

Models and Ratings

Output Power		Output Current @ 115 VAC	Output Current @ 208 VAC	Autonomy (Full Load)	Model Number
1500 VA	1050 W	13.0 A	N/A	5 Minutes	OPP1500L
3000 VA	2100 W	N/A	14.4 A	5 Minutes	OPP3000L
3000 VA	2100 W	26.0 A	N/A	5 Minutes	OPP3000L120*
6000 VA	4200 W	N/A	28.8 A	5 Minutes	OPP6000L

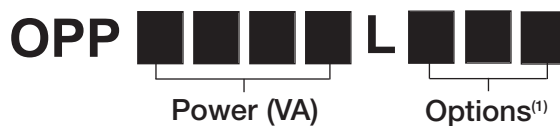
Accessory Products

Model Number	Description
OPP 232	RS232 option card giving second RS232 function.
OPP BM	Battery module for OPP series UPS - fitted with 2 x OPP BP.
OPP BP	Battery pack - contains 4 x 7Ah VRLA 5 year design life batteries.
OPP BB3KL ⁽¹⁾	Make before break dual input bypass module for OPP2500L and OPP3000L. Provides safety interlock when used with OPP V.
OPP BB6KL ⁽¹⁾	Make before break dual input bypass module for OPP4000L to OPP6000L. Provides safety interlock when used with OPP V.
OPP V	AS400 Volt Free Contact option card . See options/accessories.
OPP S	SNMP Network adaptor option card. See options/accessories.
OPP R	Telescopic rack guides for UPS and battery modules. (1 set of guides per 2U module - i.e. OPP2500L needs 2 sets OPP R).

Notes

- Unit can be used without OPP V. However, there is no automatic protection against bypass operation while the unit is on inverter. Units must operate with common neutral. Contact sales office for details.

Option Order Codes



E.G. OPP1500LRX
OPP Series, 1500 VA

With telescopic rail guides and 10 year design life batteries fitted

Options (Examples)

- Add suffix 'R' to Model Number - Adds rack guides to unit for 19" rack mounting.
- Add suffix 'S' to Model Number - Adds internal SNMP to UPS. (in place of USB port).
- Add suffix 'V' to Model Number - Adds AS400 VFC to UPS for utility fail, bypass, batt low and UPS fault (in place of USB port).
- Add suffix 'X' to Model Number - Replace 5 year design life batteries with 10 year.

(1) Options should be listed in alphabetical order.

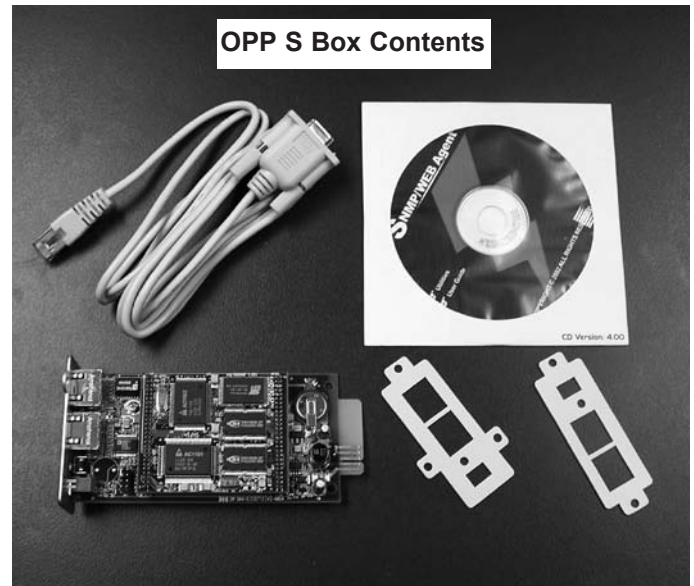
Option Card & REPO Detail

Option card details

OPP S option card

The OPP S card provides network connectivity and SNMP management protocol capability to the OPP series of UPS.

