

UPS

MS SERIES

On-Line Double Conversion UPS Single Phase

The MS series is a single-phase input/output UPS, ranging from 3.6kVA to 10kVA. These are classic Double Conversion On-Line UPS units with an inverter isolation transformer and static switch. They are microcontrolled with a sophisticated power analyser.

Main Features

- ▶ Double Conversion and Double Isolation
- ▶ On-Line Batteries
- ▶ VFI - Volt Frequency Independent (EN50091-3)
- ▶ Inverter Isolation Transformer
- ▶ Static Switch
- ▶ DC Start
- ▶ Rectifier/Charger for Extended Backup Time
- ▶ Large LCD and GUI
- ▶ Automatic and Manual Battery Test
- ▶ RS232 Interface for Smart Software and SNMP Management
- ▶ Microprocessor Controlled
- ▶ Parallel Operation (option)

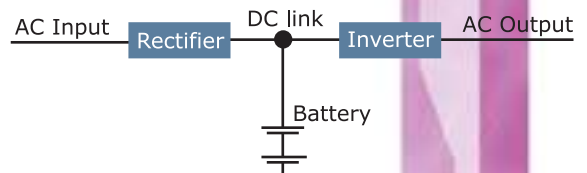
Communication Options

- ▶ **RS232** Interface for SNMP
- ▶ **Alarm** Interface
- ▶ **Shutdown** Application
- ▶ **PSM-AC Universal** - Single UPS management application
- ▶ **GMaC**- Management Card
- ▶ **WING** - Wireless Management card
- ▶ **Remote** Indication Panel



Double Conversion True On-Line Battery (VFI)

According to IEC 62040-3



MS control panel



INPUT	
Voltage	See Table
Voltage Range	+10%- 15%
Frequency	50/60Hz \pm 3Hz
Power Walk-in	5 sec
Protection	Circuit Breaker; RFI filter (option)
OUTPUT	
Voltage	See Table No DC Component
Regulation (at nominal input)	\pm 2% (\pm 1% optional)
Frequency Tracking Range	\pm 1Hz, \pm 2Hz, \pm 3Hz, Selectable
Slew Rate	1Hz/sec
Overload	125% 10 min 150% 30 sec 1000% 1 cycle
Load PF	0.8
Waveform	Pure sinusoidal
THD	Less Than 2% (at linear load)
Crest Factor	3:1
Protection	Overload, Short Circuit and Over Temperature (Heat Sink and Inverter Transformer)
Dynamic Response on 100% Load Change	2%
Transition Time STSW UPS To and From Line	Less Than 0.5 msec.
Rejection Ratio	More than 100dB
ENVIRONMENT	
Ambient Temperature Operating	-10° C to 40° C
Storage	-20° C to 60° C
Relative Humidity	95% max. Non condensation
Altitude	1500m W/O derating
UPS Standards General & Safety	IEC62040-1
EMC	IEC62040-2
Design	IEC62040-3
MTBF	100,000 hrs. 250,000 hrs. with static switch
LCD DATA	
Input	Voltage
Output & Inverter	Voltage, Current, Frequency
Bypass	Voltage, Frequency
Battery	Voltage
Temperature	Heatsink
Real Time and Accumulated Operation Time	
Log (events memory) Last 200 events	
OPTIONS	
Maintenance Bypass	
Extended Battery Backup	
Any Other Voltage/Frequency	
Input Isolation Transformer	
Bypass Isolation	
Parallel Operation	

MODEL	3.6kVA	6kVA	8kVA	10kVA
INPUT				
Voltage (V)	220/230			
Required External Input MCB (A)	32A	50A	63A	80A
OUTPUT				
Voltage (V)	220/230			
Power (kVA)	3.6	6	8	10
(kW)	2.9	4.8	6.4	8
Efficiency AC-AC 100% Load (%)	85	86	87	86
50% Load (%)	84	85	86	86
Inverter Efficiency at Full Load (%)	95	95	95	95
Full Load Heat Dissipation (W) (1W=3.4 BTU)	508	781	956	1302
BACKUP OPERATION				
Backup (min)				
100% Load	8	4	9	5
50% Load	25	11	27	20
Battery Charging Time	Approx. 4 hrs	Approx 4 hrs	Approx. 4 hrs	Approx. 4 hrs
Batteries (12Vdc each)	Internal 16x7Ah	Internal 16x7Ah	External 16x20Ah	External 16x20Ah
Charging Voltage	216 Vdc			
Expected Battery Life	5 years			
PHYSICAL				
Size (cm) H	63	63	73	73
W	24	24	24	24
D	65	65	80	80
Weight (Kg) W/O Batteries	85	95	110	125
Audible Noise (dB) at 1.5m Distance	50	51	54	54

All specifications are typical and subject to change without prior notice

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