## Mars II Convertible Technical Specifications

Mod	el	MSII4500RT	MSII6000RT	MSII6000C	MSII8000RT/ 8000PRT	MSII10000RT		
INPUT	,	,,						
Voltage Window			160 ~ 280Vac		160 ~ 280Vac (1¢) /	277 ~ 485Vac (3ф)		
Frequency				45 ~ 65 Hz				
Phase / Wire		Single, Line + Neutral + Ground			Single, Line + Neutral + Ground (1¢); Three, R, S, T + Neutral + Ground (3¢)			
Power Factor			Up to 0.99 at 100% Linear Load					
Current THD (1009	% linear load)		77.47	<6% **				
OUTPUT								
Voltage Window			200 / 208 / 220 / 230 /	240Vac Selectable (2	08 / 120Vac optional)			
Voltage Adjustmen	t		Nominal +1	1%, +2%, +3%, -1%, -2	2% or -3%			
Voltage Regulation	1			±2%				
Capacity		4500VA / 3150VV	6000VA /	4200W	8000VA / 5600W	10000VA / 7000V		
Rated Power Factor	or			0.7 Lagging				
Wave Form			Sine Wave	, THD < 3% (no load t	o full load)			
Frequency Stability	1			±0.2% (Free Running				
Frequency Regula	tion			±1Hz; ±3Hz				
Transfer Time				0ms				
Crest Factor				3:1				
Efficiency (AC to A	C, Normal)			Up to 90%				
Efficiency (AC to A	C, ECO)			Up to 95%				
Autonomy		≧12 min	≧ 8 min	≧ 3 min	≧ 5	min		
DC Start				Yes				
BATTERY								
Туре		2000	Sealed	Lead Acid Maintenand	ce Free	NA 9 10 14 - 11 1		
Capacity		12V /	7AH	12V / 5AH	12V / 7AH	12V / 9AH		
Quantity				20pcs				
Voltage				240Vdc				
Recharge Time		4 hours to 90% 5 hours to 90%				to 90%		
DISPLAY					V			
Status on LED + L	CD	Line Mode, Back		ypass Supply, Battery ig with interruption & U	Low, Battery Bad/Discor JPS Fault.	nnect, Overload,		
Readings on LCD	Readings on LCD		Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature.					
Self-Diagnostics			at Frequency, Output v		ncy, Load Fercentage, L	lattery Voltage &		
		Upon I		Inner Temperature,	ntrol, 24-hour routine che			
ALARMS		Upon F		Inner Temperature,				
ALARMS Audible and Visual			Power-on, Front Panel S	Inner Temperature, Setting & Software Cor		ecking		
			Power-on, Front Panel S	Inner Temperature, Setting & Software Cor	ntrol, 24-hour routine che	ecking		
Audible and Visual		Ĺ	Power-on, Front Panel S	Inner Temperature. Setting & Software Cor , Transfer to Bypass, S	ntrol, 24-hour routine che	ecking		
Audible and Visual PROTECTION Overload	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low	Inner Temperature. Setting & Software Cor , Transfer to Bypass, & or 160 seconds ~ 2 cyc	ntrol, 24-hour routine che System Fault Conditions	ecking		
Audible and Visual PROTECTION Overload		L	Power-on, Front Panel S ine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo	Inner Temperature. Setting & Software Cor , Transfer to Bypass, & or 160 seconds ~ 2 cyc	ntrol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit		L	ower-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo	Inner Temperature. Setting & Software Cor , Transfer to Bypass, & or 160 seconds ~ 2 cycler 500 seconds ~ 8 cycler	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm		L	ower-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mc	Inner Temperature, Setting & Software Cor , Transfer to Bypass, S or 160 seconds ~ 2 cyclor 500 seconds ~ 8 cyclor Switch off Immediately	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit		L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature, Setting & Software Cor., Transfer to Bypass, & pr. 160 seconds ~ 2 cyclor 500 seconds ~8 cycloswitch off Immediately ode: Switch to Bypass	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature, Setting & Software Cor , Transfer to Bypass, S or 160 seconds ~ 2 cyc or 500 seconds ~8 cycl Switch off Immediately ode: Switch to Bypass p Mode: Switch off the	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature, Setting & Software Cor., Transfer to Bypass, \$ or 160 seconds ~ 2 cycler 500 seconds ~8 cycles witch off Immediately ode: Switch to Bypass p Mode: Switch off the Alarm and Switch Off	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature. Setting & Software Cor. Transfer to Bypass, & pr. 160 seconds ~ 2 cycler 500 seconds ~8 cycles witch off Immediately ode: Switch to Bypass p. Mode: Switch off the Alarm and Switch Off complies with EN61000-mplies with EN61000-mplies with EN61000-	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature. Setting & Software Cor. Transfer to Bypass, & pr. 160 seconds ~ 2 cycler 500 seconds ~8 cycles witch off Immediately ode: Switch to Bypass p. Mode: Switch off the Alarm and Switch Off complies with EN61000-mplies with EN61000-mplies with EN61000-	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	acking pass. ly load.		