Supplied with the option card is a CD which contains all relevant software including Manual and MIB. The card can be factory-fitted with this option on request – please contact sales for assistance.

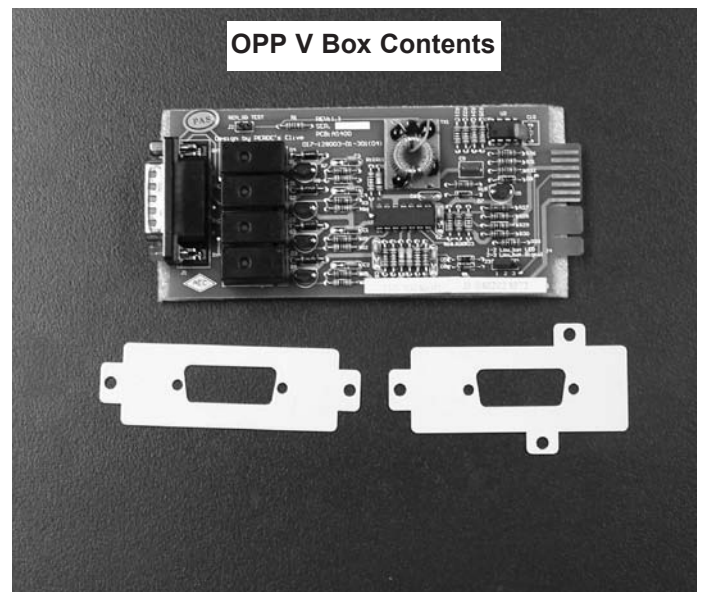


OPP V option card

The OPP V card provides true volt free contact indication of the following key parameters:

- Mains Fail
- Battery Low
- Bypass
- UPS fault

These are 250VAC/2A rated contacts.

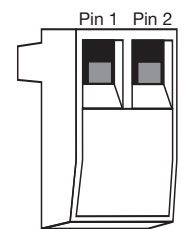


REPO Details (must be fitted for UPS to operate)

The REPO feature shuts down the protected equipment immediately and does not follow the orderly shutdown procedure initiated by any power management software. This occurs when the link between pins 1 and 2 is broken.

Any devices which are operating on battery are also shut down immediately. When the REPO switch is closed, the equipment will not return to battery power until the UPS input is re-cycled.

This can be done by shutting down the UPS and re-starting it.



REPO Connector

Run Time Charts

UPS Model	STANDARD RUN TIME IN MINUTES. Autonomy vs Load ^{(1) (2)}											
	200 VA (140 W)	400 VA (280 W)	600 VA (420 W)	800 VA (560 W)	1000 VA (700 W)	1500 VA (1050 W)	2000 VA (1400 W)	2500 VA (1750 W)	3000 VA (2100 W)	4000 VA (2800 W)	5000 VA (3500 W)	6000 VA (4200 W)
OPP1000	59	32	18	12	8							
+1BM	260	134	83	58	50							
+2BM	466	247	166	124	91							
+3BM	-	358	250	183	146							
OPP1500(L)	63	34	19	13	9	5						
+1BM	274	142	88	62	53	31						
+2BM	491	260	175	131	96	60						
+3BM	-	377	264	193	154	92						
OPP2500	167	85	59	47	34	15	9	6				
+1BM	371	212	152	107	78	46	29	20				
+2BM	589	337	244	179	144	66	54	41				
+3BM	-	478	334	255	198	104	68	58				
OPP3000(L)	140	66	51	38	26	15	10	6	5			
+1BM	313	175	121	83	63	46	29	21	16			
+2BM	-	285	196	153	118	67	54	42	31			
+3BM	-	391	280	211	169	106	69	59	49			
OPP4000	-	130	88	63	54	37	23	16	13	8		
+2BM	-	290	214	166	137	84	57	50	40	26		
+4BM	-	467	339	269	221	149	104	76	60	48		
+6BM	-	-	479	374	305	208	151	119	93	61		
OPP5000	-	133	90	65	56	38	24	17	13	8	6	
+2BM	-	297	219	170	140	86	59	51	41	26	19	
+4BM	-	477	346	275	226	152	106	78	61	49	37	
+6BM	-	-	489	382	311	212	154	121	96	62	54	
OPP6000(L)	-	140	95	68	59	40	25	18	14	9	6	5
+2BM	-	313	231	179	148	91	62	54	44	28	20	15
+4BM	-	503	365	290	238	161	112	82	65	52	39	28
+6BM	-	-	515	403	328	224	163	128	101	66	57	46

