

TECHNICAL SPECIFICATIONS

Conceptpower™ Modular 60-80-100kVA

Uninterruptible Power Supply (UPS)
Modular, n+1 redundant, three-phase
On-line, Double-Conversion, VFI

Upgrade-Line 60-80-100kVA



TECHNICAL SPECIFICATIONS

60, 80 and 100 kVA (three phase input and output)

GENERAL DATA

Output Rated Power	kVA	60	80	100
Output Power Factor		0.8		
Topology		On-Line, Double Conversion, VFI		
Technology		Second Generation, Transformerless		
Construction		Modular, Parallelable		
Parallel Configuration		For redundancy and/or capacity: - Standard up to 10 modules - Without limitation on request		
Double Conversion AC-AC efficiency with batt. fully charged				
100%/75%/50%/25% Linear Load (cosφ=0.8ind)	%	95/95/93.5/92	95/95/93.5/92	95/95/93.5/92
100%/75%/50%/25% Linear Load (Resistive cosφ=1)	%	94/94/92.5/91	94/94/92.5/91	94/94/92.5/91
100%/75%/50%/25% Non-linear Load (EN 62040-1-1:2003)	%	93/93/91/90	93/93/91/90	93/93/91/90
Eco-Mode efficiency (load on by-pass) at 100% load	%	98	98	98
Heat Dissipation With 100% Load (cosφ=0.8ind)	W	2600	3400	4200
Heat Dissipation With 100% Load (Resistive cosφ=1)	W	3100	4100	5100
Heat Dissipation With 100% Non-linear Load (EN 62040-1-1:2003)	W	3650	4850	6100
Airflow (25° - 30°C) with Non-linear Load (EN 62040-1-1:2003)	m ³ /h	1500	1500	1500
Audible Noise of Module with 100% / 50% Load	dBA	69/65	69/65	69/65
Ambient Temperature for UPS	°C	0 – 40		
Ambient Temperature for Batteries (recommended)	°C	20 - 25		
Storage Temperature	°C	-25 - +70		
Battery Storage Time at Ambient Temperature		Max. 6 months		
Cooling		Fan-assisted		
Relative Air-humidity		Max. 95% (non-condensing)		
Standards				
- Safety		EN 62040-1-1:2003, EN 60950-1:2001/A11:2004		
- Electromagnetic Compatibility		EN 50091-2:1995, EN61000-3-2:2000, EN6100-3-3:1995/A1:2001, EN61000-6-2:2001, EN61000-6-4:2001		
- Performance		EN62040-3:2001		
Transportation Palette		Provided with UPS		
Accessibility		Totally front accessibility for service and maintenance (no need for side, top or rear access)		
Positioning		Min. 20cm rear space (required for fan)		
Input and Output Power Cabling		From front and bottom or top (on request)		
Dry Port (Volt-free contacts)		For remote signalling and automatic computer shutdown		
Smart Port (RS 232)		For monitoring and integration in network management		
Input Terminals		EMERGENCY OFF (Normally closed) GEN-ON (Normally open) BATTERY TEMP. SENSOR		
UPS Module Weight	kg			
-Active Module		60kVA = 60kg, 80kVA = 65kg ; 100kVA = 65kg		
-Passive Module		60kVA = 65kg, 80kVA = 70kg ; 100kVA = 85kg		

UPS Module Size (WxHxD)	mm	
-Active Module		667 x 412 x 834
-Passive Module		667 x 412 x 834
-Cabinet (Upgrade frame 300kVA)		1400 x 1900 x 870

RECTIFIER DATA

Input Voltage	V	3x380/220V+N, 3x400V/230V+N, 3x415/240V+N		
Input Voltage Tolerance (ref to 3x400/230V)	V (%)	For Loads: <100%(-23%,+15%) <80%(-30%,+15%) <60%(-40%,+15%)		
Input Frequency	Hz	35 – 70		
Input Power Factor		0.98		
Input Current Form		Sinewave THDI = 7÷9% at 100% load		
Inrush Current		Limited by soft start		
Model	kVA	60	80	100
Input Power with rated output power and charged battery	kW	52	69	86
Max. Input Power with rated output power and discharged battery	kW	56	75	93

BATTERY DATA

Maximum Battery Charger Current (standard)	16 A
Battery Charging Curve	IU (DIN 41773)
Temperature Controlled Battery Charger	Yes
Battery Charger Ripple	Ripple-free battery charging
Battery Test	Automatic and periodic (adjustable)
Battery Type	Lead-acid, Maintenance-free and NiCd
Variable Number of 12V Battery Blocks	For modules 60 and 80kVA use 40-50 blocks (only even numbers allowed) For modules 100kVA use: 40 battery blocks for back-up times less then 10minutes 42 battery blocks for back-up times less then 15minutes 44 battery blocks for back-up times less then 20minutes 48 or 50 battery blocks for back-up times more then 20min.

