

TECHNICAL SPECIFICATIONS

Conceptpower[™] Midi 60-80kVA

Uninterruptible Power Supply (UPS)

Three-phase, n+1 redundant

On-Line, Double-Conversion, VFI



Concept power – Midi



TECHNICAL SPECIFICATIONS

Conceptpower-Midi

60 and 80 kVA (three phase input and output)

GENERAL DATA

Output Rated Power	kVA		60	80
Output Power Factor			0.8	
Topology			On-Line, Double Conversion, VFI	
Technology			Second Generation, Transformerless	
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 (cos ϕ = 0.8 ind.)	%		95/95/93.5/92	95/95/93.5/92
100%/75%/50%/25% Linear Load (Resistive cos ϕ =1)	%		94/94/92.5/91	94/94/92.5/91
100%/75%/50%/25% Non-Linear Load (EN50091-1)	%		93/93/92/90	93/93/92/90
Eco-mode efficiency (load on by-pass) at 100% load	%			
Heat Dissipation With 100% Load (cos ϕ =0.8ind)	W		2400	3200
Heat Dissipation With 100% Load (Resistive cos ϕ =1)	W		2880	3800
Heat Dissipation With 100% Non-linear Load (EN50091-1)	W		3400	4500
Airflow (25° - 30°C) with Non- linear Load (EN-50091-1)	m ³ /h		630	900
Audible Noise with 100% / 50% Load	dBA		59/54	69/63
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			EN 50091-Part 1 (IEC 62040-1, IEC60950) EN 50091 - Part 2 (IEC 62040 –2) EN 50091 - Part 3 (IEC 62040 –3)	
Transportation Pallet			Provided with UPS	
Accessibility			Front and rear for service and maintenance	
Positioning			Min. 60cm from rear	
Input and Output Power Cabling			From front and bottom	
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 TEMPERATURE SENSOR	

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RECTIFIER DATA

Input Voltage	V	3x480/277V+N, 3x400V/230V+N, 3x220/127V+N, 3/2/1x208/120V+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
Input Power with rated output power and charged battery	kW		52 69
Max. Input Power with rated output power and discharged battery	kW		56 75

BATTERY CHARGER / 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	40 – 50 blocks (only even numbers allowed)

INVERTER DATA

Output Rated Power	KVA		60	80
Output Rated Voltage	V	3x480/277V+N, 3x400V/230V+N, 3x220/127V+N, 3/2/1x208/120V+N		
Output Power Factor		0.95 (reg. elect)		
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 (EN 50091)	%	< +/- 3 (according to EN 50091-1)		
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. , 150% for 1min.		
Crest - Factor		3 : 1		

BYPASS DATA

Overload Capacity	200% for 5min, 1000% for 10ms
Load Transfer Time From Inverter to Bypass	0 ms
Load Transfer Time From Bypass to Inverter	< 1 ms
Minimum mains voltage before inhibiting the bypass	190 V
Integrated Maintenance Bypass	Yes

Concept power – Midi



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

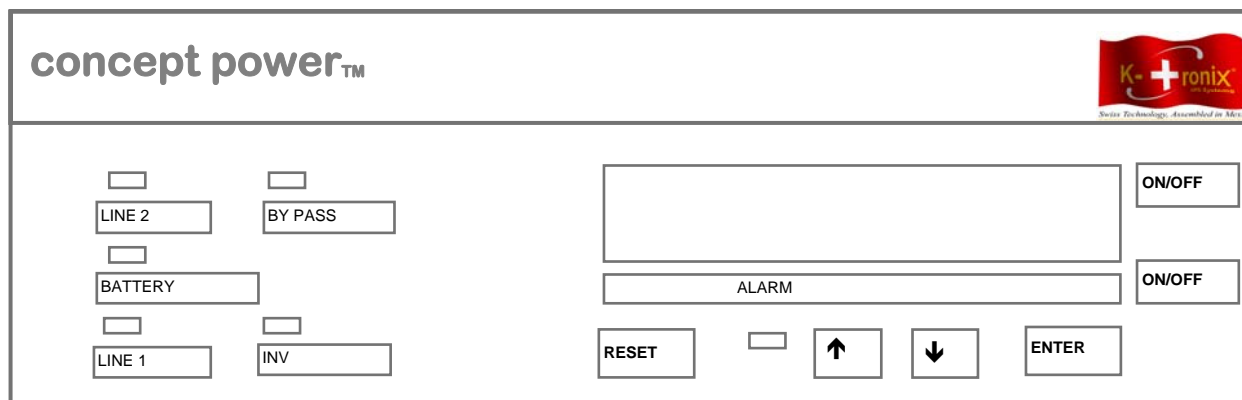
The mimic diagram serves to give the general status of the UPS. The LED-indicators show the power flow status and in the event of mains failure or load transfer from inverter to bypass and vice-versa the corresponding LED-indicators will change colour from green (normal) to red (warning). The LED's LINE 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