Notes

1. Recharge time will be extended as additional BMs are added.

2. '-' indicates time not calculated. Contact sales for details.

UPS Model	EXTENDED RUN TIME IN MINUTES. Autonomy vs Load ^{(1) (2) (3)}										
	400 VA (280 W)	800 VA (560 W)	1000 VA (700 W)	1500 VA (1050 W)	2000 VA (1400 W)	2500 VA (1750 W)	3000 VA (2100 W)	4000 VA (2800 W)	5000 VA (3500 W)	6000 VA (4200 W)	
OPP1000 +5 BMC	540	270	210								
OPP1000 +6 BMC	720	330	252								
OPP1000 +7 BMC	840	390	300								
OPP1500 +5 BMC	550	280	220	132							
OPP1500 +6 BMC	740	350	270	150							
OPP1500 +7 BMC	860	420	315	198							
OPP2500 +5 BMC	600	270	210	138	100	70					
OPP2500 +6 BMC	750	330	240	168	120	90					
OPP2500 +7 BMC	850	378	300	198	150	110					
OPP3000 +5 BMC	570	250	195	128	95	65	55				
OPP3000 +6 BMC	730	300	230	160	115	85	70				
OPP3000 +7 BMC	825	348	270	190	140	105	85				
OPP4000 +8 BMC	960	450	354	210	192	150	110	60			
OPP4000 +10 BMC	1200	570	432	270	210	180	150	70			
OPP4000 +12 BMC	-	720	510	330	270	210	168	100			
OPP5000 +8 BMC	970	460	360	220	200	155	115	65	70		
OPP5000 +10 BMC	1220	580	440	280	220	190	155	75	75		
OPP5000 +12 BMC	-	-	740	520	340	280	220	175	105	80	
OPP6000 +8 BMC	980	470	370	230	210	160	120	70	72	50	
OPP6000 +10 BMC	1230	590	450	290	230	200	160	85	79	65	
OPP6000 +12 BMC	-	760	530	350	290	230	185	115	85	85	

Notes

1. Recharge as per standard battery pack.

2. '-' indicates time not calculated. Contact sales.

3. Not available for 'L' versions.

OPP1000 & OPP1500(L)

Standard unit with internal batteries 2U.
Each additional battery adds 2U.



OPP2500 & OPP3000(L)

Standard unit with battery 4U.
Each additional battery adds 2U.



OPP4000 OPP5000 & OPP6000(L)