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation (At Full Linear	nal tripping I-T Curve)	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu Co < 450	Inner Temperature, Setting & Software Cor., Transfer to Bypass, Seconds ~ 2 cycler 500 seconds ~ 8 cycles Switch off Immediately ode: Switch to Bypass p Mode: Switch off the Alarm and Switch Off omplies with EN61000-mplies with EN61000-	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking  ass. ly load.  10K: <600W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation	without Isolated	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu	Inner Temperature, Setting & Software Cor., Transfer to Bypass, Seconds ~ 2 cycler 500 seconds ~ 8 cycles Switch off Immediately ode: Switch to Bypass p Mode: Switch off the Alarm and Switch Off omplies with EN61000-mplies with EN61000-	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking  ass. ly load.  10K: <600W 10KP: <550W 10K: <1100W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation (At Full Linear	without Isolated Transformer Module With Isolated	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu Co < 450	Inner Temperature, Setting & Software Cor., Transfer to Bypass, Seconds ~ 2 cycler 500 seconds ~ 8 cycles Switch off Immediately ode: Switch to Bypass p Mode: Switch off the Alarm and Switch Off omplies with EN61000-mplies with EN61000-	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking nass. ly load. 10K: <600W 10KP: <550W 10K: <1100W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation (At Full Linear Load)***	without Isolated Transformer Module With Isolated	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Mo Backu Co < 450	Inner Temperature. Setting & Software Cor. Transfer to Bypass, & pr. 160 seconds ~ 2 cycler 500 seconds ~ 8 cycles witch off Immediately ode: Switch to Bypass p. Mode: Switch off the Alarm and Switch Off complies with EN62040 mplies with EN61000-1000.	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking pass. ly load. 10K; <600W 10KP; <550W 10K; <1100W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression Heat Dissipation (At Full Linear Load)*** Leakage Current	Without Isolated Transformer Module With Isolated Transformer Module	L	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Me Backu Co < 450	Inner Temperature. Setting & Software Cor. Transfer to Bypass, & pr. 160 seconds ~ 2 cycler 500 seconds ~ 8 cycles witch off Immediately ode: Switch to Bypass p. Mode: Switch off the Alarm and Switch Off complies with EN62040 mplies with EN61000-1000.	strol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp to UPS	ecking nass. ly load. 10K: <600W 10KP: <550W 10K: <1100W 10KP: <1050W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression (At Full Linear Load)*** Leakage Current PHYSICAL Dimensions WxHx	Without Isolated Transformer Module With Isolated Transformer Module O (mm / inch)	Inverter Bypass	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Me Backu Co < 450	Inner Temperature. Setting & Software Cor. Transfer to Bypass, S. In 160 seconds ~ 2 cyc. In 500 seconds ~ 8 cycl. Switch off Immediately. In 500 seconds ~ 8 cycl. Switch off Immediately. In 500 seconds ~ 8 cycl. Switch off Immediately. In 500 seconds ~ 8 cycl. Switch off Immediately. In 500 seconds ~ 8 cycl. In 500 sec	atrol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp by UPS	10K: <600W 10KP: <550W 10KP: <1050W		
Audible and Visual PROTECTION Overload (w/simulated therm Short Circuit Overheat Battery Low Noise Suppression Spike Suppression (At Full Linear Load)*** Leakage Current PHYSICAL	Without Isolated Transformer Module With Isolated Transformer Module O (mm / inch)	Inverter Bypass	Power-on, Front Panel Sine Failure, Battery Low Supply: 105%~150% fo Supply: 105%~200% fo AC Me Backu Co < 450	Inner Temperature. Setting & Software Cor. Transfer to Bypass, S. In 160 seconds ~ 2 cycle 500 seconds ~ 8 cyc	atrol, 24-hour routine che System Fault Conditions cles before switching byp les before stopping supp by UPS	10K: <600W 10KP: <550W 10KP: <1050W		