Extended Battery Autonomies	In matching battery frames CBAT-30CS, CBAT- M
Remote Signalling Panel (RSP)	For UPS-Status indication
Parallel Configuration	A number of units may be paralleled for redundancy or capacity upgrade
Wavemon Software	For automatic shut-down and monitoring
SNMP – Adapter Card	For network management and remote monitoring
Input or Output Isolation Transformer	For special voltages or for galvanic isolation
Input Harmonic Filter	For Input Current THD < 5%
Battery Probe	For temperature dependent battery charge

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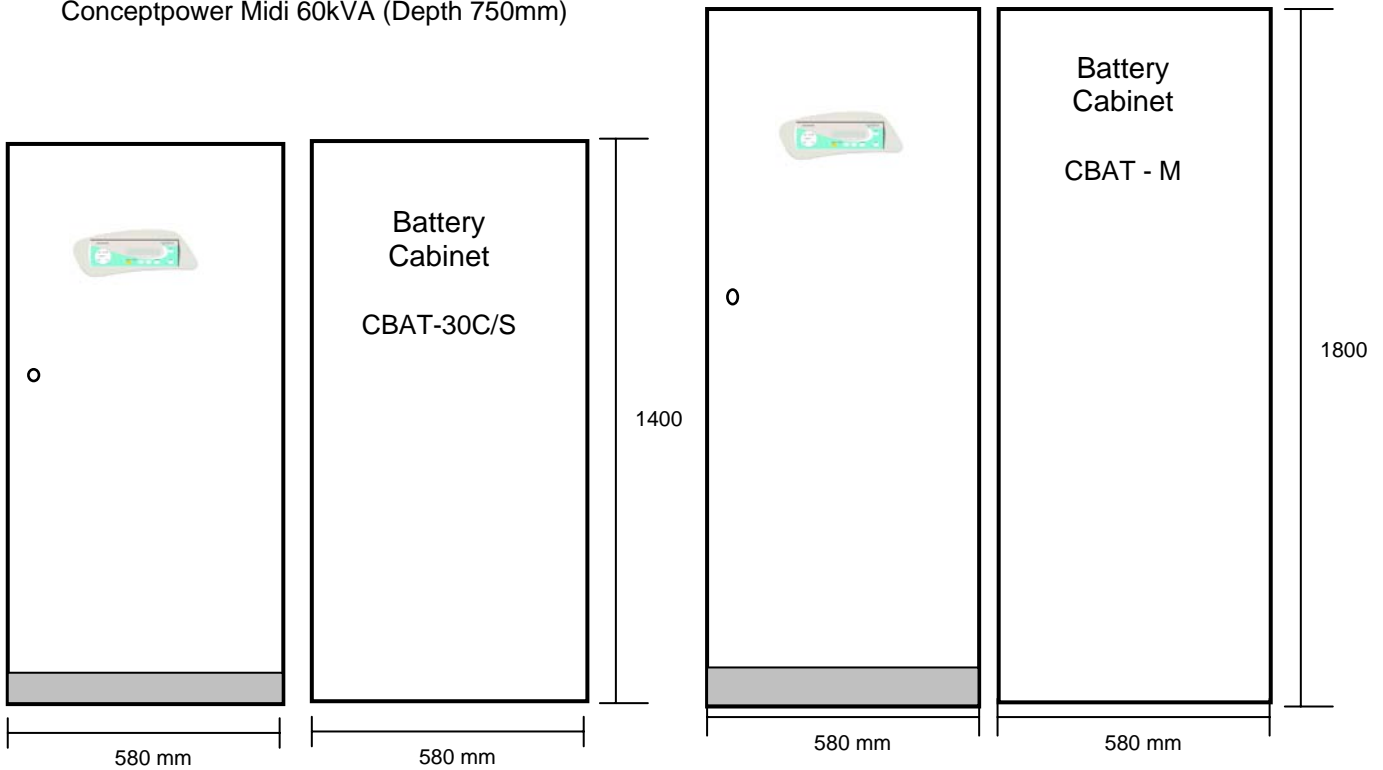