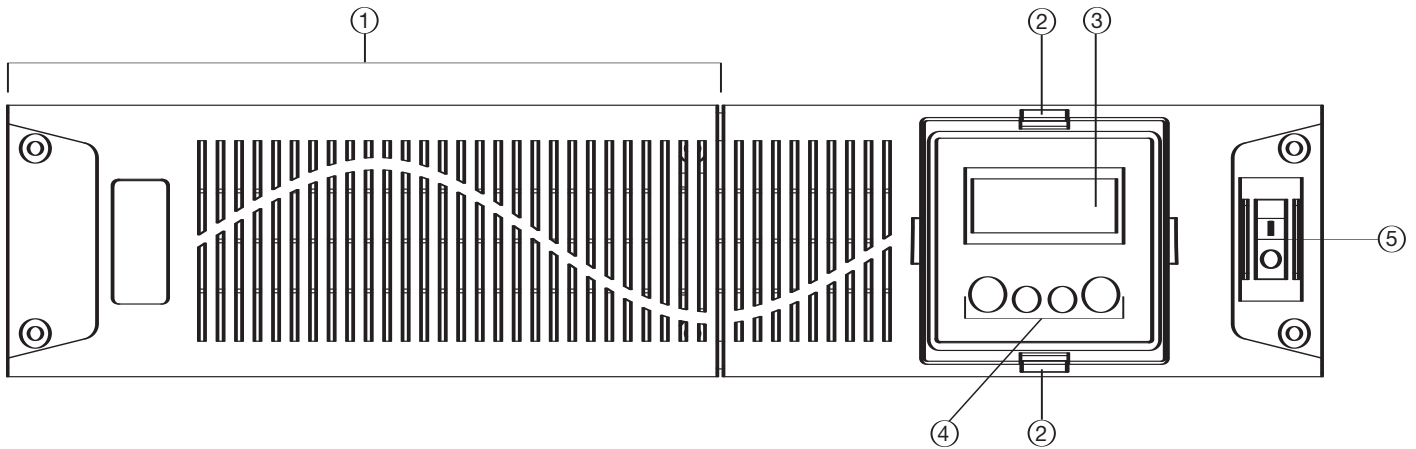
Standard unit with battery 8U.
Each additional battery comprises
2 x BM (2 x 2U).



Box Contents

OPP1000 & OPP1500 (L)	OPP2500 & OPP3000(L)	OPP4000, OPP5000, OPP6000(L)
Unit supplied in one box	Unit supplied in two boxes	Unit supplied in three boxes
Box 1	Box 1	Box 1
UPS unit with battery pack fitted (2U)	UPS electronics module (2U)	UPS electronics module (4U)
1 x input cable	1 x input cable	Input & output hard wired
1 x output cable	1 x output cable	REPO connector
REPO connector	REPO connector	RS232 cable/USB cable
RS232 cable/USB cable	RS232 cable/USB cable	Software CD
Software CD	Software CD	Manual
Manual	Manual	19" rack ears and screws
Mounting feet	19" rack ears and screws	2 x battery connection cables
19" rack ears and screws		
	Box 2	Box 2
	Battery module with 2 x OPP BP fitted (2U)	Battery module with 2 x OPP BP fitted (2U)
	Battery connection cable	Battery connection cable
	19" rack ears and screws	19" rack ears and screws
	1 x key lock kit	1 x key lock kit
		Box 3
		Battery module with 2 x Xi BP fitted (2U)
		Battery connection cable
		19" rack ears and screws
		1 x key lock kit

Front Panel Layout



Number	Description
1	Remove panel to access battery compartment (up to 1.5 kVA only - other models have separate battery module).
2	Top/bottom clips for releasing LCD display (to rotate through 90°) for standalone applications.
3	Backlit full function LCD display.
4	Keys for menu selection, bypass and menu select. See details below.
5	Input breaker.

OPP LCD

To allow for use in either rack-mount or standalone format, the LCD can be rotated using the top/bottom clip as shown to the right.

A retaining screw is then used to fix the panel in place.

Never rotate panel while UPS is on.



Information available from LCD:

Input Voltage: VAC
 Output Frequency: Hz
 Output Voltage: VAC
 Battery Voltage: VDC

Load: %
 Ambient Temperature: °C
 Heatsink Temperature: °C
 Output Current: A

OPP Front Panel Buttons



Turn on/off the inverter or force unit to bypass.
 Start UPS from battery when mains is not available.



Select the status shown on the second (bottom) row of the LCD. Used for setting the function or parameter.

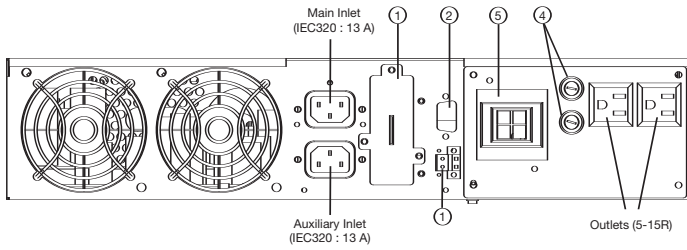


Select the status shown in the first (top) row of the LCD or review parameters in the M menu.