INVERTER DATA

Output Rated Power	KVA	60	80	100
Output Rated Voltage	V	3x380/220V, 3x400/230V, 3x415/240V		
Output Power Factor		0.8		
Output Voltage Stability				
- Static	%	< +/- 1		
- Dynamic (with load Step 0-100%, 100-0%)	%	< +/- 4		
Output Voltage Distortion				
- With Linear Load	%	+ / - 2		
- With Non-linear Load (EN62040-3:2001)	%	< +/- 3		
Recovery Time After Load Jump (0-100%, 100-0%)	msec	20		
Permissible Unbalanced Load	%	100% (all 3 phases regulated independently)		
Output waveform		sinewave		
Output Frequency	Hz	50 or 60		
Output Frequency Tolerance				
- Free-running, Quartz Oscillator	%	+ / - 0.1		
- Synchronized with mains (adjustable)	%	+ / - 4		
Overload Capability	%	125 for 10min. and 150 for 1min.		
Crest - Factor		3 : 1		

POWER MANAGEMENT DISPLAY (PMD)

The user-friendly PMD consists of three parts the MIMIC DIAGRAM, CONTROL KEYS and LCD that provides the necessary monitoring information about the UPS.

MIMIC DIAGRAM

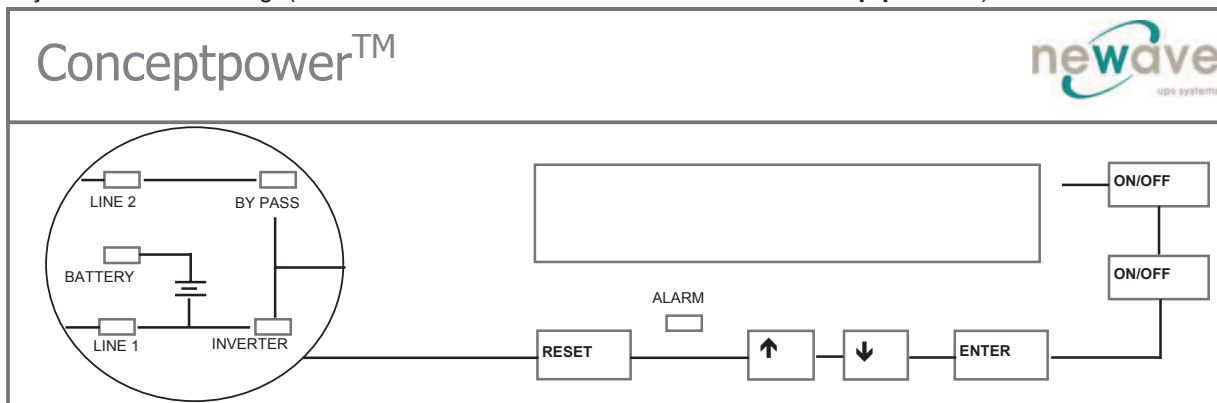
The mimic diagram serves to give the general status of the UPS. The LED-indicators show the power flow status and in the event of mains failure or load transfer from inverter to bypass and vice-versa the corresponding LED-indicators will change colour from green (normal) to red (warning). The LED's LINE 1 (rectifier) and LINE 2 (bypass) indicate the availability of the mains power supply. The LED's INVERTER and BYPASS if green indicate which of the two are supplying power to the critical load. When the LED-indicator BATTERY is lit it means that the battery due to mains failure is supplying the load. The LED-indicator ALARM is a visual indication of any internal or external alarm condition. At the same time the audible alarm will be activated.

PUSHBUTTONS

The pushbuttons serve to manage the UPS by performing commands. The 2xON/OFF pushbuttons serve to start-up or shutdown the UPS if pressed simultaneously. The pushbuttons UP and DOWN allow working through the PMD-menu. The RESET pushbutton serves to cancel the audible alarm in the event of a disturbance. If the alarm condition was only transient the LED-indicator ALARM would also extinguish otherwise it will remain on (red).

DISPLAY

The 2 x 20 character LCD simplifies the communication with the UPS. The menu driven LCD enables the access to the EVENT REGISTER, or to monitor the input and output U, I, f, P, Autonomy Time and other Measurement's, to perform commands like start-up and shut-down of INVERTER or load transfer from INVERTER to BYPASS and vice-versa and finally it serves for the DIAGNOSIS (SERVICE MODE) for adjustments and testing (for more details see the USER MANUAL of **Conceptpower™**).



