
Voltage Regulation (Bat. Mode)	10% / -18%		
Frequency	50Hz or 60Hz		
Frequency Regulation (Bat. Mode)	±0.1 Hz		
Output Waveform	Modified sinewave		
BATTERY & CHARGER			
Charger Current	10 Amp ± 1Amp	10 Amp ± 1Amp	10 Amp ± 1Amp
DC Voltage	12V		24V
Overcharge Protection	15V		30V
DISPLAY			
Indicators	AC Mode	Green lighting	
	Battery Mode	Yellow lighting	
	Battery Charging Mode	Green flashing every 2 second	
	Overload	Red flashing every 0.5 second	
	Fault	Red lighting	
PROTECTION			
Full Protection	Discharge, overcharge, and overload protection		
PHYSICAL			
Dimension (D x W x H) (mm / in)	224 X 255 X 80 / 8.7 x 10.0 x 3.1		
Net Weight (kg / lb)	2.0 / 4.14	2.3 / 5.1	2.5 / 5.5

Intelligent Series

Standalone Low-Frequency Inverter



INV- INT1000 / INT1500 / INT2000 / INT3200

SOLAR CHARGE CONTROLLER (OPTIONAL)



FEATURES

- 1000VA~3200VA simulated sine wave inverter
- Off-mode charging
- Ecologically smart and user friendly
- Short circuit and overload protection
- Cold start function
- Advanced battery management (ABM)
- Quiet operation with heavy duty reliability
- Selectable charging current (max 30 Amps) based on applications
- LCD display indicated backup, on-line, battery status, and power status
- High efficiency and low idle current to keep operating costs low
- Auto restart while AC is recovering
- Overload and short circuit protection

APPLICATIONS

- Home Equipment
- Office Equipment
- Lighting Systems
- Professional Workstations



INTELLIGENT INVERTER SPECIFICATION

MODEL	INV-INT1000	INV-INT1500	INV-INT2000	INV-INT3200
CAPACITY	1000VA/600W	1500VA/900W	2000VA/1200W	3200VA/2000W
INPUT				
AC Voltage	110/115/120VAC or 220/230/240VAC (1 phase+neutral)			
Voltage Tolerance (AC)	90~135VAC or 187~264VAC ± 4%			
DC Voltage	12VDC		24VDC	
Voltage Tolerance (DC)	10~14VDC		20~28VDC	
Frequency	47~35Hz or 57~63Hz			
OUTPUT				
Voltage	110/115/120VAC or 220/230/240VAC			
Voltage Tolerance (Batt. Mode)	± 7%			
Transfer Time	< 10ms (Typical)			
Voltage Waveform	Simulated sine wave			
Outlets	6 NEMA5-15R or 2 universal		Terminal	
BATTERY (NOT INCLUDED)				
Type	Maintenance-free dry type (suggested)			
Battery Low Level	10.8VDC ± 0.2VDC		21VDC ± 0.5VDC	
Battery Cut-Off Level	10VDC ± 0.2VDC		20VDC ± 0.5VDC	
CHARGER				
Battery Charger Voltage	13.6VDC ± 0.2VDC		27.5VDC ± 0.3VDC	
Charger Capacity	30A maximum (adjustable)			
Overcharge Protection	14.5VDC ± 0.5VDC		29VDC ± 0.5VDC	
DISPLAY				
Indicators	Line Mode	AC normal lcd lighting		
	Battery Mode	Back-up LCD lighting		
	Overload	O-load LCD lighting		
	Over Temperature	O-temp LCD lighting		
	UPS Off	Cut-off LCD lighting		
	Load Level	5-step LCD lighting		
	Battery Level	5-step LCD lighting		
PROTECTION				
Full Protection	Overload, short circuit, overcharge, over temperature, and input & output fuse			
PHYSICAL				
Dimension (D x W x H) (mm/in)	420 x 218 x 160 / 16.5 x 8.6 x 6.3			
Net Weight (w/o battery) (kg/lb)	11/24.3	14/30.9	16/35.3	20/44.1