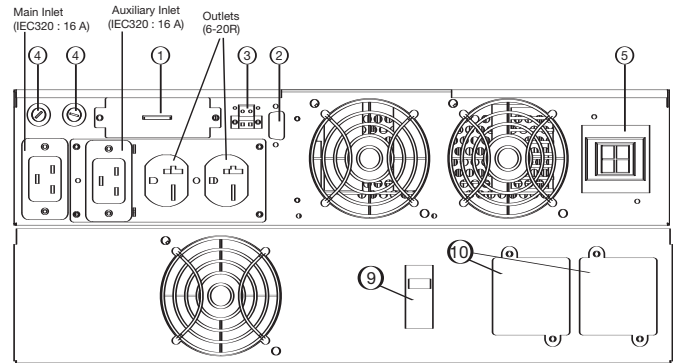


Enter edit menu. Selects standard UPS parameters including output voltage, battery test, etc.

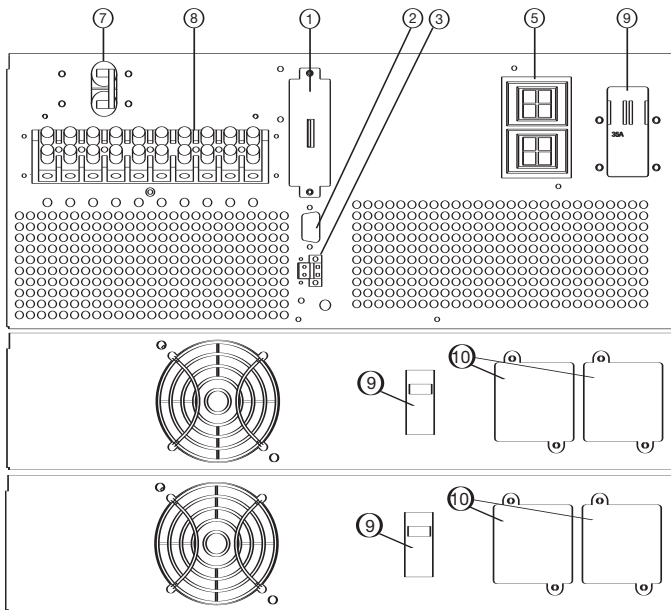
OPP1000L & OPP1500L



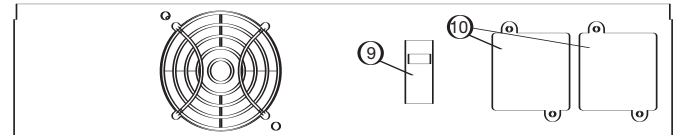
OPP3000L



OPP6000L*



OPP BM Battery Module



*Plug and play version also available - contact sales office.

Rear Panel Details

No.	Item	Description
1	Option Slot	Option slot allows user to fit AS400 dry contact card or SNMP internal network adaptor
2	Comms Port	Standard serial RS232 communications via 9 pin D type connector
3	Repo	Remote emergency power off (remove link to shutdown)
4	Input/Output Fuses	Overload protection
5	External Battery	Allows user to connect external battery packs
6	Maintenance Bypass	Allows unit to be isolated for maintenance
7	Input Breaker	Input breaker for 4, 5 & 6 kVA models
8	Hardware Terminals	For input, output and battery (if required)
9	Battery Breaker	Breaks DC voltage to/from battery module
10	Battery Connector	Remove plates to access battery connectors

