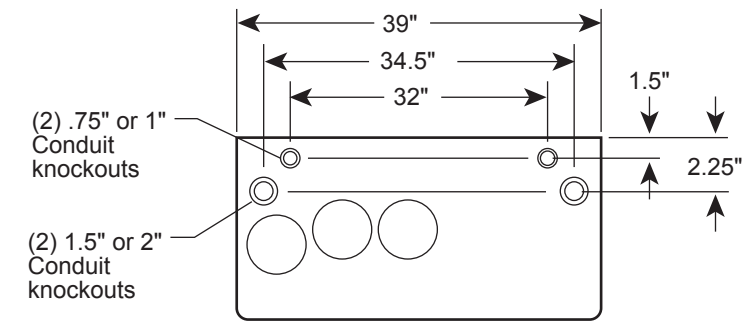
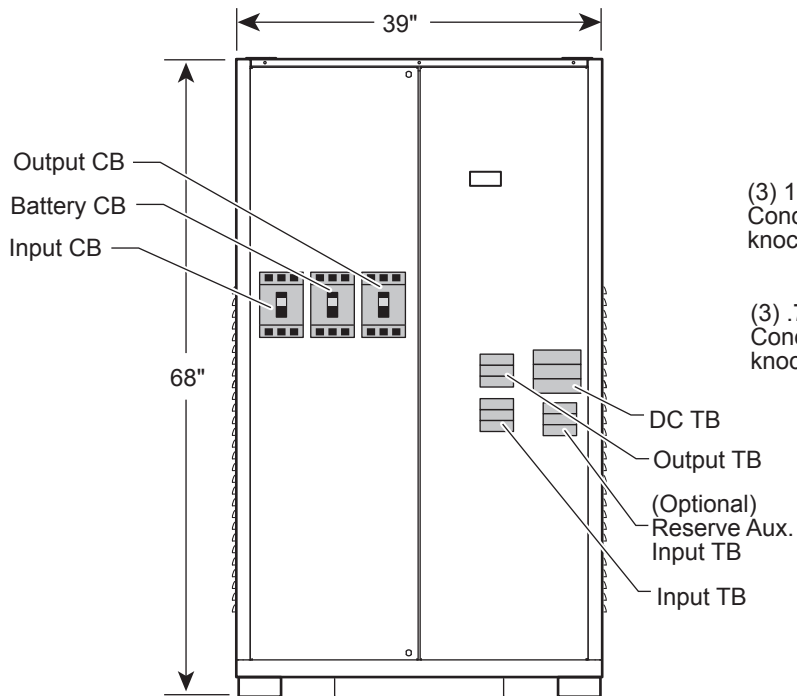


Rev. B: 5/22/06

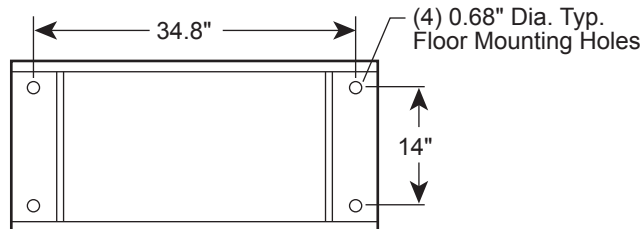
Rev. A: New



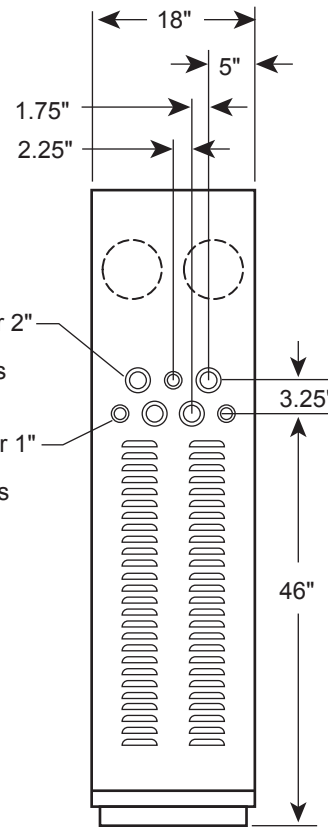
Top View



Front View

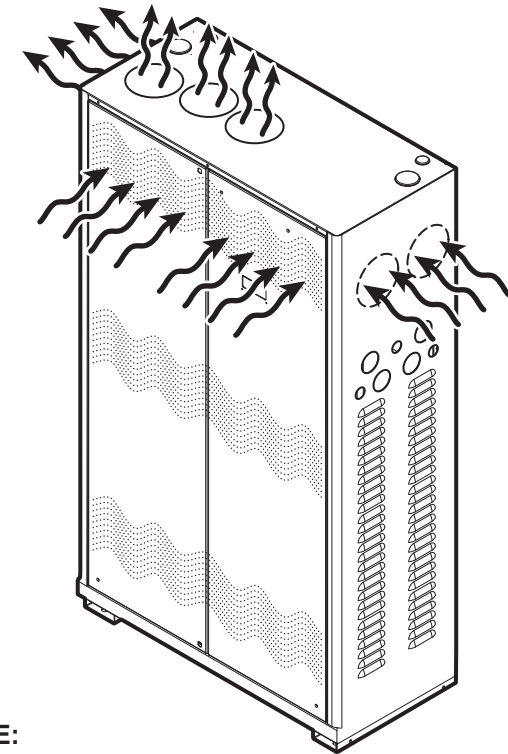


Bottom View



Side View
(Both Sides Typ.)