Smart PowerPlus Series

Pure Sine Wave Inverter with Solar Charger



SPL-2024M / 2048M



SPL-3024P / 3024M

PARALLEL FEATURE

Parallel feature available with up to 6 units for SPL-3024P / SPL-3024M model only (parallel card and cable are optional)

APPLICATIONS

- Home Equipment
- Office Equipment
- Lighting Systems
- Professional Workstations



FEATURES

- Pure sine wave inverter
- Built-in PWM or MPPT solar charge controller
- Selectable input voltage range for home appliances and personal computers
- Selectable charging current based on applications
- Configurable AC / Solar input priority via LCD setting
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function

SMART POWERPLUS INVERTER SPECIFICATION

MODEL	SPL-2024M	SPL-2048M	SPL-3024P	SPL-3024M
Rated Power	2000VA / 1600W	2000VA / 1600W	3000VA / 2400W	3000VA / 2400W
INPUT				
Voltage	110 / 120VAC			
Selectable Voltage Range	95~140VAC (for personal computers) 65~140VAC (for home appliances)			
Frequency Range	50Hz / 60Hz (auto sensing)			
OUTPUT				
AC Voltage Regulation (Batt. Mode)	110 / 120VAC ± 5% (user selectable)			
Surge Power	4000VA		6000VA	
Efficiency (Peak)	90%~93%			
Transfer Time	10ms (for personal computers); 20ms (for home appliance)			
Waveform	Pure sine wave			
BATTERY & AC CHARGER				
Battery Voltage	24VDC	48VDC	24VDC	24VDC
Floating Charge Voltage	27VDC	54VDC	27VDC	27VDC
Overcharge Protection	31VDC	62VDC	31VDC	31VDC
Maximum Charge Current	20A	10A	60A	60A
SOLAR CHARGER				
Maximum PV Array Power	1500W	3000W	1200W	2000W
Operating Voltage Range	30~115VDC (MPPT Range)	60~115VDC (MPPT Range)	30~40VDC (PWM Range)	30~80VDC (MPPT Range)
Maximum PV Array Open Circuit Voltage	145VDC		80VDC	145VDC
Maximum charging Current	60A		50A	80A
Maximum Efficiency	98%			
Standby Power Consumption	2W			
PHYSICAL				
Dimension (D x W x H) (mm / in)	140 x 295 x 479 / 5.5 x 11.5 x 18.7		125 x 300 x 440 / 4.9 x 11.8 x 17.3	
Net Weight (kg / lb)	11.5 / 25.3		10.5 / 23.2	

Solara Hybrid Inverter Series

Hybrid Solar inverter with communication Interface



INV-SOL2 / 3KW

INV-SOL5KW

INV-SOL10K33

PARALLEL FEATURE

Parallel feature available with up to 6 units for 5KW / 10KW model only (parallel card and cable are built-in)

APPLICATIONS

- Professional Workstations
- Home Entertainment Center
- Office Equipment
- Lighting & Home Appliances



FEATURES

- Pure sine wave hybrid inverter
- Programmable supply priority for PV, Battery or Grid
- Self-consumption and feed-in to the grid
- User-adjustable battery charging current suits different types of batteries
- Programmable operation modes: Grid-tie, off-grid and grid-tie with backup
- Built-in timer for various modes for on / off operation
- Monitoring software for real-time status display and control
- Multiple communication for USB, RS-232, Modbus and SNMP

