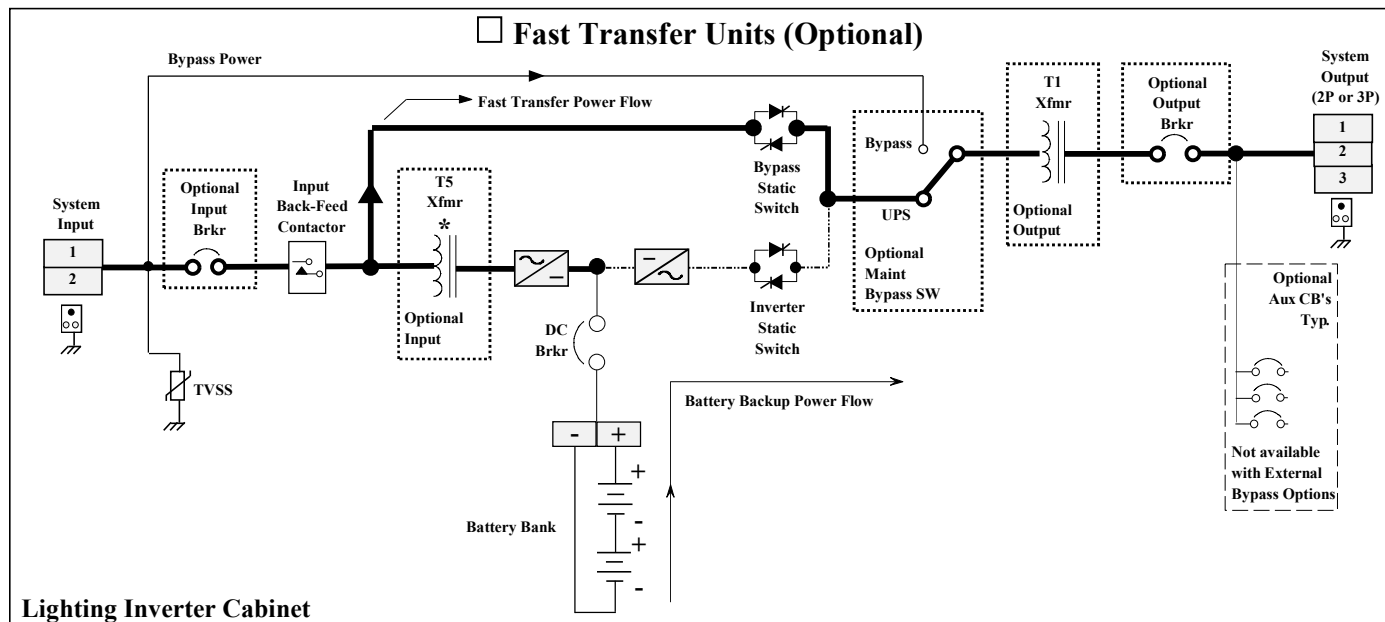
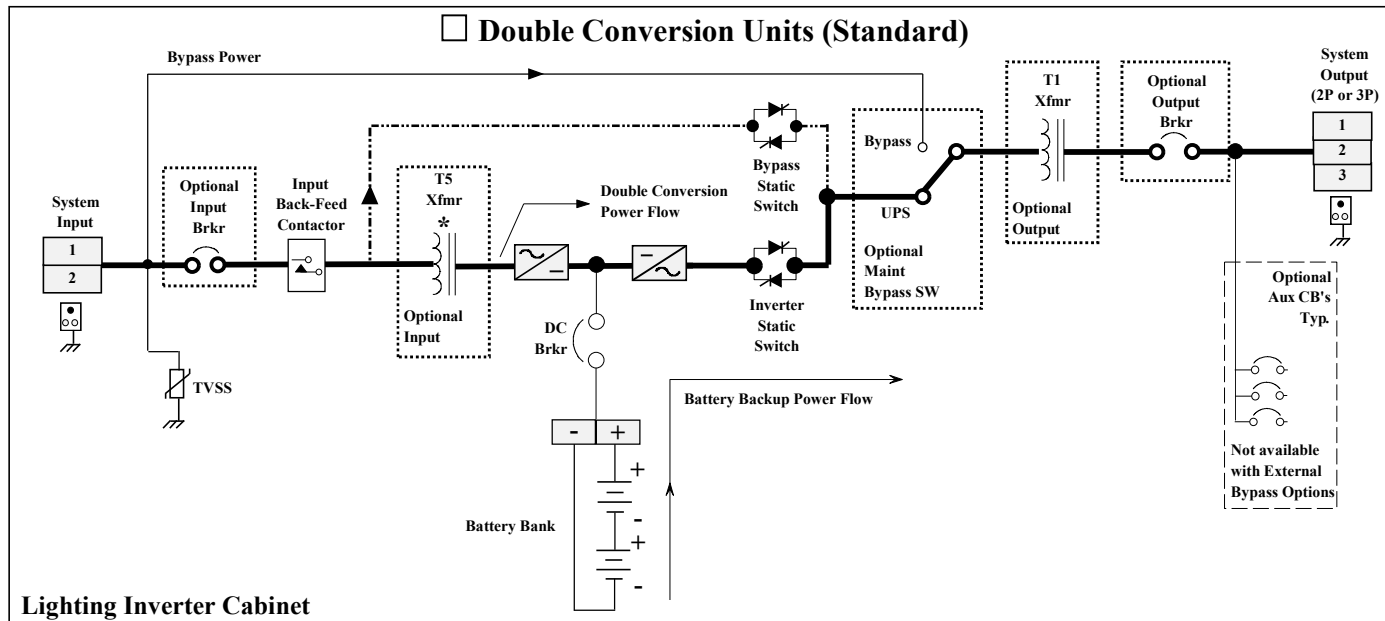


