

UPS Online Series

7 Ah / 9 Ah Battery Configuration

FEATURES

- High power density
- Online double conversion with full digital control
- Wide input voltage range: 110~300Vac
- Input power factor 0.99 with PFC
- Selectable output voltage: 208/220/230/240Vac
- Smart charger design for optimized battery performance
- Maximum charging current can be expanded to 12A (Long run unit)
- Emergency power off function (EPO)
- ECO mode operation for energy saving
- Generator compatible
- Cold start
- Intelligent fan speed regulation
- Load segment settable (Optional)
- Versatile LCD human-computer interface
- Multiple communication interface: RS232 (USB/EPO/ Dry contact card/SNMP card optional)
- Multiple protection function: short-circuit, overload, overheat, battery overcharge and overdischarge, output low voltage and fan fault alarm



Colourful LCD



Blue LCD



Advanced Touch Screen



Battery Cabinet (Optional)



Optimized Battery Configuration 7/9Ah



Rear Panel



Dry contact



SNMP card



Optional socket

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TECHNICAL SPECIFICATIONS

MODEL	MF-UPS1K-H	MF-UPS1K-S	MF-UPS1.5K-H	MF-UPS1.5K-S	MF-UPS2K-H	MF-UPS2K-S	MF-UPS3K-H	MF-UPS3K-S						
Capacity	1000/900		1500/1350		2000/1800		3000/2700							
INPUT														
Nominal Voltage (Vac)	208/220/230/240													
Operating Voltage Range (Vac)	110~300 (176~264 @ 100% load)													
Power Factor	≥0.99													
Bypass Frequency Range (Hz)	40~70 (50/60 Auto-Sensing)													
OUTPUT														
Nominal Voltage (Vac)	208/220/230/240													
Voltage Regulation	±1%													
Power Factor	0.9													
Output Frequency (Hz)	Line mode: 46~54 or 56~64; Bat. mode: (50/60±0.1%)													
Crest Factor	3:1													
Harmonic Distortion (THDv)	≤3% Linear load; ≤5% Non linear load													
Transfer Time (ms)	AC mode to Bat.mode: 0; Inverter to Bypass: 4 (Typical)													
Waveform	Pure Sinewave													
EFFICIENCY														
AC Mode	Up to 90%		Up to 90.5%		Up to 91%		Up to 92%							
ECO Mode	Up to 95%		Up to 96%		Up to 96%		Up to 97%							
BATTERY														
Battery Type	VRLA (Lead acid maintenance free battery)													
Battery Voltage (Vdc)	24	36	24	36	36	36	48	72	48	72	72	96	72	96
Battery Capacity (Ah)	S: 7/9; H: Depends on the capacity of external batteries													
Battery Quantity (pcs)	2	3	2	3	3	3	4	6	4	6	6	8	6	8
Typical Recharge Time (hours)	S: 4 (To 90% of full capacity)													
Charging Current (Max.)(A)	6/12		1		6/12		1		6/12		1		6/12	
MANAGEMENT														
LED Display	Line mode, Bat.mode, ECO mode, Bypass mode, Battery low voltage, Overload & UPS fault													
LCD Display	Input voltage, Input frequency, Output voltage, Output frequency, Load percentage, Battery voltage, Inner temperature & Remaining battery backup time													
ENVIRONMENTAL														
Operating Temperature (°C)	0~40													
Storage Temperature (°C)	-25~55													
Humidity Range	20~95%RH @ 0~40°C (Non condensing)													
Altitude (m)	<1000, derating required between 1000 to 3000													
Noise Level (dB)	<50													
PHYSICAL														
Dimension WxDxH (mm)	144×293×209		144×399×209			191×460×337 (144×399×209)		191×460×337						
Weight (kg)	4.1	9.3	12.5	5.6	13.1	10 5.8	19.5 (15.4)	24.5	10	24.5	29.5			
STANDARDS														
Safety	IEC/EN 62040-1, IEC/EN 62477-1													
EMC	IEC/EN 62040-2 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, IEC 61000-2-2)													

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BATTERY PACK SPECIFICATION

MODEL	UP-9.0-12	UP-7.0-12S
Nominal Voltage (V)	12	
Nominal Capacity (20 Hr)	9.0 Ah	7.0 Ah
Dimensions	Length: 151 ± 1mm (5.95 inches) Width: 65 ± 1mm (2.56 inches) Container Height: 95 ± 1mm (3.74 inches) Total Height (+terminal): 101 ± 1mm (3.98 inches)	Length: 151 ± 2mm (5.95 inches) Width: 65 ± 1mm (2.56 inches) Container Height: 93.5 ± 1mm (3.68 inches) Total Height (+terminal): 99 ± 1mm (3.90 inches)
Approx. Weight	2.66 kg (5.87 lbs)	2.18 kg (4.81 lbs)
Terminal	F2	F1
Container Material	ABS	ABS
Rated Capacity	9.00 Ah / 0.450 A (20hr, 1.80V/cell, 25°C / 77°F) 8.31 Ah / 0.831 A (10hr, 1.80V/cell, 25°C / 77°F) 7.55 Ah / 1.51 A (5hr, 1.75V/cell, 25°C / 77°F) 6.84 Ah / 2.28 A (3hr, 1.75V/cell, 25°C / 77°F) 6.24 Ah / 6.24 A (1hr, 1.60V/cell, 25°C / 77°F)	7.00 Ah / 0.350 A (20hr, 1.80V/cell, 25°C / 77°F) 6.51 Ah / 0.653 A (10hr, 1.80V/cell, 25°C / 77°F) 6.00 Ah / 1.20 A (5hr, 1.75V/cell, 25°C / 77°F) 5.37 Ah / 1.79 A (3hr, 1.75V/cell, 25°C / 77°F) 4.55 Ah / 4.55 A (1hr, 1.60V/cell, 25°C / 77°F)
Maximum Discharge Current	135 A (5s)	105 A (5s)
Internal Resistance	Approx. 17 mΩ	Approx. 23 mΩ
Operating Temperature Range	Discharge: -15 ~ 50°C (5 ~ 122°F) Charge: 0 ~ 40°C (32 ~ 104°F) Storage: -15 ~ 40°C (5 ~ 104°F)	
Nominal Operating Temperature Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 2.7 A Voltage. 14.4~15V at 25°C (77°F) Temp. Coefficient -30mV/°C	Initial Charging Current less than 2.1 A Voltage. 14.4~15V at 25°C (77°F) Temp. Coefficient -30mV/°C
Standby Use	No limit on Initial Charging Current Voltage. 13.5~13.8V at 25°C (77°F) Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F) 103% 25°C (77°F) 100% 0°C (32°F) 86%	
Self Discharge	Batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required	