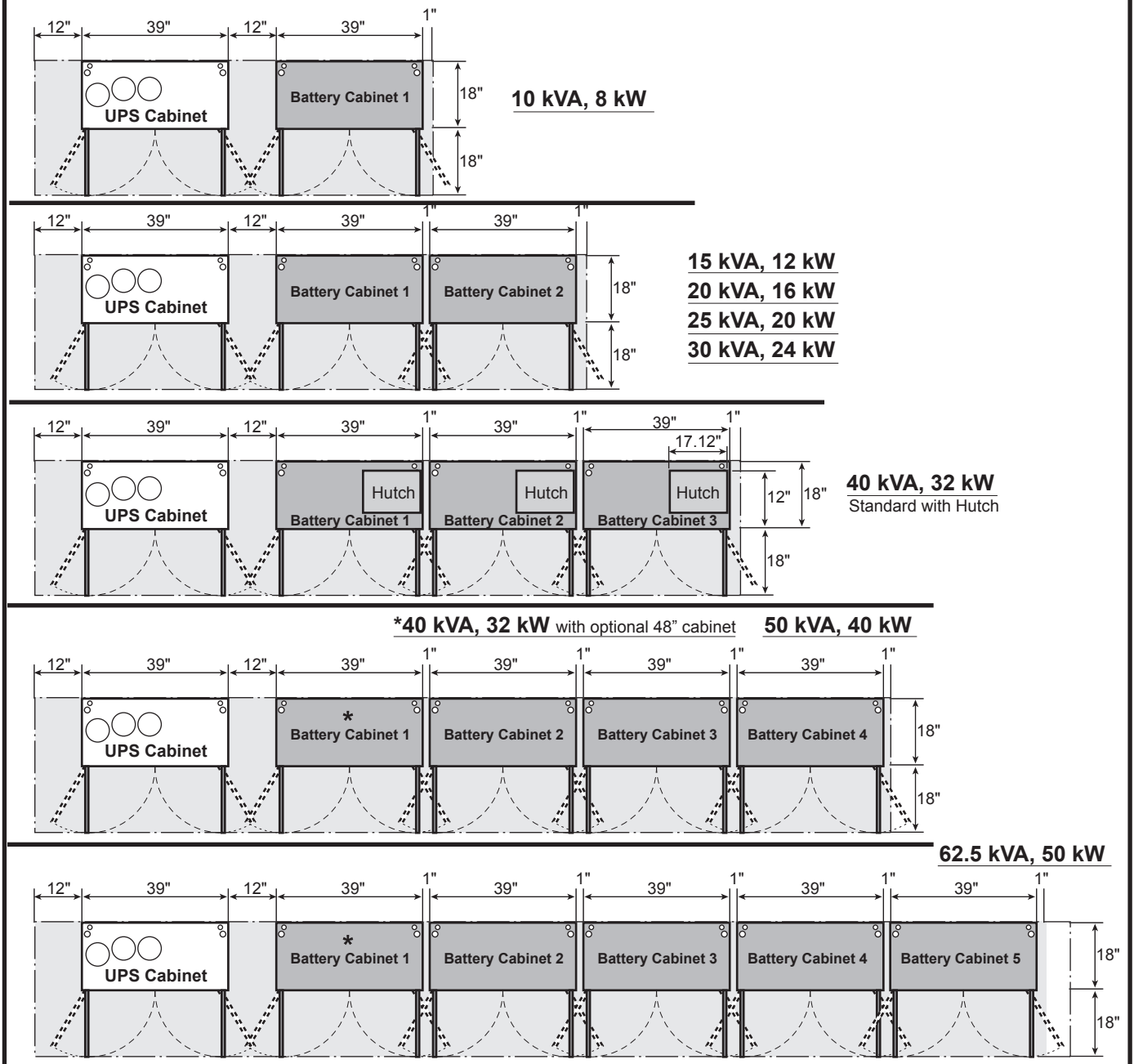
Air Flow



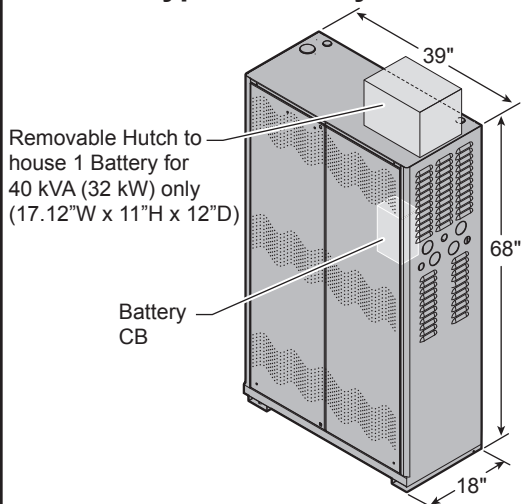
NOTE:

1. Matching Battery Cabinet has same physical dimensions. (see doc #: 6001-032-05, -06, 07 for Battery Cabinet layouts).
2. Both UPS and battery cabinet have top and sides conduit entry and same floor mounting hole dimensions.
3. Consult factory for size and number of battery cabinet.
4. Optional Seismic Brackets (P/N: 9100-1317-02) are available. When seismic bracket used, 8" minimum space required between cabinets. Anchoring hardware to be supply by customer.
5. Optional racks (P/N: 9100-1429-XX) available for stack battery cabinets. (see doc #: 6001-032-07).
6. Consult factory for different back-up times and number of battery cabinet require.
7. Air intake and exhaust can not be blocked, allow 12-15 inches clearance.

Drawn by: Chun Chi	Date: 2/23/07	Three Phase UPS Installation	
Chkd.:	Date:	Installation Drawing	
Appvd.:	Date:		
		6001-032-03 Rev C	



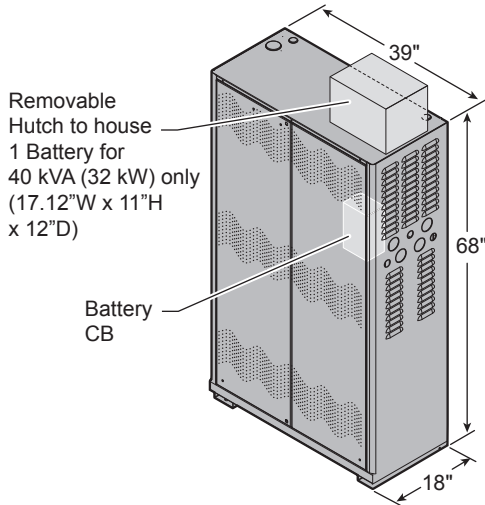
Typical Battery Cabinet



- NOTE:**
1. Service Clearance Areas are shaded.
 2. Each battery cabinet includes 1 C/B.
 3. Each battery cabinet have top and both sides conduit entry and same floor mounting hole dimensions as UPS cabinet. (See doc #: 6001-032-03 for detail).
 4. Optional Seismic Brackets (P/N: 9100-1317-02) are available. When seismic bracket used, 8" min. space required between cabinets. Anchoring hardware to be supply by the customer.
 5. Optional racks (P/N: 9100-1429-XX) available (except 40 kVA, 32 KW unit) for stack battery cabinets. (see doc #: 6001-032-07).
 6. Consult factory for different back-up times and number of battery cabinet require.