Power Management Display (PMD) of **Conceptpower™**

OPTIONALS

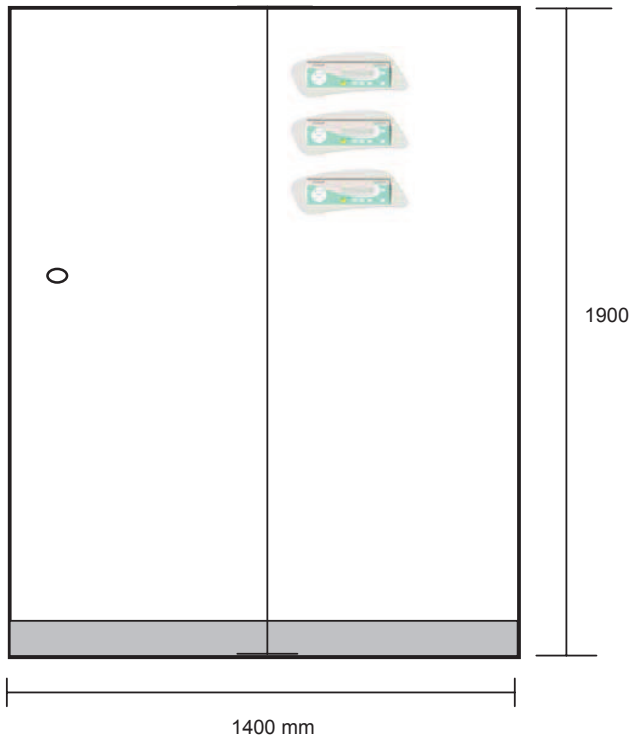
Optional Battery Charger	For longer autonomies
Remote Signalling Panel (RSP)	For UPS-Status indication
Parallel Configuration (standard)	A number of units may be paralleled for redundancy or capacity upgrade
Wavemon Software	For automatic shut-down and monitoring
SNMP - Adapter	For network management and remote monitoring
Input or Output Isolation Transformer	For special voltages or for galvanic isolation
Customized UPS- and Battery Frames	On request (for OEM-Projects only)

MECHANICAL CHARACTERISTICS Upgrade Line

	MODEL	KVA	3x60	3x80	3x100
Dimensions (WxHxD)		mm	1400 x 1900 x 870		
Protection Degree			IP 20		
Ventilation			Fan assisted		
Colour			RAL 9002		
Foot Print		m ²	1.22		
Maximum Output Power of one Upgrade Line UPS			300 kVA		

Dimensions of Concept Power (depth 870mm)