SOLARA HYBRID INVERTER SPECIFICATION

MODEL	INV-SOL2KW	INV-SOL3KW	INV-SOL5KW	INV-SOL10K33
Phase	1-phase in / 1-phase out			3-phase in / 3-phase out
Maximum PV Input Power	2250 W	4500 W	10000 W	14850 W
Rated Output Power	2000 W	3000 W	5000 W	10000 W
Maximum Charging Power	1200 W		4800 W	9600 W
GRID-TIED OPERATION				
PV INPUT (DC)				
Nominal DC Voltage / Maximum DC Voltage	300 VDC / 350 VDC	360 VDC / 500 VDC	720 VDC / 900 VDC	720 VDC / 900 VDC
Start-up Voltage / Initial Feeding Voltage	80 VDC / 120 VDC	116 VDC / 150 VDC	225 VDC / 250 VDC	320 VDC / 350 VDC
MPPT Voltage Range	120 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC
Number of MPP Trackers / Maximum Input Current	1 / 1 x 15 A	1 / 1 x 18 A	2 / 2 x 10 A	2 / 2 x 18.6A
GRID OUTPUT (AC)				
Nominal Output Voltage	101 / 110 / 120 / 127 VAC	208 / 220 / 230 / 240 VAC		230 VAC (P-N) / 400 VAC (P-P)
Output Voltage Range	88 - 127 VAC	184 - 265 VAC		184 - 265 VAC per phase
EFFICIENCY				
Maximum Conversion Efficiency (DC / AC)	95%	96%		
European Efficiency @ Nominal V	94%	95%		
OFF-GRID OPERATION				
AC INPUT				
AC Start-up Voltage / Auto Restart Voltage	60 - 70 VAC / 85 VAC	120 - 140 VAC / 180 VAC		120 - 140 VAC per phase / 180 VAC per phase
Acceptable Input Voltage Range	80 - 130 VAC	170 - 280 VAC		170 - 280 VAC per phase
PV INPUT (DC)				
Maximum DC Voltage	350 VDC	500 VDC	900 VDC	900 VDC
MPPT Voltage Range	150 VDC ~ 320 VDC	250 VDC ~ 450 VDC	250 VDC ~ 850 VDC	400 VDC ~ 800 VDC
BATTERY MODE OUTPUT (AC)				
Nominal Output Voltage	101 / 110 / 120 / 127 VAC	202 / 208 / 220 / 230 / 240 VAC	202 / 208 / 220 / 230 / 240 VAC	230 VAC (P-N) / 400 VAC (P-P)
Efficiency (DC to AC)	90%	93%		91%
HYBRID OPERATION				
BATTERY & CHARGER (48VDC SYSTEM)				
Maximum Charging Current	Default 25A, 5A - 25A (Adjustable)		Default 60A, 5A-100A (Adjustable)	Default 60A, 10A - 200A (Adjustable)
PHYSICAL				
Dimension (D x W x H) (mm / in)	107 x 438 x 480 / 4.2 x 17.2 x 18.9		204.2 x 460 x 600 / 8.0 x 18.1 x 23.6	167.5 x 500 x 622 / 6.6 x 19.7 x 24.5
Net Weight (kg / lb)	15.5 / 34.2		29 / 63.9	45 / 99.2
INTERFACE				
Communication Port	RS-232 / USB		RS-232 / USB and CAN Interface	
Intelligent Slot	Optional SNMP, Modbus and AS-400 cards available			



SNMP(NMC) / AS400 Card Series

NMC CARD FEATURES

- Ideal monitoring solution enables user to monitor and control the status of UPS on web browser via internet
- Communicates with UPS and respond to Network Management System using SNMP (Simple Network Management Protocol)
- Supports RTC (Real-Time-Clock)
- Supports software to shutdown server or client operating system safely during the power failure
- EMC compliance: FCC Part 15 Class B, IEC 61000-6-2, IEC 61000-6-3
- Powerful communication interfaces (RS-232 / RS-485)



AS400 CARD FEATURES

- Ideal monitoring solution enables user to monitor and control the status of UPS on web browser via internet
- Provides voltage-free dry-contact signals for programmable controller and management system
- Ideal to work with server, personal computer and workstation
- Support external alarm, fault indicator, status, indicator, bypass and remote shutdown



RELAY CARD FEATURES

- Provides voltage-free dry-contact signals for programmable controller and management system
- 5 output relay signals
- 1 input signal for remote on / off and UPS shut down
- Configurable normal-open or normal close signal
- Configurable delay time





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