Drawn by: Chun Chi	Date: 2/1/06	UPS & Battery Cabinet Installations	
Chkd.:	Date:	3 Phase UPS	
Appvd.:	Date:		
		6001-032-05 Rev D	

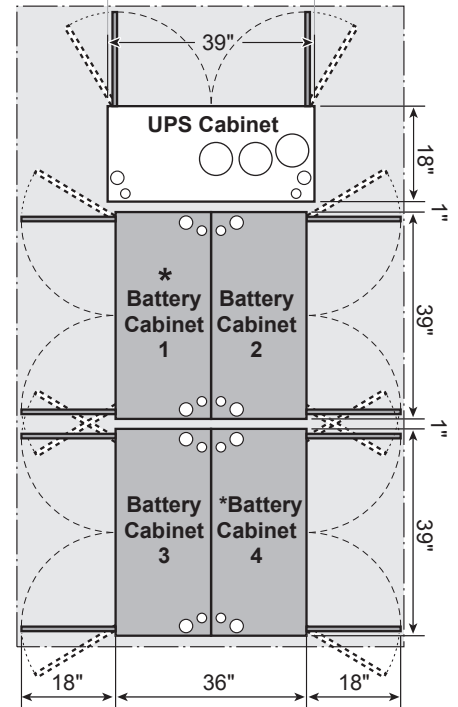
Typical Battery Cabinet



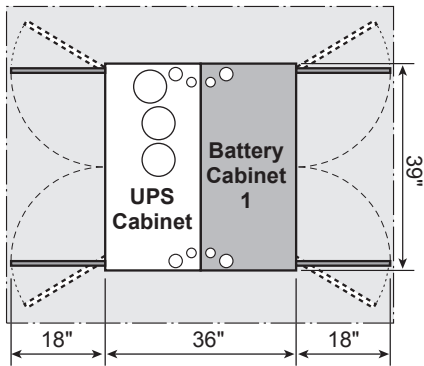
NOTE:

1. Service Clearance Areas are shaded.
2. Each battery cabinet includes 1 C/B.
3. Each battery cabinet have top and both sides conduit entry and same floor mounting hole dimensions as UPS cabinet. (See doc #: 6001-032-03 for detail).
4. Optional Seismic Brackets (P/N: 9100-1317-02) are available. When seismic bracket used, 8" min. space required between cabinets. Anchoring hardware to be supply by the customer.
5. Optional racks (P/N: 9100-1429-XX) available (except 40 kVA, 32 kW unit) for stack battery cabinets. (See doc #: 6001-032-07).
6. Consult factory for different back-up times and number of battery cabinet require.

***40 kVA, 32 kW**
with optional 48" cabinet
50 kVA, 40 kW

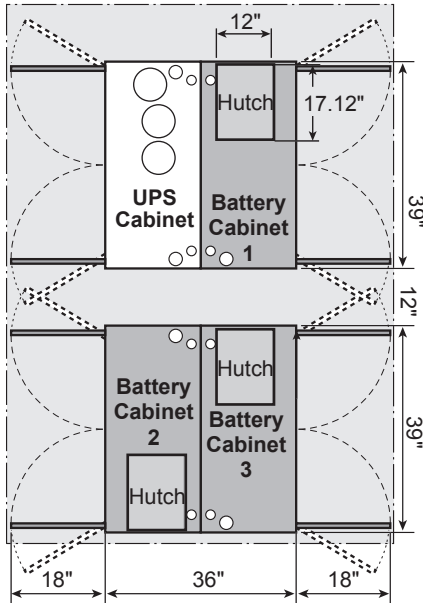


10 kVA, 8 kW

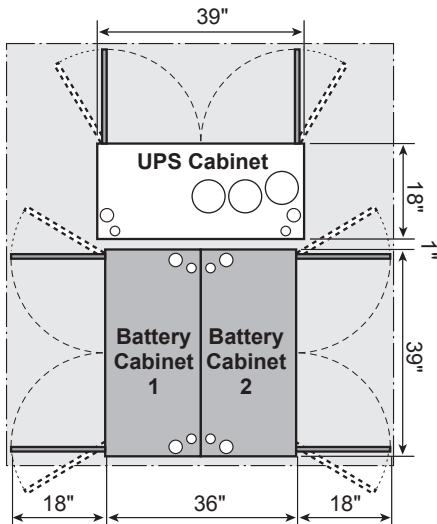


40 kVA, 32 kW

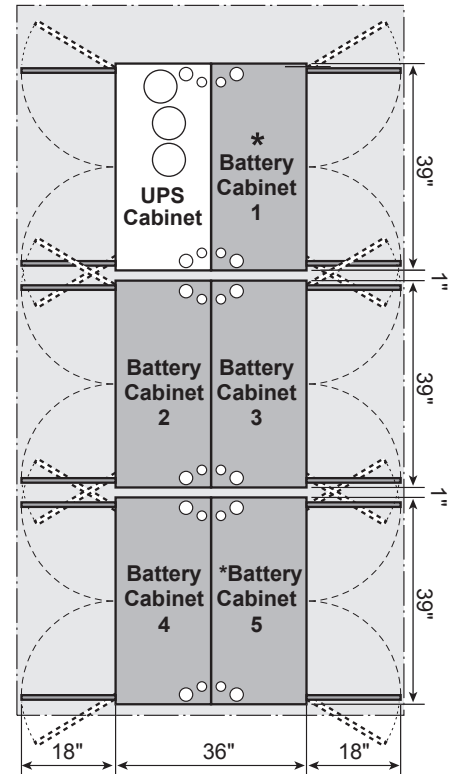
Standard with Hutch



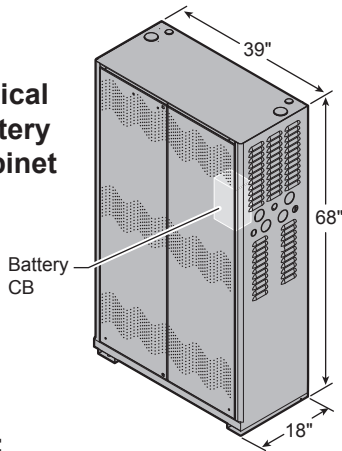
15 kVA, 12 kW
20 kVA, 16 kW
25 kVA, 20 kW
30 kVA, 24 kW