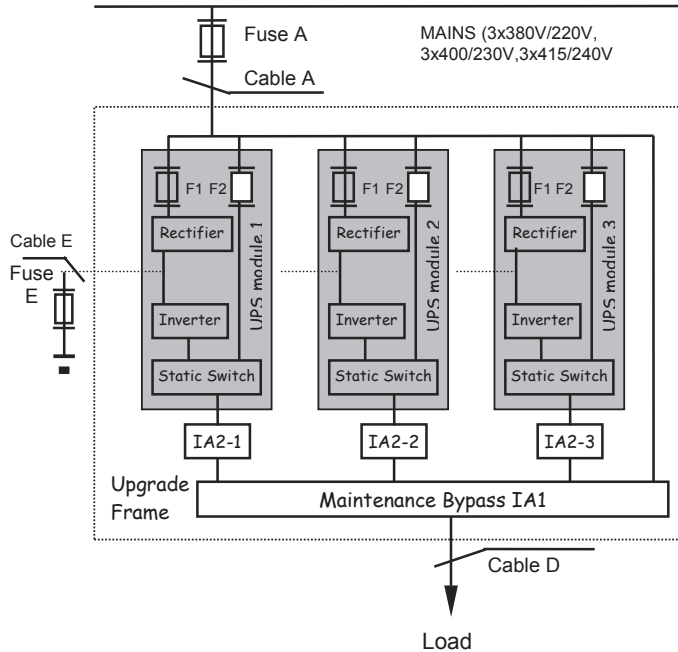
CUPS-300U



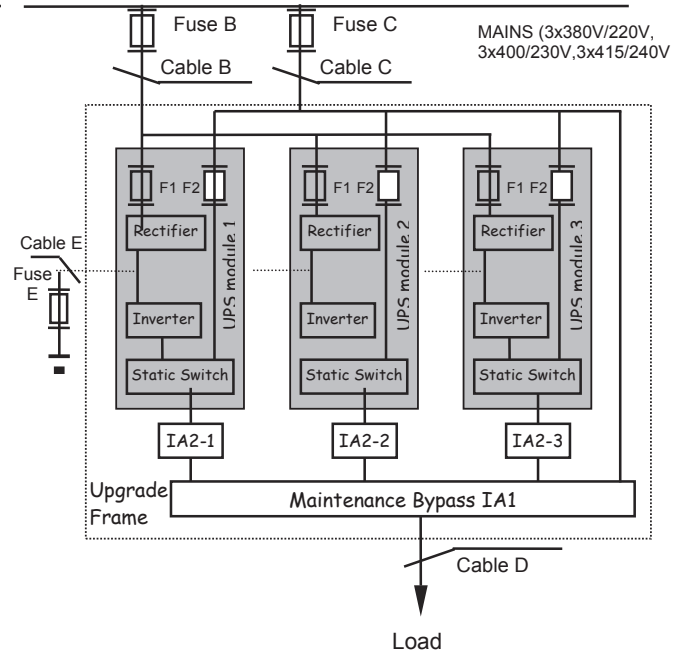
Power (kVA)	Autonomy (min.)	Frame Type	Weight (kg)
60	0	CUPS-300U	465
60 + 60	0	CUPS-300U	590
60 + 60 + 60	0	CUPS-300U	715
80	0	CUPS-300U	475
80 + 80	0	CUPS-300U	610
80 + 80 + 80	0	CUPS-300U	745
100	0	CUPS-300U	490
100 + 100	0	CUPS-300U	640
100 + 100 + 100	0	CUPS-300U	790

Block Diagram Upgrade Line

STANDARD VERSION (SINGLE INPUT FEED)



VERSION ON REQUEST (DUAL INPUT FEED)



Cable Sections and Fuse Ratings recommended by European standards. Alternatively, local standards to be respected

STANDARD VERSION (SINGLE FEED INPUT)

Power (kVA)	Fuse A (Agl/CB)	Cable A (IEC 60950-1:2001)	Cable D (IEC 60950-1:2001)	Fuse E +/N/-	Cable E +/N/-
60	3x100	5x25	5x25	3x125A	3x35
60+60	3x200	5x70	5x70	3x250A*	3x120*
60+60+60	3x315	5x185 or 5x(2x70)	5x185 or 5x(2x70)	3x450A*	3x(2x95) *
80	3x125	5x35	5x35	3x160A	3x50
80+80	3x250	5x120 or 5x(2x50)	5x120 or 5x(2x50)	3x350A*	3x(2x70) *
80+80+80	3x400	5x240 or 5x(2x95)	5x240 or 5x(2x95)	3x630A*	3x(2x150) *
100	3x160	5x50	5x50	3x224A	3x95
100+100	3x315	5x185 or 5x(2x70)	5x185 or 5x(2x70)	3x450A*	3x(2x95) *
100+100+100	3x450	5x300 or 5x(2x95)	5x300 or 5x(2x95)	3x630A*	3x(2x150) *

* only valid for common battery use

VERSION ON REQUEST (DUAL FEED INPUT)

Power (kVA)	Fuse B (Agl/CB)	Cable B (IEC 60950-1:2001)	Fuse C (Agl/CB)	Cable C (IEC 60950-1:2001)	Cable D (IEC 60950-1:2001)	Fuse E +/N/-	Cable E +/N/-
60	3x100	5x25	3x100	4x25	5x25	3x125A	3x35
60+60	3x200	5x70	3x200	5x70	5x70	3x250A*	3x120*
60+60+60	3x315	5x185 or 5x(2x70)	3x315	5x185 or 5x(2x70)	5x185	3x450A*	3x(2x95) *
80	3x125	5x35	3x125	4x35	5x35	3x160A	3x50
80+80	3x250	5x120 or 5x(2x50)	3x250	5x120 or 5x(2x50)	5x120	3x350A*	3x(2x70) *
80+80+80	3x400	5x240 or 5x(2x95)	3x400	5x240 or 5x(2x95)	5x240	3x630A*	3x(2x150) *
100	3x160	5x50	3x160	5x50	5x50	3x224A	3x95
100+100	3x315	5x185 or 5x(2x70)	3x315	5x185 or 5x(2x70)	5x185	3x450A*	3x(2x95) *
100+100+100	3x450	5x300 or 5x(2x95)	3x450	5x300 or 5x(2x95)	3x(2x150)	3x630A*	3x(2x150) *

*only valid for common battery use