1 PHASE LIGHTING INVERTER TYPICAL SINGLE LINE DIAGRAM

INDOOR & OUTDOOR UNITS

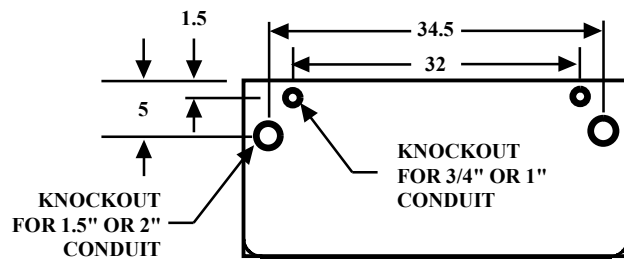


NOTES:

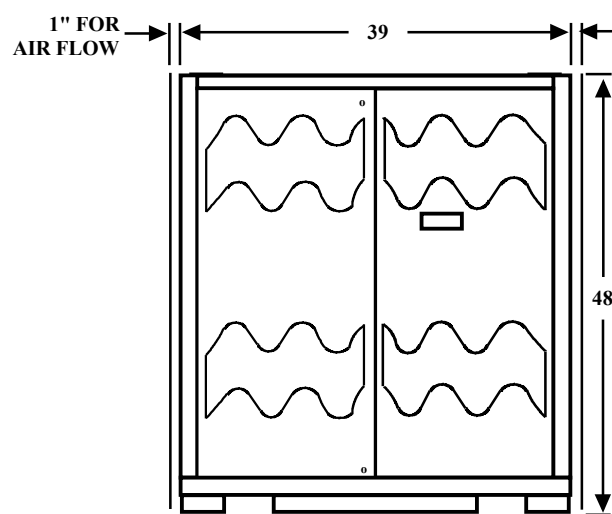
- *Static Bypass and Manual Bypass:
will be powered from the transformer for different input and output voltage configurations.
- Dotted blocks are optional features.