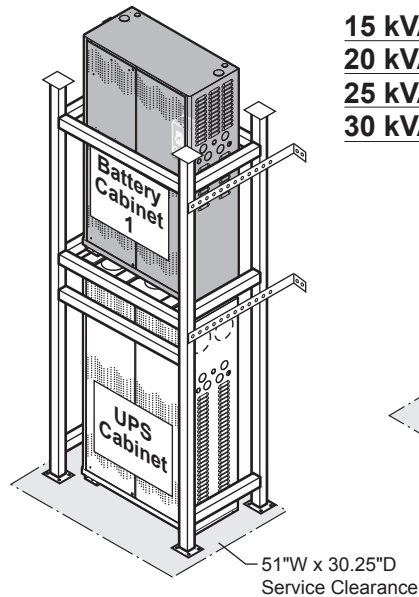
62.5 kVA, 50 kW



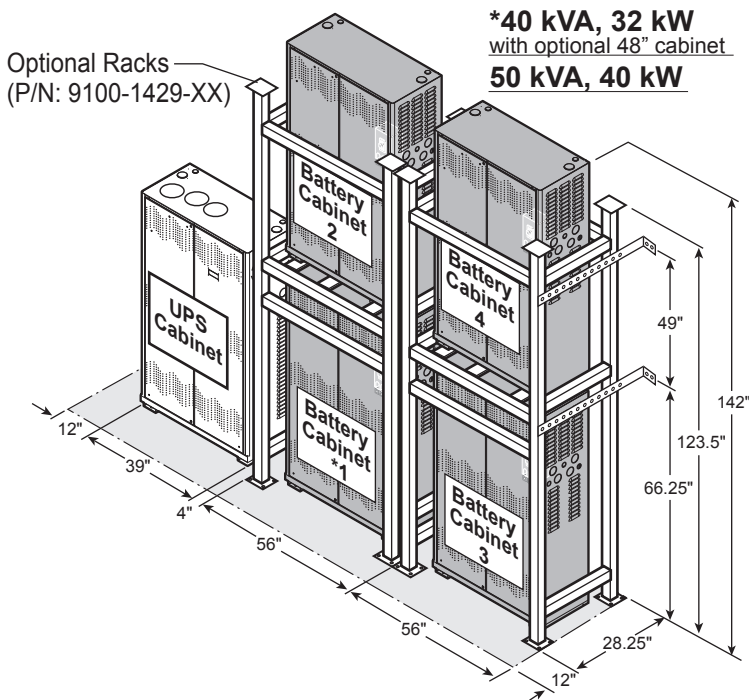
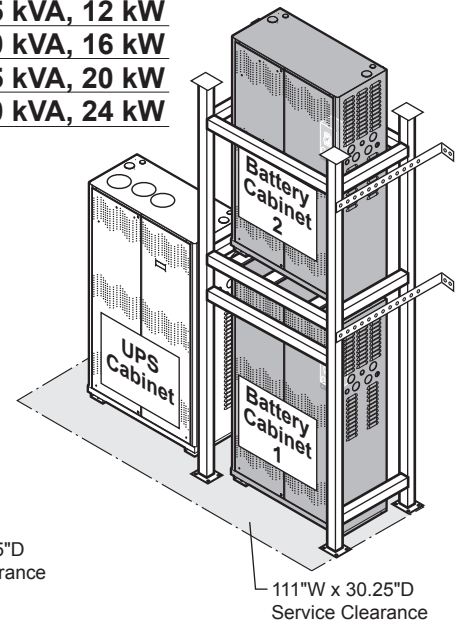
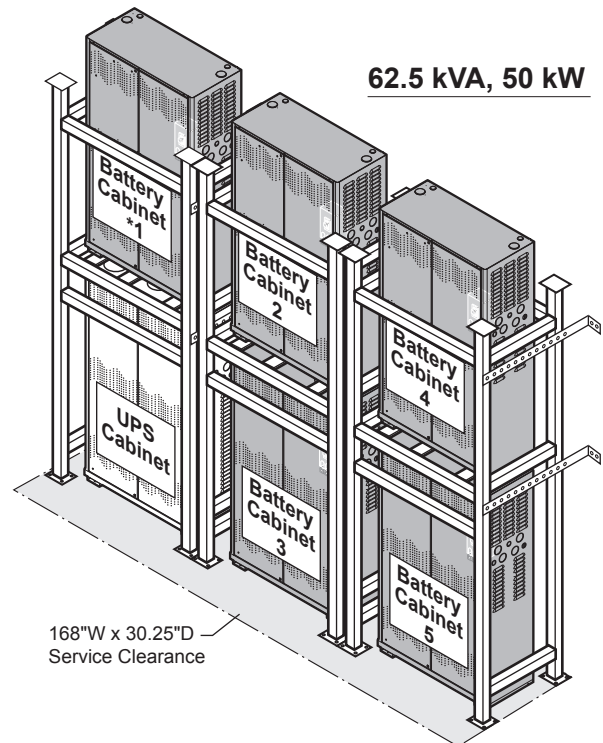
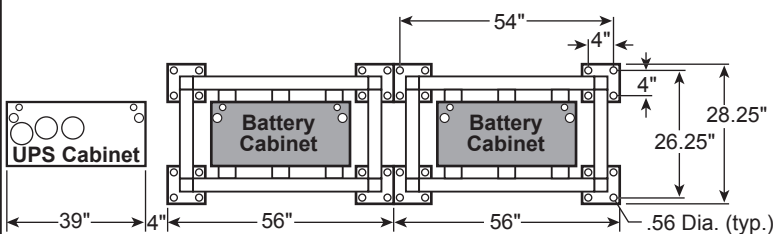
Drawn by: Chun Chi	Date: 2/1/06	UPS & Battery Cabinet Installations	
Chkd.:	Date:	3 Phase UPS	
Appvd.:	Date:		
		6001-032-06 Rev D	

Typical Battery Cabinet**NOTE:**

1. Stackable Rack is not available for **40 kVA, 32 kW units with Hutch option.**
2. Service Clearance Areas are shaded.
3. Each battery cabinet includes 1 C/B.
4. Each battery cabinet have top and both sides conduit entry and same floor mounting hole dimensions as UPS cabinet. (see doc #: 6001-032-03 for detail).
5. Optional Seismic Brackets (P/N: 9100-1317-02) are available. When seismic bracket used, 8" min. space required between cabinets. Anchoring hardware to be supply by the customer.
6. Consult factory for different back-up times and number of battery cabinet require.
7. The UPS cabinet can be installed on left or right.

