

MSN

SINGLE PHASE 6kVA-10kVA

**SINGLE PHASE
UNINTERRUPTIBLE POWER SUPPLIES
PURE SINE WAVE
ON LINE, DOUBLE CONVERSION
TECHNICAL SPECIFICATION**



6kVA - 10kVA

UNINTERRUPTIBLE POWER SUPPLIES

on line double conversion single phase

MSN range

On-line double conversion with Digital Signal Processor (DSP) digital control technology.

Among the main features that make this series of high efficiency there are:

- High input and output PF
- Wide Input Tolerance Range (Energy Savings)
- Eco Mode (Economic operation mode)
- Flexibility and possibility of parallel
- Power Backup Protection and Surge Protection
- Monitoring and Self-diagnosis at every turn-on
- Cold Start (Cold Start)
- By-pass output
- Possibility of autonomous expansion with additional battery boxes
- USB port
- Contact EPO
- Included software
- Intelligent SNMP Network Card Slot



The MSN series is produced with an LCD display from which you can view the operating parameters (more than 50 entries), and where you can set the base configurations.

The UPS MSN, thanks to its compact size, meets the demand for power in small spaces and is suitable for any type of installation. It is a system with double conversion technology online and is available from 1 kVA to 10 kVA with single phase voltages. It is equipped with integrated maintenance bypass (6Kva and 10Kva) with the ability to increase the autonomy available with additional battery packs. It is available in the standard version without transformer and on request it is possible to add it to an external cabinet.

MSN is the ideal product to protect critical loads that require continuous, high-quality power supply with zero-battery transfer times and provide a fault-tolerant electrical protection network.

The 0.9 power factor combined with Digital Signal Processor (DSP) technology delivers high output power and efficiency to all protected loads.

Total power protection - High dynamics of voltage fluctuation without battery power withdrawal.

Monitoring of operation.

Cold start function.

Low / Exhausted Battery Check.

Multiple Level Alarm Stages

All models come with a USB connector for communication and computer dialogue with USB signals (UPS status, batteries, automatic ignition, automatic rescue, etc.).

Internet connection and protection.

Technical data and images may be subject to a change without notice

UNINTERRUPTIBLE POWER SUPPLIES

on line double conversion single phase MSN06-10

TYPE		MSN06	MSN10
Rated power		6kVA	10kVA
Capacity		5.4 KW	9 KW
AC INPUT	Input	Single phase & Ground	
	Power factor	≥ 0.8 (input THDV $\leq 1\%$)	
	Rated voltage	220VAC / 230VAC / 240VAC	
	Rated frequency	50Hz/60Hz Automatically selected	
	Voltage range	120~276Vac	
	Frequency range	45~66Hz	
	Bypass voltage range	220Vac max : default +25% (+10%, +15%, 20%, 25%) 230Vac max : default +20% (+10%, +15%, 20%) 240Vac max : default +15% (+10%, +15%) min : default -45% (-20%, -30%, -45%,)	
	Bypass frequency range	$\pm 1\%$, $\pm 2\%$, $\pm 4\%$, $\pm 5\%$, $\pm 10\%$	
	THDI	$\leq 3\%$ (100% liner load, input THDV $\leq 1\%$) $\leq 5\%$ (100% non liner load, input THDV $\leq 1\%$)	
BATTERY	Battery number	16 STANDARD 18/20 Pcs. Can be set	
	Battery type	12V/7Ah	12V/9Ah
	Charge model	VRLA	
	Charge time	Boost charge or float charge auto switch	
	Charge current (Max)	Boost charge up to 20Hr (Max)	
AC OUTPUT	Output type	1A (Standard)	
	Voltage regulation	Single phase & Ground	
	Voltage distortion(THD)	$\pm 1.0\%$	
	Rated voltage	less than 2% at 100% liner load	
	Frequency regulation	less than 5% at 100% non-liner load	
	Frequency	220V/230V/ 240Vac can be set	
	Frequency track speed	$\pm 0.1\%$ (stand alone)	
	Load capacity (Mains, drop a level in battery mode)	$\pm 0.25\%$ (parallel operation)	
	Overload for bypass	Utility mode : tracking mains frequency	
	Crest factor	Battery mode : 50Hz/60Hz	
	Efficiency	1Hz/s (stand alone)	
	Dynamic respond	0.5Hz/s (parallel operation)	
	Inverter output current limit	105 % ~ 110 %, lasts 1 hour	
	DC component	110% ~ 125%, lasts 10 minutes	
		125% ~ 150%, lasts 1 minute	
		$> 150\%$, switch to bypass immediately	
		$> 95\%$, can not inverter-fed	
		Load for a long time when rated output current under 125%	
		Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating current.	
		3:1	
		Full Load $\geq 90\%$	
		Full Load $\geq 88\%$	
		Full Load $\geq 96\%$	
		$\pm 5.0\%$ (100% balance load)	
		$\leq 5\%$ in a cycle	
		When current instantaneous value is 2 ~ 3 times of rated current peaks ($1.414 * \text{rated power} / (3 * 220)$), the inverter will be conducted in each pulse current limit protection.	
		$\leq 200\text{Mv}$	

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Switch time	Between Normal and battery mode	0ms
	Between inverter and bypass	0ms
Noise		<55dB (1m)
Display		LED+LCD
Safety		Meeting IEC62040-1, GB4943
EMI	Conduction : IEC 62040-2	
	Radiation : IEC 62040-2	
	Harmonics : IEC 62040-2	
EMS		IEC 62040-2
Isolation resistance		> 2MΩ (500Vdc)
Isolation intension		2820Vdc, <3.5mA, 1min
Surge		Meeting IEC60664-1 1.2/50uS+8/20uS 6kV/3kA.
Protection		IP20

◆ Work Environment

TYPE	MSN06	MSN10
Temperature	0°C~40°C	
Relative humidity	0~95% non-condensing	
Altitude	<1500m when >1500m, lower the rated power for use	
Handling	On wheels	

◆ Mechanical Specification

TYPE	MSN06	MSN10
Height (mm)	616	
Width (mm)	250	
Depth (mm)	502	
Net weight (Kg) (standard range)	62	64
Colour	Black	

◆ Box content

TYPE	MSN06	MSN10
User Manual	QR CODE	
Software (CD-ROM)	Available for download	
RS232 Cable	1	
USB Cable	1	
EPO Connector	1	

APPLIED STANDARDS
IEC/EN 62040-1
IEC/EN 62040-2
IEC/EN 62040-3
IEC/EN 60950-1
EN50171

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