Model	MSII4500RT	MSII6000RT	MSII6000C	MSII8000RT/ 8000PRT	MSII10000RT / 10000PRT		
ENVIRONMENT		M 10		b.,	V		
Operating Temperature		0 to 40°C / 32 to 104°F					
Temperature Warning		The battery design life is based on a temperature of 25°C/ 77°F.  Ambient temperature above this range will affect battery life					
Altitude		0~2000M/6600ft up to 40°C/104°F, 3000M/9900ft up to 35°C/95°F					
Humidity		90% RH Maximum, Non-Condensing					
Noise		<50dB (at 1 Meter/3.3ft)					
COMPUTER INTERFACE							
Interface Type	Standard RS232 Interface						
Communication Slots	2 <sup>rid</sup> RS232, USB, RS485, Relay Contact, SNMP/WEB Card, etc.						
SAFETY CONFORMANCE							
Quality Assurance		ISO9001 Certified					
Safety Standard		EN62040-1-1, UL1778					
EMC Standard		EN62040-2, EN61000-3-2, EN61000-3-3, FCC Class A					
Marks	CE, cUL, UL						

BATTERY BANK					
Model	Battery Type	Maximum Quantity	Without Batteries kgs / lbs	With Batteries kgs / lbs	Dimension(WxHxD) mm/inch
BBC20J0007	7 AH	20pcs	18 / 39.7	68.0 / 149.8	440x132x680 / 17.3x5.2x26.8
BBC20N0009	9 AH				



- (160~176Vac for 1-phase input model or 277~305Vac for 3-phase input model at <75% load)
   3-phase input model <30%
   reference data

Specifications are subject to change without prior notice.