10 kVA, 8 kW

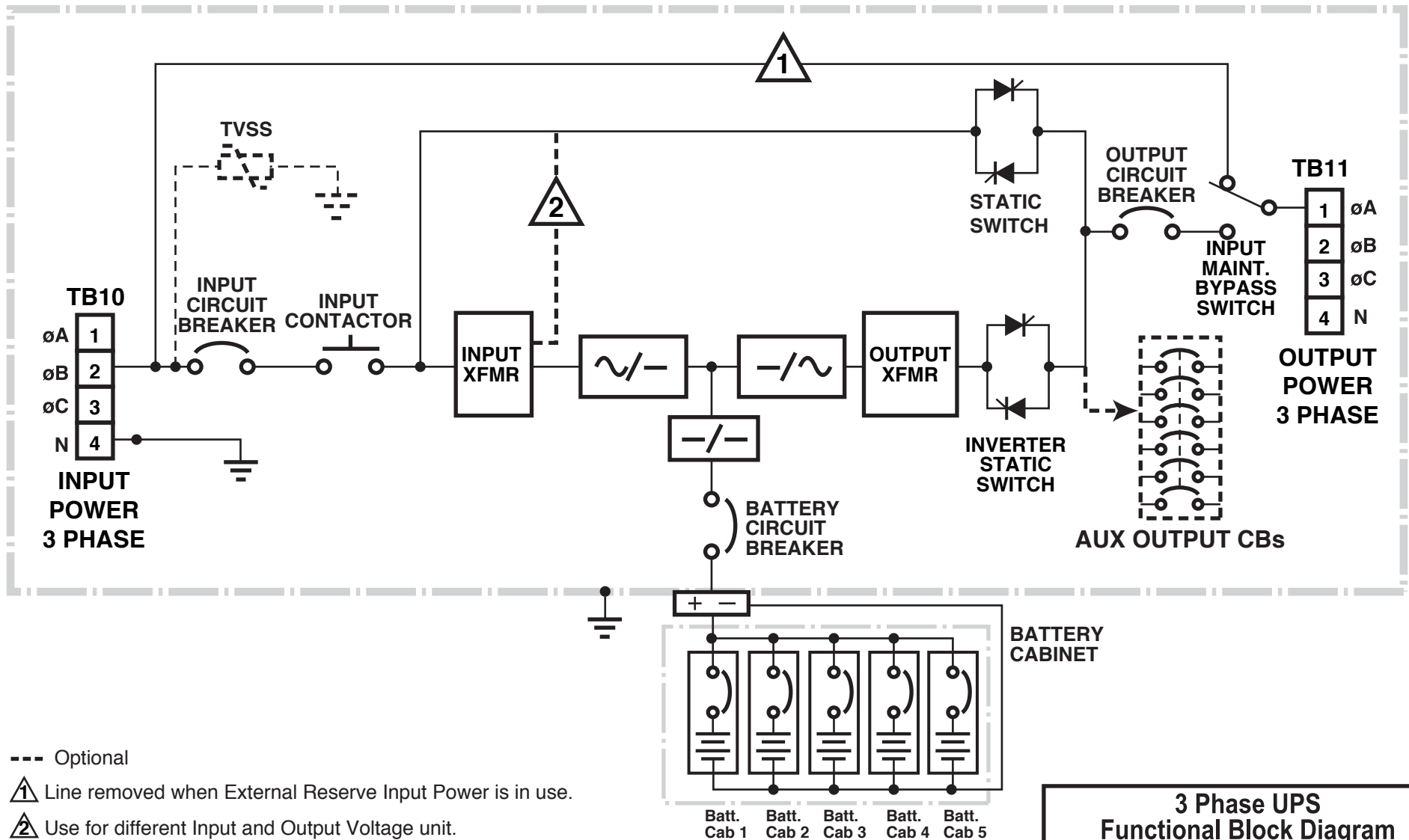
15 kVA, 12 kW
20 kVA, 16 kW
25 kVA, 20 kW
30 kVA, 24 kW

**62.5 kVA, 50 kW****Typical Rack Mounting Bottom View**

Drawn by:	Date:
Chun Chi	2/1/06
Chkd.:	Date:
Appvd.:	Date:

**UPS & Battery Cabinet Installations
with Stackable Rack****3 Phase UPS**

6001-032-07 Rev D



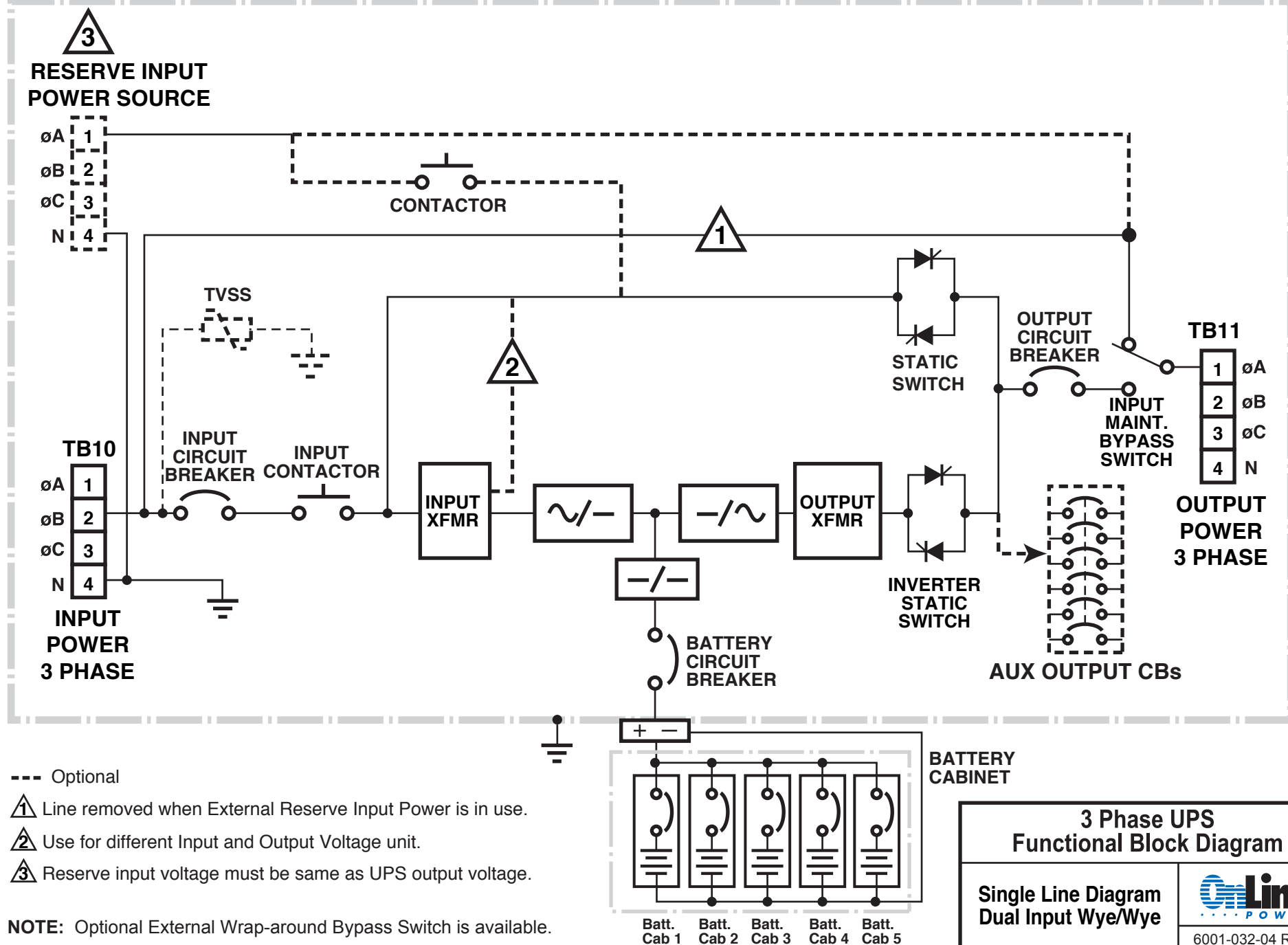
NOTE: Optional External Wrap-around Bypass Switch is available.

3 Phase UPS Functional Block Diagram

Single Line Diagram
Single Input



6001-032-11 Rev A



--- Optional

① Line removed when External Reserve Input Power is in use.

② Use for different Input and Output Voltage unit.

③ Reserve input voltage must be same as UPS output voltage.

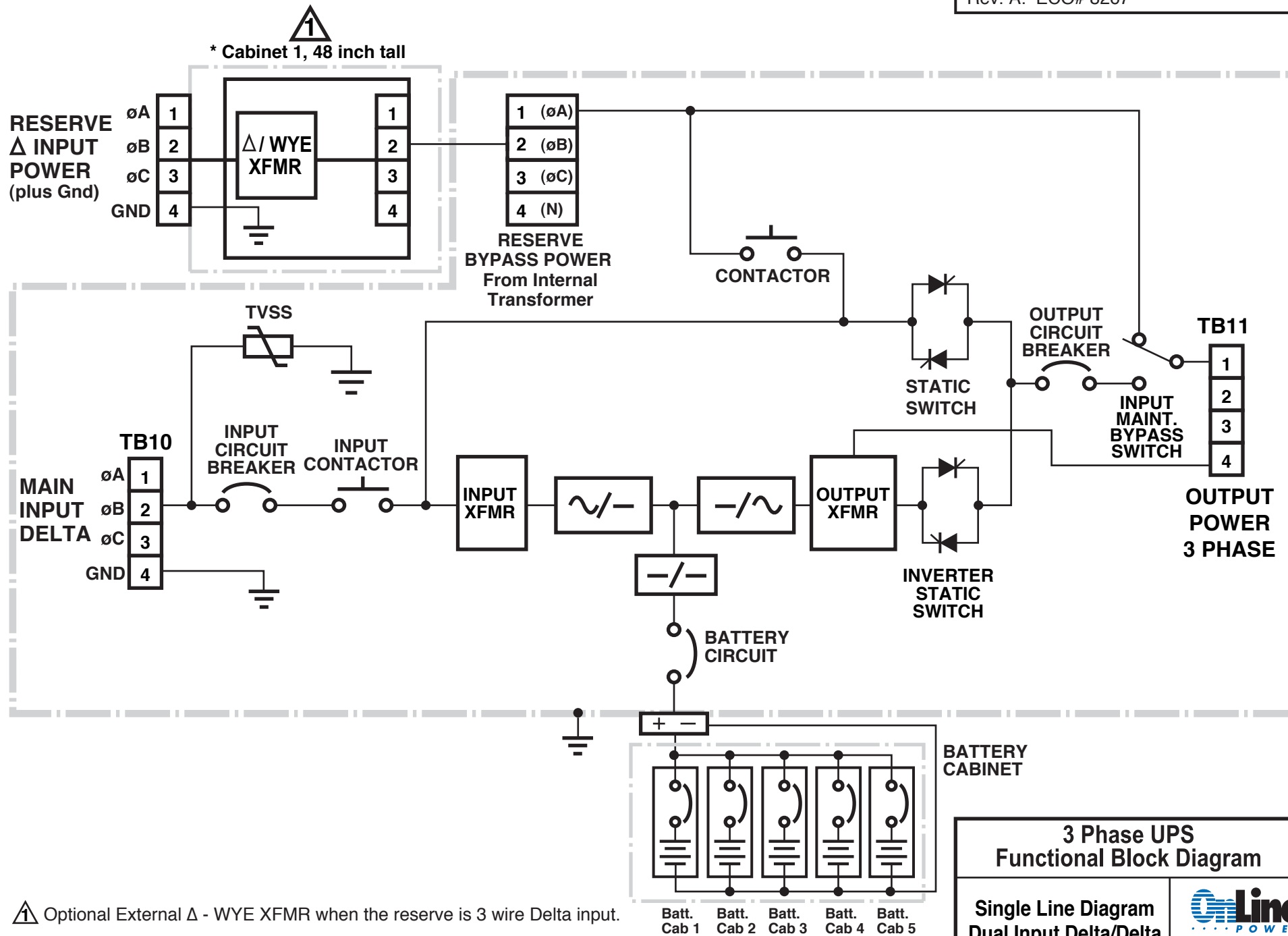
NOTE: Optional External Wrap-around Bypass Switch is available.

