

DS POWER 3 LEVEL

Uninterruptible Power Supplies

- Low input current distortion - less than 3%
- High input power factor 0.99
- Power walk-in function to achieve progressive rectifier start-up
- Delayed start-up on mains power supply return



General Specifications

BATTERY CARE SYSTEM

The DS 3 LEVEL Battery Care System optimises battery performance, to help extend their working life and ensure that the UPS can deliver its full-rated back-up time when called upon in an emergency.

Battery recharge: DS 3 LEVEL is designed to work with VRLA AGM and GEL lead-acid batteries including open-vented types, in addition to Ni-Cads. Specific management features include:

- One-level recharge to meet the requirements of the most common VRLA AGM batteries
 - Two voltage level recharge meeting the IU characteristic
 - Restricted charging to reduce electrolyte consumption and extend the life of VRLA batteries
- Temperature compensation: to avoid excessive voltage being applied to the batteries in a high ambient

Battery test: to detect performance degradation and predict battery failure.

Deep discharge protection: to prevent the batteries being discharged below a level from which they cannot be recovered (especially when discharged over long periods with very low loads).

Low AC ripple current: from a high-frequency battery charger, to ensure the batteries are not subjected to this damaging element commonly experienced with some other UPS and power supply designs.

Wide input voltage range: from a rectifier that can work down to less than 40% of its nominal supply rating (at half load), removing the need to discharge the batteries

FLEXIBILITY

DS 3 LEVEL can be used for a wide range of applications, thanks to its configuration options, flexibility, accessories and performance levels:

- Suitable for powering capacitive loads, for example Blade servers - without any reduction in active power, from 0.9 leading to 0.9 lagging
- Modes of operation include: On-Line, Eco, Smart-Active and Stand-By/Off
- Frequency conversion mode
- Power Share connections for priority-based load shedding when the mains power supply has failed
- Cold-start facility to switch the UPS on even without a mains power supply present
- Extensive back-up time options using battery extension cabinets
- Optional battery cabinet temperature sensor to assist the temperature compensating charger
- Optional battery chargers to optimize recharge times
- Optional dual input supplies
- Optional isolation transformers for Galvanic isolation and neutral connectivity

LOW MANAGEMENT COST

The DS 3 LEVEL design provides exceptional performance and efficiency levels, within a very compact footprint and overall case design:

- Lowest footprint in its category - 0.26m² for the 20kVA DS 3 LEVEL with internal batteries.
- High efficiency up to 94% - saving up to 35% in dissipated energy in one year compared to a more traditional UPS (91%) resulting in a faster payback period of four years.
- High output power factor which at 0.9pF provides up to 15% more active power compared to a more traditionally sized UPS - providing greater system expansion margin for further load increases.

Technical Specifications

MODEL	DS3L 10	DS3L 12	DS3L 15	DS3L 20	DS3L 30	DS3L 40	DS3L 60	DS3L 80	DS3L 100	DS3L 120	DS3L 160	DS3L 200	
INPUT													
Voltage	380/400/415 VAC 3 Phase + N												
Frequency	50Hz. / 60Hz.												
Frequency range	40 - 72Hz.												
Power factor	0.99										1		
Harmonic current distortion	THDI ≤ 3%												
BY PASS													
Voltage	380/400/415 VAC 3 Phase + N												
Number of phases	3 + N												
Voltage range	180 - 264 V (selectable)												
Frequency	50Hz. or 60Hz. (selectable)												
Frequency tolerance	± %5 (selectable)												
OUTPUT													
Power (kVA)	10	12	15	20	30	40	60	80	100	120	160	200	
Power (kW)	9	10.8	13.5	18	27	36	54	72	90	108	160	200	
Power factor	0.9										1		
Number of phases	3 + N												
Voltage (V)	380 - 400 - 415 VAC (selectable)												
Static Variation	± % 1												
Dynamic Variation	± % 3												
Crest factor	3:1												
Voltage distortion	≤ % 1 Linear load, ≤ % 3 Non-linear load												
Frequency	50Hz. / 60Hz.												
Frequency stability during battery operation	% 0.01												
Overload protections (0.8 PF)	up to 115% for Continuous, 115%-125% for 10 min, 125%-150% for 1 min, 150%-168% for 5 sec												
BATTERIES													
Type	VRLA AGM / GEL												
Recharge time	6 hours												
INSTALLATION													
Weight without batteries	105	110	115	115	135	145	190	200	370	380	450	460	
Dimensions (mm) HxWxD	1320x440x850				1320x440x850			1600x500x850			1900x750x855	1900x850x1050	
Communication	3 sockets for Communication interface/RS232/USB												
Temperature range	0°C / +40°C												
Humidity	%90 non-condensed												
Colour	Dark grey RAL 7016												
Acoustic noise (1m)	< 52 dBA				< 48 dBA			< 52 dBA			< 65 dBA		< 50 dBA
Protection degree	IP20												
Efficiency	up to % 99												
Standards	Directive EMC 2004 / 108 / CE Electromagnetic Compatibility Directive												
	Standards : Safety IEC EN 62040-1; EMC IEC EN 62040-2 C2												
	in accordance with IEC EN 62040-3 (Voltage and Frequency Independent) VFI-SS-111												