## Mars II Series Technical Specifications

Model		MSII4500	MSII6000	MSII8000 / 8000P	MSII10000 / 10000P	
INPUT		The state of the s		100 2000 0 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
Voltage Window		160 ~ 28	OVac	160 ~ 280Vac (14)	/ 277 ~ 485Vac (3Ф)*	
Frequency			45 -	- 65 Hz		
Phase / Wire		Single Line + Neutral + Ground			e, Line + Neutral + Ground (1Ф); e, R, S, T + Neutral + Ground (3Ф)	
Power Factor		Up to 0.99 at 100% Linear Load				
Current THD (100%	linear load)			5% **		
OUTPUT				RMGI		
Capacity		4500VA / 3150VV	6000VA / 4200W	8000VA / 5600VV	10000VA / 7000W	
Rated Power Factor				agging		
Wave Form				3% (no load to full load)		
Frequency Stability				ree Running)		
Frequency Regulation	yn .			z : ±3Hz		
Transfer Time				Oms		
Crest Factor				3.1		
Efficiency (AC to AC	Normal)			to 90%		
Efficiency (AC to AC	DE COMPANY (III)			to 95%		
Autonomy	. 200/	≧12 min	≥ 8 min		min	
DC Start		= 12 (110)		Yes	41101	
BATTERY			1	103		
			Contact Load Asi	4 Maintananaa Franci		
Type				d Maintenance Free	4004 (0.04)	
Capacity			12V / 7AH	0	12V / 9AH	
Quantity				Opcs		
Voltage				DVdc		
Recharge Time		4 hours to 90% 5 hours to 90%				
DISPLAY		THE RESIDENCE AND A STREET WAS A		pply, Battery Low, Battery Bad/	L COURT IN STREET AND STREET	
Status on LED + LCD  Readings on LCD		Transferring with interruption & UPS Fault. Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage & Inner Temperature.				
Self-Diagnostics		Upon Power-o	n, Front Panel Setting & S	Software Control, 24-hour Routi	ne Checking	
ALARMS						
Audible and Visual		Line Fail	ure. Battery Low, Transfer	to Bypass, System Fault Cond	litions	
PROTECTION						
Overload		Inverter Supply	105%~150% for 160 se	conds~2 cycles before switchin	g bypass.	
(w/simulated therma	tripping I-T Curve)	Bypass Supply: 105%~200% for 500 seconds~8 cycles before stopping supply load.				
Short Circuit		Switch off Immediately				
Overheat		AC Mode: Switch to Bypass				
Overneat		Backup Mode: Switch off the UPS				
Battery Low	Battery Low		Backup Mode:	Switch off the UPS		
Noise Suppression				Switch off the UPS d Switch Off		
			Alarm an			
Spike Suppression			Alarm an Complies w	d Switch Off		
	Without Isolated		Alarm an Complies w	d Switch Off ith EN62040-2	10K; <600W 10KP: <550W	
Heat Dissipation	Transformer		Alarm an Complies w Complies wi	d Switch Off ith EN62040-2	10KP; <550W	
	Transformer *** With Isolated		Alarm an Complies w Complies wi	d Switch Off ith EN62040-2	10KP: <550W 10K: <1100W	
Heat Dissipation (At Full Linear Load)	Transformer		Alarm an Complies w Complies wi < 450W < 615W	d Switch Off ith EN62040-2 th EN61000-4-5	10KP; <550W	
Heat Dissipation (At Full Linear Load) Leakage Current	Transformer *** With Isolated		Alarm an Complies w Complies wi < 450W < 615W	d Switch Off ith EN62040-2	10KP: <550W 10K: <1100W	
Heat Dissipation (At Full Linear Load) Leakage Current PHYSICAL	Transformer  With Isolated Transformer		Alarm an Complies w Complies wi < 450W < 615W < 3mA a	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load	10KP: <550W 10K: <1100W	
Heat Dissipation (At Full Linear Load) Leakage Current PHYSICAL Dimensions	Transformer  With Isolated Transformer  without transformer	200.710.0151	Alarm an Complies w Complies wi < 450W < 615W < 3mA a	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load	10KP: <550W 10K: <1100W 10KP: <1050W	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions  WxHxD(mm / inch)	Transformer  With Isolated Transformer  without transformer  With transformer	290x748x645 /	Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 /	10KP: <550W 10K: <1100W 10KP: <1050W	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions  WxHxD(mm / inch)  Input/Output Connect	Transformer  With Isolated Transformer  without transformer  With transformer  tion	290x748x645 /	Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645 11.4x29.5x25.4	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 /	10KP: <550W 10K: <1100W 10KP: <1050W	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions WxHxD(mm / inch) Input/Output Connec  External Battery Cor	Transformer  With Isolated Transformer  without transformer  With transformer  tion inection	290x748x645 /	Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645 11.4x29.5x25.4	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 / rdwire in & Play	10KP: <550W 10K: <1100W 10KP: <1050W	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions WxHxD(mm / inch) Input/Output Connect External Battery Cor Net Weight (without	Transformer  With Isolated Transformer  without transformer  With transformer  tition nection  Standard Unit / Hot		Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645 11.4x29.5x25.4	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 / rdwire in & Play 8K: 87/113kgs (192/249 lbs);	10KP: <550W 10K: <1100W 10KP: <1050W 11.4x34.7x25.4	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions WxHxD(mm / inch) Input/Output Connec  External Battery Cor Net Weight (without transformer)	Transformer  With Isolated Transformer  without transformer  With transformer  tion mection  Standard Unit / Hot Swappable unit		Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645 11.4x29.5x25.4 Ha Plug-	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 / rdwire in & Play 8K: 87/113kgs (192/249 lbs) ; 8KP: 92/118kgs (203/260 lbs)	10KP: <550W 10K: <1100W 10KP: <1050W 11.4x34.7x25.4 10K: 96/122kgs (215/269 lbs) 10KP: 101/127kgs (223/280 lbs)	
Heat Dissipation (At Full Linear Load)  Leakage Current  PHYSICAL  Dimensions WxHxD(mm / inch) Input/Output Connect External Battery Cor Net Weight (without	Transformer  With Isolated Transformer  without transformer  With transformer  tition nection  Standard Unit / Hot	86/112kgs (	Alarm an Complies w Complies wi < 450W < 615W < 3mA a 290x748x645 11.4x29.5x25.4 Ha Plug-	d Switch Off ith EN62040-2 th EN61000-4-5 at Full Load / 11.4x29.5x25.4 290x881x645 / rdwire in & Play 8K: 87/113kgs (192/249 lbs);	10KP: <550W 10K: <1100W 10KP: <1050W 11.4x34.7x25.4 10K: 96/122kgs (215/269 lbs) 10KP: 101/127kgs (223/280 lb) 10K: 149/175kgs (329/386 lbs)	



EN62040-2, EN61000-3-2, EN61000-3-3, FCC Class A

Model	Battery Type	Maximum Quantity	Without Batteries kgs / lbs	With Batteries kgs / lbs	Dimension(WxHxD) mm/inch
BBT40J0007	7 AH	40n xx		148 / 326	venterio vali
BBT40J0012	12AH	40pcs		209 / 460	
BBT60J0007	7 AH	60pcs	48 / 106	198 / 436	290x748x645 / 11.4x29.5x25
BBT40N0009	9 AH	40pcs	40 / 100	148 / 326	
BBT40N0012	12AH			209 / 460	
BBT60N0009	9AH	60pcs		198 / 436	



 <sup>(180–176</sup>Vas for 1-phase input model or 277–305Vas for 3-phase input model at <75% load)</li>
 3-phase input model <30%</li>

EMC Standard

Marks

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<sup>+++</sup> reference data