



## MSR Series Unity

Modular-Scalable-Redundant from 20-120KVA

**IDEALLY SUITED FOR:**  
Data Centers  
Lab Equipment  
Server Farms  
VOIP and Telecom



## KEY FEATURES

Modular design allows fast and easy repair and maintenance.

Scalable design allows you to pay as you grow

Redundant design allows N+X operation

12 Month Warranty included standard

Advanced Communication with HID enabled USB, RS-232, Dry-Contacts, and optional SNMP management.

+/- 1% voltage regulation with Pure Sine Wave Output

Crystal clear 5.7 inch LCD display

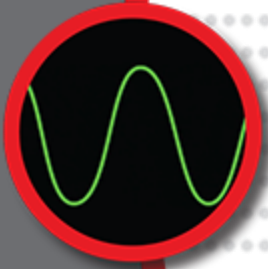
Built in 3 breaker maintenance bypass switch

Unity Power Factor means Watts = kVA



**Made in USA\***

\* Designed, assembled, and tested in USA and China.  
Manufactured of US and imported parts.



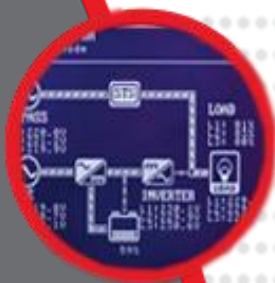
### Clean Power Quality

Ensure your sensitive equipment lasts longer and is more reliable by supplying it with quality power. The MSR Series uses double conversion technology to provide +/- 1% voltage regulation and pure sine wave at all times.



### Advanced Communications

MSR Series features advanced SNMP communications. SNMP monitoring includes voltage in/out, battery capacity remaining, power logs, UPS specific information, and remote outlet control. Receive alerts via text or email for the following: on battery, battery fail, battery change due, and more.



### LCD Display

State of the Art LCD display rotates to accommodate tower or rack mount installations. Provides real time status information and allows configuration of ups setup parameters. LCD display reports Volts in, Volts out, battery capacity, load level, and more.



### Modular Design

Maintenance is easy and inexpensive with user replaceable power modules and battery trays. Modular design saves money on maintenance and reduces mean time to repair.

#### Specifications:

##### Electrical Input

Nominal Voltage	120Y208V 3 phase
Voltage Range	156 ~ 253 VAC at 100% load; 121 ~ 155VAC at <70% load
Frequency(HZ)	40Hz ~70Hz
Power Factor	> 0.99 at 100% load >0.98 at 50% load

##### Electrical Output

Output Voltage	120Y208V 3 phase
Voltage Regulation	≤ ± 1% Typical (balanced load) ; ≤ ± 2% Typical (unbalanced load)
Frequency (Hz)	50,60Hz (Nominal)
Power Factor	Unity 1PF
Harmonic Distortion	≤ 1.5% THD (Linear Load) ≤ 4% THD (Non-linear Load)
Efficiency	>92.5% at over 50% load >95% in ECO mode
Wave Form	True Sine Wave

##### Communications

Interface Type	2 * Dry Contact, 1*RS-232 port , EPO, and 1* USB
SNMP (Optional)	Power management from SNMP manager and Web browser
Monitoring/Shutdown	Free Windows Vista/7/8, 10, Linux

##### Battery System

Voltage	+/- 120V (12V x 20 pcs)
Charger capacity	8 Amps per module (Adjustable)
Temperature compensation	Yes

##### Environmental

Operation Temperature	0-40 C
Noise Level	<50dBA
Relative Humidity	0 to 95% (without condensation)

##### Standards and Certification

Markings	UL 1778 - tested by TUV, FCC
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## MSR Series Adapts to Your Needs

- Modular design allows easy capacity or runtime expansion
- External battery cabinets provide long runtimes
- Flexible communications via built in USB and serial port
- Optional SNMP card allows monitoring and control over the network
- Space saving design with Built-in 3 Breaker Maintenance Bypass



### MSR Series Battery Runtime Chart

#### Internal batteries

Model	Load (Watts)						
	4500	9000	18000	27000	36000	45000	54000
4 battery modules	20	8	2	N/A	N/A	N/A	N/A
8 battery modules	52	20	8	4	2	N/A	N/A
12 battery modules	87	36	14	8	5	3	2

#### External Battery Cabinets

MSR-EBC	208	87	35	20	13	10	8
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Notes: To calculate total runtime add EBC runtime to internal battery runtime.  
MSR series allows up to 1 EBC per 20kVA power module.

### MSR Series 20-60kVA Model Selection Guide : 120Y208V 3 Phase 50/60HZ

Model #	Description	Input	Output	Dim. HxWxD (in.)	Weight
MSR60KFRAME	20-60kVA	Hardwired	Hardwired	56 x 22 x 42	325
MSR20K-PM	20kVA/20kW power module	N/A	N/A	5.25 x 18 x 29	76
MSR-BATTMOD	120VDC battery module	N/A	N/A	6 x 4.5 x 29	65

#### Options and Accessories

MSR-EBC	External battery cabinet	Hardwired	Hardwired	56 x 24 x 44	1960
OPS-SNMP4-WEBCARD	Networkcard	N/A	N/A	N/A	3
OPS-RELAY4	Relay card	N/A	N/A	N/A	3
OPS-EMP4	Environmental monitoring *	N/A	N/A	N/A	3

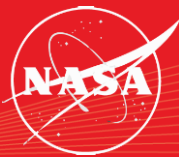
\* EMP Requires SNMP card

# ORION

Power Systems

Orion Power Systems manufactures ups systems from 550va to 120kVA along with power strips, surge suppression, and communication accessories. Professionals in the IT , security, and telecommunications industries count on Orion Power Systems to provide power protection that is reliable and on budget.

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you can rely on Orion....  
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