3 Phase UPS Functional Block Diagram

Single Line Diagram
Dual Input Wye/Wye



6001-032-04 Rev C



3 Phase UPS Functional Block Diagram

Single Line Diagram
Dual Input Delta/Delta



6001-032-10 Rev C

LOADS & DISTRIBUTION: CABINET

LIVE LOAD PER SHELF (BASED ON CLIENT SUPPLIED DATA) = wLL
 DEAD LOAD PER SHELF = wDL
 SEISMIC BASE SHEAR DETERMINED IN ACCORDANCE WITH SECTION 1630.2.1
 WHERE: $V = ((2.5 \times C_a \times I) / R) \times W_{total}$
 WHERE: $W_{total} = (wLL/1 + wDL)$
 SEISMIC ZONE = 4
 $C_a = 0.44 N_a$ WHERE $C_a = 0.44 N_a$ AND $N_a = 1$

$I = 1.00$
 SOIL COEF. = S_d
 R (LONGITUDINAL) = 5.6 (SECTION 2228.5.2)
 R (TRANSVERSE) = 4.4 (SECTION 2228.5.2)
 wDL = 20 LB
 $n = 1$
 DEPTH = 18 in
 SINGLE ROW UNITS

LONGITUDINAL DIRECTION:
 $V_{long} = [2.5 \times 0.44 \times 1 \times (2050/1 + 100)/5.6]/1.4$
 = 302 lb
 $F_i = V_{Wh}/\sum Wh$

TRANSVERSE DIRECTION:
 $V_{trans} = [2.5 \times 0.44 \times 1 \times (2050/1 + 100)/4.5]/1.4$
 = 384 lb
 $F_i = V_{Wh}/\sum Wh$

SEISMIC DISTRIBUTION:

LEVEL	h IN	WEIGHT LB	HEIGHT IN	W X H LB-IN	F _i (long) LB	F _i (trans) LB
1	3.0	410	3.0	1,230	4.9	8.2
2	17.0	410	20.0	8,200	32.6	41.5
3	17.0	410	37.0	15,170	60.3	76.8
4	17.0	410	54.0	22,140	88.1	112.1
5	17.0	410	71.0	29,110	115.8	147.3

71 IN

Σ =

75,850

302 LB

384 LB

TOTAL FRAME LOAD = 2150 LB

OVERTURNING ANALYSIS: CABINET

ANALYSIS OF OVERTURNING WILL BE BASED ON SECTION 2228.7.1

DEPTH = 18 in
 TOP LEVEL HEIGHT = 71 in
 FULLY LOADED:
 Total Shear = 384 lb
 $M_{ot} = \sum (F_i \times h_i) \times 1.15$
 = 23,233 in-lb
 $M_{st} = \sum (W_p + wDL) \times D/2$
 = (2050 lb + 100 lb) × 18 in/2
 = 19,350 in-lb
 $P_{uplift} = 1(M_{ot} - M_{st})/Depth$
 = (23233 - 19350)/18
 = 216 lb <= UPLIFT

TOP SHELF LOADED:
 Shear = 77 lb
 $M_{ot} = V_{top} \times h_t$
 = 77 lb × 71 in
 = 5,452 in-lb
 $M_{st} = (W_p + wDL) \times D/2$
 = (410 lb + 100 lb) × 18/2
 = 4,590 in-lb
 $P_{uplift} = 1(M_{ot} - M_{st})/Depth$
 = 48 lb <= UPLIFT

ANCHORS

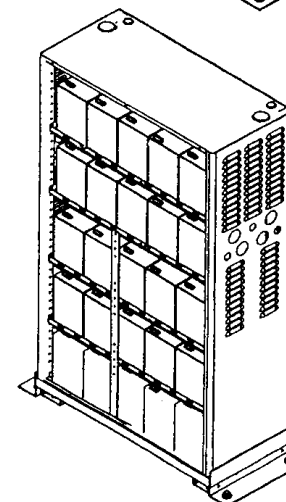
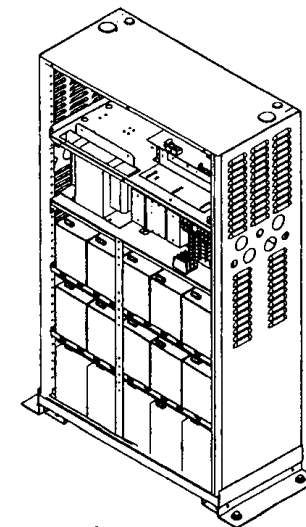
QUANTITY = 2
 PULLOUT = 1250 LB <== 33 1/3% INCREASE FOR SHORT TERM LOADING DUE TO SEISMIC
 SHEAR = 2453 LB <== 33 1/3% INCREASE FOR SHORT TERM LOADING DUE TO SEISMIC
 Eq. = $(P_u/P_t) \wedge 5/3 + (V_u/V_t) \wedge 5/3 \leq 1.0$

INTERACTION EQUATION:

FULLY LOADED = $(216 \text{ lb}/2500 \text{ lb}) \wedge 5/3 + (192 \text{ lb}/4906 \text{ lb}) \wedge 5/3$
 = 0.02 <1.0 OK

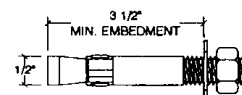
TOP SHELF LOADED = $(48 \text{ lb}/2500 \text{ lb}) \wedge 5/3 + (38 \text{ lb}/4906 \text{ lb}) \wedge 5/3$
 = 0.00 <1.0 OK

USE (2) 1/2" x 3-1/2" MIN. EMBED. HILTI KWIK BOLT II (I.C.B.O. #4827) OF APPROVED EQUAL
 PULL OUT CAPACITY IS THAT OF WITHOUT SPECIAL INSPECTION.