TYPICAL 1-PH LIGHTING INVERTER SINGLE LINE DIAGRAM		SHT 1 OF 1
 CRUCIAL POWER PRODUCTS SUBJECT TO CHANGE WITHOUT NOTICE		
DRAWN : SHERRIS.	12/01/22	410-TD-010
APPVD : H.N	12/01/22	
		REV B

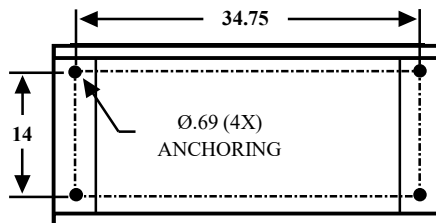
2.1 KW THRU 3 KW INVERTER WITH 90 MIN. BACKUP STD VRLA BATTERY



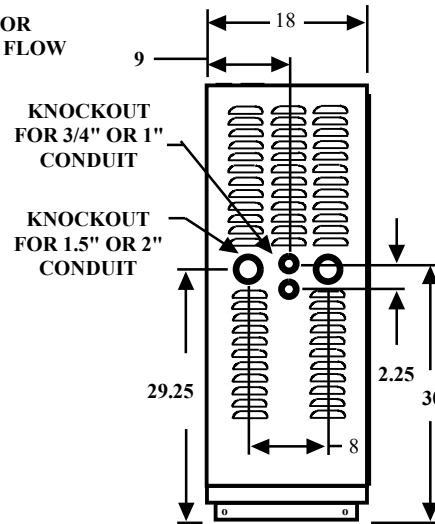
TOP VIEW



FRONT VIEW

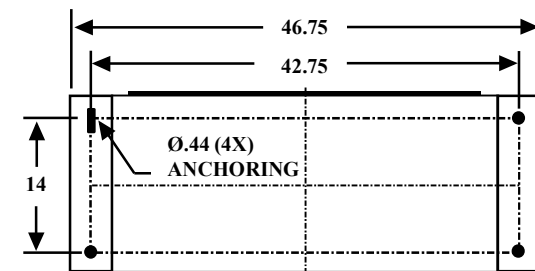


BOTTOM VIEW



SIDE VIEW

INSTALLATION WITH EXTERNAL SEISMIC BRACKETS FOR ZONE 4



BOTTOM VIEW

NOTES:
ALL DIMENSIONS ARE IN INCHES.

1-PHASE UPS, WAVE RIDER 1
TECHNICAL DRAWINGS

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SHERRIS.