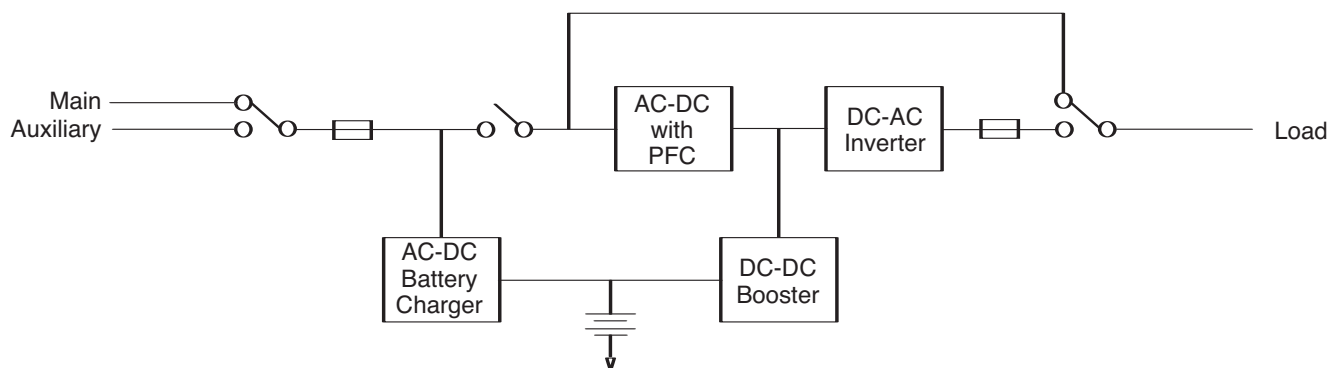
UPS Topology

The OPP series of On line UPS provides a high integrity AC power source with zero transfer time on mains fail conditions to battery. This On line double conversion topology ensures that the load is protected against noise and transients.

The OPP series also offers dual input feeds ensuring that even if the main input fails, and the auxiliary supply is available, the load will continue to be protected against power failure.

The OPP series also incorporates (2.5 kVA and 3 kVA European models) load segment control - allowing the user to turn off (via the LCD front panel menu) any load that is surplus to the critical part of the system. This then ensures that any critical component connected can achieve the longest run time available.

OPP Series Schematic



Weights and Dimensions

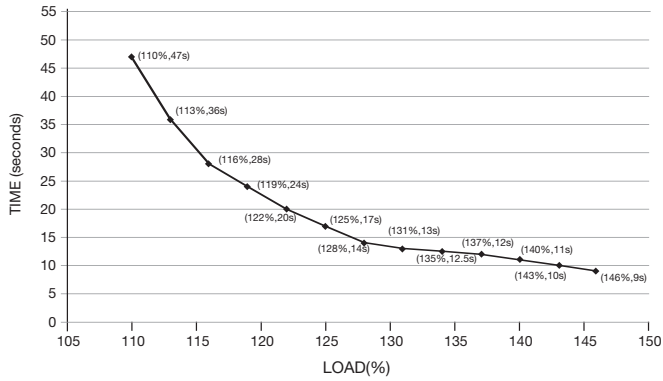
Model Number	Unit Dimensions			Unit Weight kg (total kg)	Shipping Dimensions			Shipping Weight kg	Boxes
	Height	Depth*	Width		Height	Depth	Width		
OPP1000	3.5 (88.9)	20.1 (510)	16.8 (426)	22 (22)	8.3 (210)	25.6 (650)	21.3 (540)	28.7	1 Box
OPP1500(L)	3.5 (88.9)	20.1 (510)	16.8 (426)	22 (22)	8.3 (210)	25.6 (650)	21.3 (540)	28.7	1 Box
OPP2500	7.0 (177.8)	20.1 (510)	16.8 (426)	20+25 (48)	8.3 (210)	25.6 (650)	21.3 (540)	17.9	1 of 2
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	2 of 2
								53.2	2 Boxes
OPP3000(L)	7.0 (177.8)	20.1 (510)	16.8 (426)	20+28 (48)	8.3 (210)	25.6 (650)	21.3 (540)	18.6	1 of 2
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	2 of 2
								53.9	2 Boxes
OPP4000	14.0 (355.6)	20.1 (510)	16.8 (426)	28x3 (84)	13.4 (340)	27.6 (700)	23.6 (600)	30.5	1 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	2 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	3 of 3
								101.1	3 Boxes
OPP5000	14.0 (355.6)	20.1 (510)	16.8 (426)	28x3 (84)	13.4 (340)	27.6 (700)	23.6 (600)	30.5	1 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	2 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	3 of 3
								101.1	3 Boxes
OPP6000(L)	14.0 (355.6)	20.1 (510)	16.8 (426)	28x3 (84)	13.4 (340)	27.6 (700)	23.6 (600)	30.5	1 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	2 of 3
					8.3 (210)	25.6 (650)	21.3 (540)	35.3	3 of 3
								101.1	3 Boxes
OPP BM	3.5 (88.9)	20.1 (510)	16.8 (426)	28 (28)	8.3 (210)	25.6 (650)	21.3 (540)	35.3	1 Box
OPP BMC	3.5 (88.9)	20.1 (510)	16.8 (426)	30 (30)	8.3 (210)	25.6 (650)	21.3 (540)	37.3	1 Box
OPP BP				12 (12)				15.0	1 Box