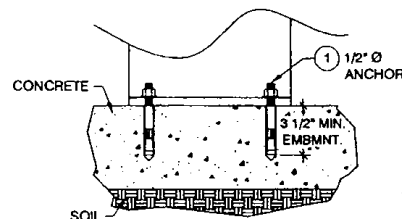


NOTES:

- DESIGNED PER CHAPTER 22, DIVISION X OF THE 2001 CBC & 2002 L.A. COUNTY BLDG. CODE. SEISMIC ZONE 4, $N_a = 1.0$.
- STORAGE CAPACITY: 410# PER LEVEL.
- ASTM A570 FOR SHAPE $F_y = 50,000$ PSI GRADE 50.
- ALL BOLTS A307 (UNLESS OTHERWISE NOTED).
- ANCHORS HILTI KWIK BOLT II, ICC #ESR-1355 OR APPROVED EQUAL.
- SPECIAL INSPECTION IS NOT REQUIRED FOR ANCHOR INSTALLATION.
- CONCRETE 5" THICK x 2,500 PSI.
- SOIL BEARING PRESSURE 1,000 PSF.



(2) REQ'D PER BASE PLATE



TYPICAL LOADING PROFILE

REV.	DATE	BY	DESCRIPTION
Δ	03/22/06	V.L.	ADD TYPICAL LOADING PROFILE

SEIZMIC
EST. 1985

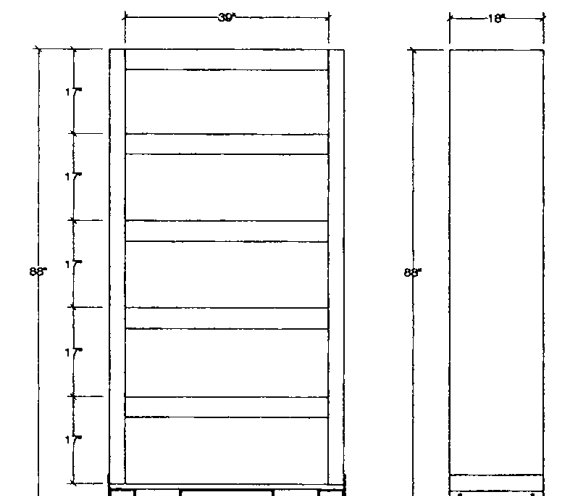
SEIZMIC MATERIAL HANDLING ENGINEERING
161 Atlantic Street
Pasadena, California 91768
Tel. (909) 869-0969 / (909) 869-0981

TYPE: ON LINE PWR	DRAWN BY: L.E.	DATE: 7/15/04
CALIFORNIA CONTRACTORS LICENSE NO. 006374	LAST REV. BY: V.L.	DATE: 03/22/06
APPROV BY: SAL E. FATEEN		SCALE: N.T.S.

DESCRIPTION: **CABINET DETAIL**

ADDRESS: **ON LINE POWERS, INC.**
5940 TRIUMPH STREET
COMMERCE, CA 90040

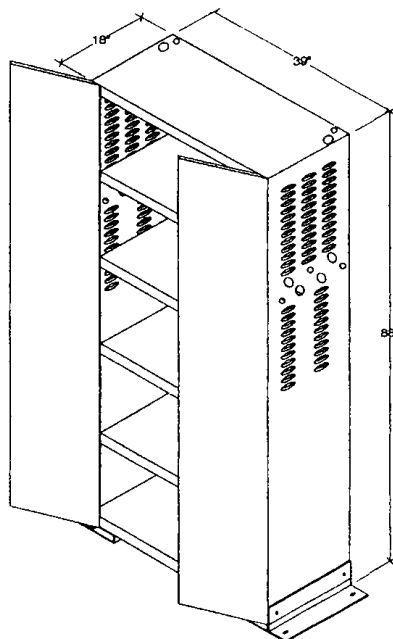
DRAWING NUMBER: **04-0959A**



FRONT VIEW

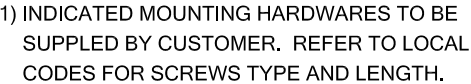
SIDE VIEW

CABINET ELEVATIONS



GENERAL CONFIGURATION

1 ANCHOR



16		1/4" HEX NUT	8
15		3/8" HEX NUT	26
14		1/4" SPLIT LOCK WASHER	8
13		3/8" SPLIT LOCK WASHER	26
12		1/4" FLAT WASHER	16
11		3/8" FLAT WASHER	52
10		1/4-20 X 1" HEX BOLT	8
9		3/8-16 X 5" HEX BOLT	6
8		3/8-16 X 3" HEX BOLT	20
7	5006-316	UPPER SEISMIC BRACKET	2
6	5006-315	LOWER SEISMIC BRACKET	2
5	5006-318	WALL MOUNT BRACKET	4
4	5006-317	FRONT CROSS BAR	1
3	5006-319	REAR CROSS BAR	2
2	5006-322	BASE	1
1	5006-321	SIDE FRAME	2
ITEM	PART NO	DESCRIPTION	QTY

PARTS LIST			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS FRACTIONS ANGLES .XX ± .03 ± 1/64 ± 1/2° .XXX ± .010		 COMMERCE, CA	
		TITLE RACK ASSEMBLY (48/68 OR 68/68)	
CADD:	HAI NGUYEN	2/7/05	
CHKD:	HAI NGUYEN	2/7/05	
APPVD:	H. BAIK	2/7/05	
		SIZE B	DWG 9100-1429-11
		SCALE:	EST. WT:
		SHT 1 OF 1	