MECHANICAL CHARACTERISTICS Midi 40-80kVA

MODEL	kVA		60	80
Dimensions (WxHxD)	mm	580 x 1400 x 750		580 x 1800 x 750
Protection Degree		IP 20		
Ventilation		Fan assisted		
Colour		RAL 9002		
Foot Print	m ²	0.435		

Conceptpower Midi 80kVA (Depth 750mm)

Conceptpower Midi 60kVA (Depth 750mm)

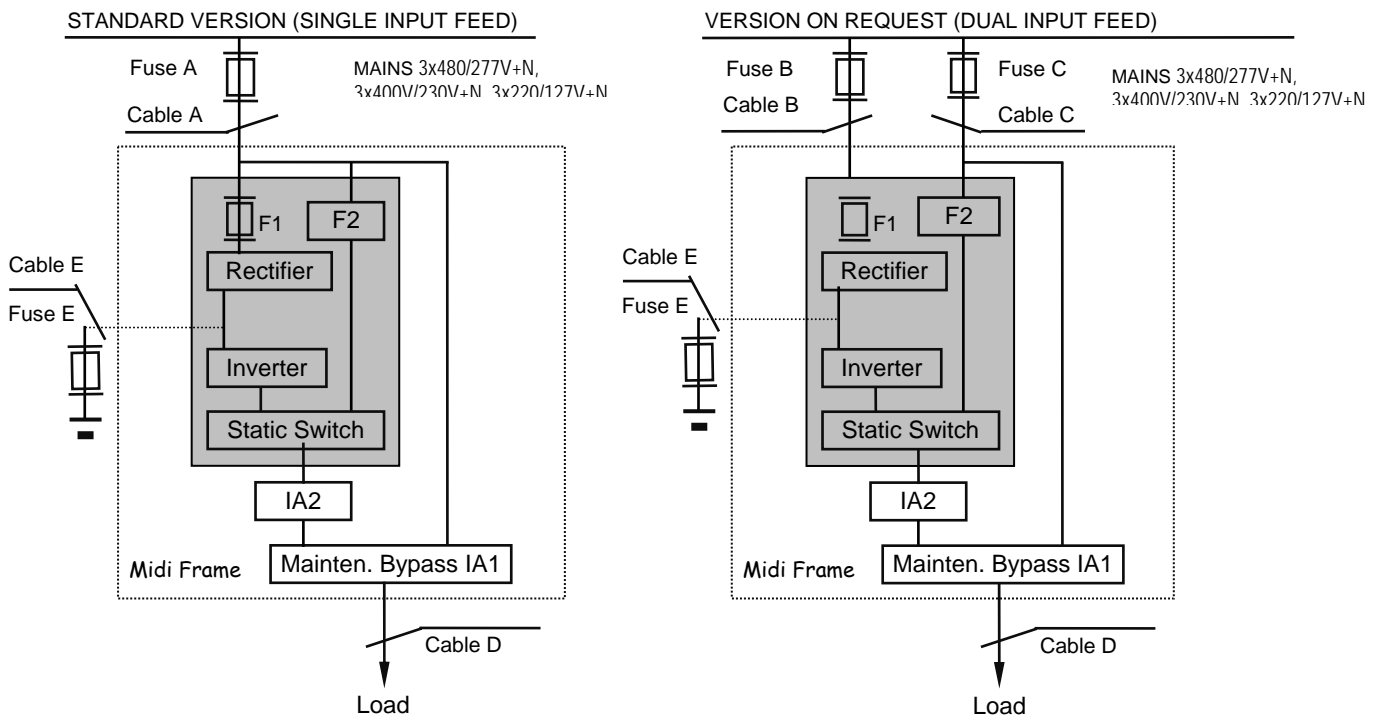


Power (kVA)	Maximum Autonomy (min.)	Maximum Battery	Frame Type	Weight (kg)
60	0min.	0	CUPS-60	190
60	15min.	90x24Ah	CBAT-30C/S	1150
80	0min.	0	CUPS-80	240
80	15min.	120x24Ah	CBAT-M	1490

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Block Diagram Midi



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

STANDARD VERSION (SINGLE FEED INPUT)

VERSION ON REQUEST (DUAL 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	5x35	5x35	3x125A	3x35
80	3x125	5x50	5x50	3x160A	3x50

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	5x35	3x100	4x35	5x35	3x125A	3x35
80	3x125	5x50	3x125	4x50	5x50	3x160A	3x50

Parallel Configuration for Redundancy and/or Capacity increase.