Notes

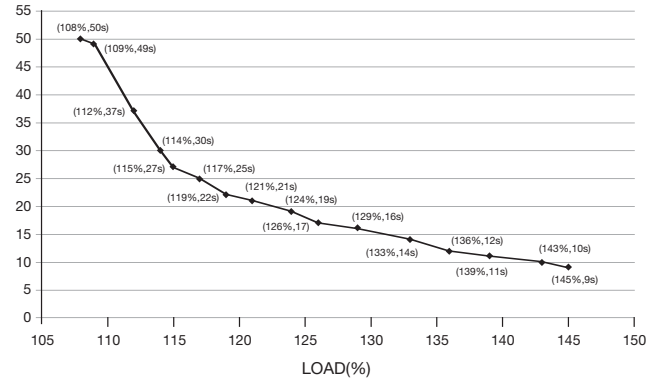
All measurements in inches (mm).

* Depth shown excludes front panel. Total depth is 21.65" (550 mm).

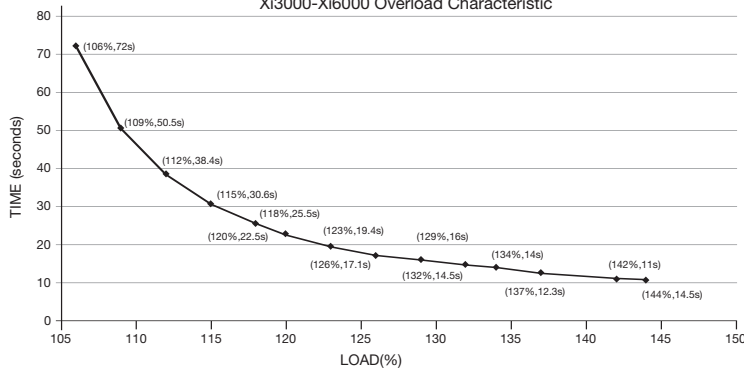
Xi1000-1500 Overload Characteristic



Xi2500 Overload Characteristic



Xi3000-Xi6000 Overload Characteristic



Once the parameters shown are exceeded, the UPS will go to bypass mode. If the overload is greater than 160%, it will latch in bypass mode until mains is manually recycled. The UPS will support the load in bypass mode until fuse/breaker ratings are reached. At this point the unit will trip and shut down.

Modular Design & Key Lock Function

The Xi modular design makes for one man install up to 3kVA. 4-6kVA models require two men to install. The weight of each part of the system is no greater than 30kg. Part of the design concept is to allow 'one' unit to be created from a number of modules.

When the modules are used in free-standing mode, a key lock facility is provided. The basic principle of the key lock is illustrated below.

A key lock kit is provided with every battery module.

