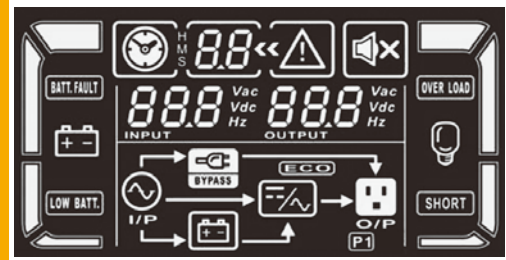


ONYX DS

ONLINE UPS



LCD Display Panel



• True double-conversion

A true double conversion UPS will provide clean, high level quality power to fully protect mission-critical devices such as sensitive networks, small computer centers, servers, telecom applications, as well as for industrial applications.

• Output power factor 0.8

Compared to the online UPSs in the current market, Onyx DS series provides better output power factor up to 0.8. It offers higher performance and efficiency for critical applications.

• Wide input voltage range (110 V -300 V)

Onyx DS can still provide stable power to connected devices under unstable power environments.

• Programmable power management outlets

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature enables users to extend battery time to mission-critical devices by shutting down the non-critical devices.



Programmable Outlets (P1)
- connect to non-critical devices

• 50/60 Hz Frequency Converter Mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

• ECO mode operation for energy saving

Offers efficiency as high as 97% to cut energy usage & cost. UPS power application via static bypass, timely returning to online double conversion when the need arises.

• Emergency Power Off (EPO) Function

This feature can secure the personnel and equipment in case of fires or other emergencies.

• SNMP+USB+RS-232 multiple communications

This feature allows either USB or RS-232 communication port to work with SNMP interface simultaneously.

• Smart battery charger design to optimize battery performance

- Onyx DS 1-3K series is equipped with **2-stage charger design** to guarantee battery discharge time. Besides, it will adjust charging voltage according to outside temperature. This features will extend the useful service life of batteries.
- Onyx DS 6K and up models are equipped with **3-stage extendable charger** for optimized battery performance. This feature extends the useful service life of batteries and optimizes battery recharge time. Besides, the extendable charger design can be stacked in numbers for large-capacity battery charging.

• Maintenance bypass available for 6K and up models

Internal bypass assures continuous power to critical devices during UPS maintenance.

• Optional N+X parallel redundancy available for 6K and up models

Onyx DS (6K and up models) can be used in parallel operation with up to 3 units. It increases power capacity, safety, and availability.

• Adjustable battery numbers for 6K and up models

Onyx DS (6K and up models) can still normal operate well with only 18 or 19 internal batteries.

• Built-in isolation transformer (Option)

With built-in isolation transformer, the UPS will offer full isolation and complete common mode noise rejection for connected precious equipment. It become an ideal power source with 100% protection against unexpected AC power problems.

• Active Power Factor Correction in all phases for 3 phase in/1 phase out 10KVA to 20KVA

Active PFC improves power quality and increase the energy efficiency.

External Maintenance Bypass Switch

Remote Control & Monitoring Agent



- * Ultra-compact, light and fast tool to remotely monitor and manage any UPS system
- * Supports multiple languages and web-based auto language detection.

ONYX DS 1K/1.5K/2K/3K ONLINE UPS SELECTION GUIDE

MODEL	Onyx DS 1K (L)	Onyx DS 1.5K (L)	Onyx DS 2K (L)	Onyx DS 3K (L)	
Phase	Single phase in/Single phase out				
CAPACITY	1000 VA/800 W	1500 VA/1200 W	2000 VA/1600 W	3000 VA/2400 W	
INPUT					
Voltage Range	Low Line Transfer	160 VAC / 140 VAC / 120 VAC / 110 VAC ± 5 % 80 VAC / 70 VAC / 60 VAC / 50 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)			
	Low Line Comeback	175 VAC ± 5 % or 85 VAC ± 5 %			
	High Line Transfer	300 VAC ± 5 % or 150 VAC ± 5 %			
	High Line Comeback	290 VAC ± 5 % or 145 VAC ± 5 %			
Frequency Range	40 Hz ~ 70 Hz				
Power Factor	0.95				
OUTPUT					
AC Voltage Regulation (Batt. Mode)	± 3%				
Frequency Range (Synchronized Range)	47.5~52.5 Hz or 57~63 Hz				
Frequency Range (Batt. Mode)	50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz				
Current Crest Ratio	3:1				
Harmonic Distortion	3 % THD (Linear Load) 6 % THD (Non-linear Load)		4 % THD (Linear Load) 7 % THD (Non-linear Load)		
Transfer Time	AC Mode to Batt. Mode	Zero			
	Inverter to Bypass	4 ms (Typical)			
Waveform (Batt. Mode)	Pure sine wave				
EFFICIENCY					
AC Mode	85%		88%		
Battery Mode	83%				
BATTERY					
Standard Model	Battery Type	12 V / 7 Ah	12 V / 9 Ah	12 V / 7 Ah	12 V / 9 Ah
	Numbers	3	3	6	6
	Typical Recharge Time	4 hours recover to 90% capacity			
	Charging Current (max.)	1.0 A			
Long-run Model	Charging Voltage	41.0 VDC ± 1%		82.1 VDC ±1%	
	Battery Type	Depending on the capacity of external batteries			
	Numbers				
	Charging Current (max.)	8.0 A			
Charging Voltage	41.0 VDC ± 1%		82.1 VDC ±1%		
INDICATORS					
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions				
ALARM					
Battery Mode	Sounding every 4 seconds				
Low Battery	Sounding every second				
Overload	Sounding twice every second				
Fault	Continuously sounding				
PHYSICAL					
Standard Model	Dimension,DXWXH(mm)	397 x 145 x 220		421 x 190 x 318	
	Net Weight (kgs)	13.2	14	26	28.6
Long-run Model	Dimension,DXWXH(mm)	397 x 145 x 220		421 x 190 x 318	
	Net Weight (kgs)	6.9		13	
ENVIRONMENT					
Operation Humidity	20-90 % RH @ 0- 40°C (non-condensing)				
Noise Level	Less than 45dB@ 1 Meter				
MANAGEMENT					
Smart RS-232	Supports Windows® 98/2000/2003/XP/Vista/2008				
USB					
Optional SNMP					Power management from SNMP manager and web browser

*Derate capacity to 60% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 208VAC.

** L means long-run model

ONYX DS 6K-20K ONLINE UPS SELECTION GUIDE

MODEL		Onyx DS 6K (L)	Onyx DS 10K (L)	Onyx DS 3/1-10K (L)	Onyx DS 3/1-20K (L)
Phase		Single phase in/Single phase out		3 phase in / 1 phase out	
CAPACITY		6000 VA/4800 W	10000 VA/8000 W	10000 VA/8000 W	20000 VA/16000 W
INPUT					
Voltage Range	Low Line Transfer	176 VAC @ 100% load 110 VAC @ 50% load		176 VAC (phase voltage)@ 100%load 110VAC (phase voltage)@ 50%load	
	Low Line Comeback	186 VAC @ 100% load 120 VAC @ 50% load		186 VAC (phase voltage) @ 100% load 120 VAC (phase voltage) @ 50% load	
	High Line Transfer	300 VAC		300 VAC (phase voltage)	
	High Line Comeback	290 VAC		290 VAC (phase voltage)	
Frequency Range		46-54Hz or 56-64Hz		46-54Hz or 56-64Hz	
Power Factor		0.99 @ 100%load		0.99 @ 100%load	
OUTPUT					
AC Voltage Regulation (Batt. Mode)		± 1%		± 1%	
Frequency Range (Synchronized Range)		46-54 Hz or 56-64 Hz		46-54Hz or 56-64Hz	
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz	
Current Crest Ratio		3:1 (max.)		3:1	
Harmonic Distortion		2 % THD (Linear Load) 6 % THD (Non-linear Load)		2 % THD (Linear Load) 6 % THD (Non-linear Load)	
Transfer Time	AC Mode to Batt. Mode	Zero		Zero	
	Inverter to Bypass	Zero		Zero	
Waveform (Batt. Mode)		Pure sine wave			
EFFICIENCY					
AC Mode		89%		90%	
Battery Mode		88%		88%	
BATTERY					
Standard Model	Battery Type	12 V / 7 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah
	Numbers	20	20	20	40
	Typical Recharge Time	7 hours recover to 90% capacity	9 hours recover to 90% capacity	9 hours recover to 90% capacity	
	Charging Current (max.)	1.0 A		1A	2A
	Charging Voltage	273.0 VDC		273.0 VDC	
Long-run Model	Battery Type	Depending on applications			
	Numbers	18 - 20			
	Charging Current (max.)	4.0 A		4A	8A
	Charging Voltage	273.0 VDC		273.0 VDC	
INDICATORS					
LCD Display		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Sounding every 4 seconds			
Low Battery		Sounding every second			
Overload		Sounding twice every second			
Fault		Continuously sounding			
PHYSICAL					
Standard Model	Dimension,DXWXH(mm)	592 x 250 x 576		592 x 250 x 576	862 x 250 x 826
	Net Weight (kgs)	81	83	86	139
Long-run Model	Dimension,DXWXH(mm)	592 x 250 x 576		592 x 250 x 576	592 x 250 x 576
	Net Weight (kgs)	25	27	30	37
ENVIRONMENT					
Operation Humidity		20-90 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 55dB @ 1 Meter	Less than 58dB @ 1 Meter		Less than 60dB @ 1 Meter
MANAGEMENT					
Smart RS-232		Supports Windows® 98/2000/2003/XP/Vista/2008			
USB					
Optional SNMP					

* Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.

**If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

***L means long-run model