12/01/22

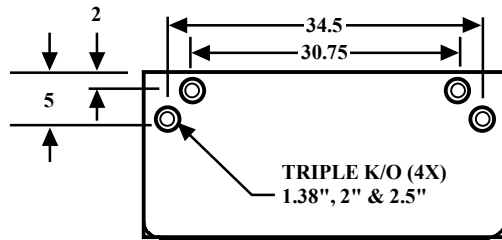
APPVD : H.N

12/01/22

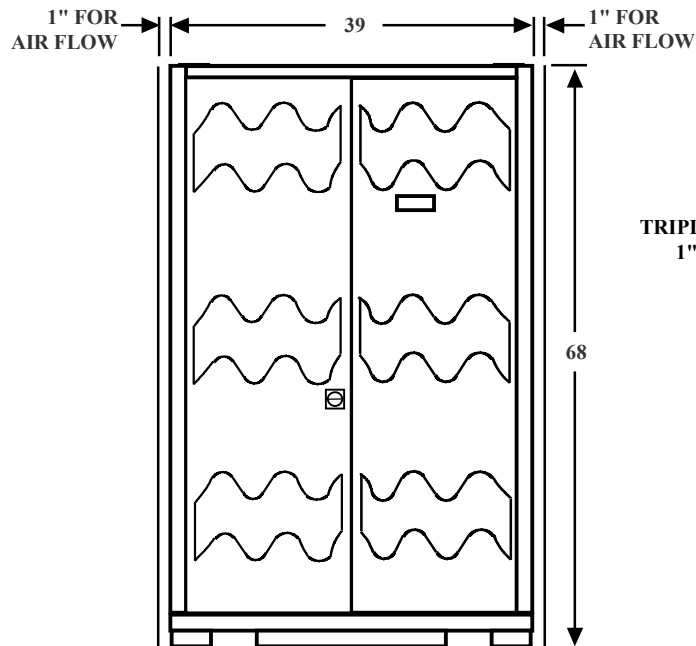
410-TD-011

REV
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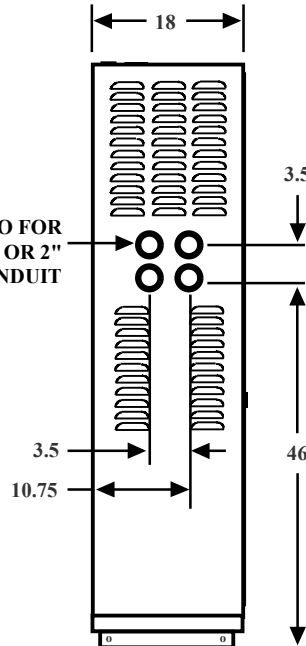
5, 6, & 8 KW INVERTER WITH 90 MIN. BACKUP STD VRLA BATTERY



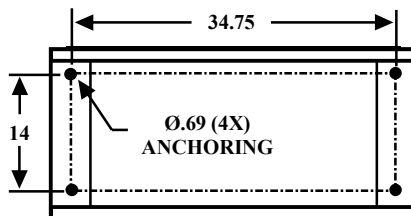
TOP VIEW



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

NOTES:
ALL DIMENSIONS ARE IN INCHES.

NOTES:

ANCHORS FOR INTEGRATED SEISMIC MOUNTING:

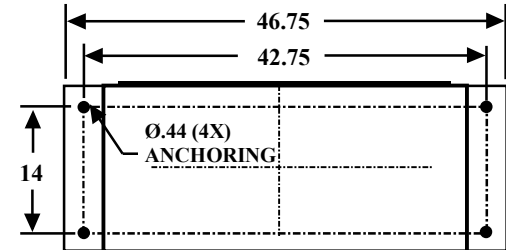
1. USE 5/8" DIA x 3-3/4" MIN. EMBED HILTI KB-TZ ANCHORS, ICCESR-1917 (LARR#25701) OR APPROVED EQUAL (4) TOTAL PER CABINET, (2) PER ANCHOR BRACKET
2. CONCRETE 5" THICK x 2,500 PSI (MIN. REQ'D).
3. SOIL BEARING PRESSURE 500PSF (MIN. REQ'D)

ANCHORS FOR EXTERNAL SEISMIC BRACKET:

1. USE 1/2" DIA x 3-1/2" MIN. EMBED HILTI KB-TZ, ICCESR-1917 (LARR#25701) OR APPROVED EQUAL (4) TOTAL PER CABINET.
2. CONCRETE: 5" THICK x 2,500 PSI. (MIN. REQ'D).
3. SOIL BEARING PRESSURE: 500PSF. (MIN. REQ'D).

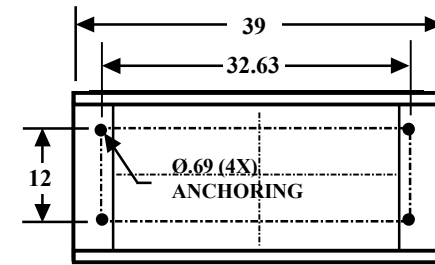
FOR ALL DETAILS REFER TO SEISMIC DWG. FOR EACH CABINET MOUNTING

INSTALLATION WITH EXTERNAL SEISMIC BRACKETS FOR ZONE 4



BOTTOM VIEW

INSTALLATION WITH INTEGRATED SEISMIC MOUNTING FOR ZONE 4



BOTTOM VIEW

1-PHASE UPS, WAVE RIDER 1
TECHNICAL DRAWINGS

SHT
1 OF 1



Crucial Power Products

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN: SHERRIS.

12/01/22

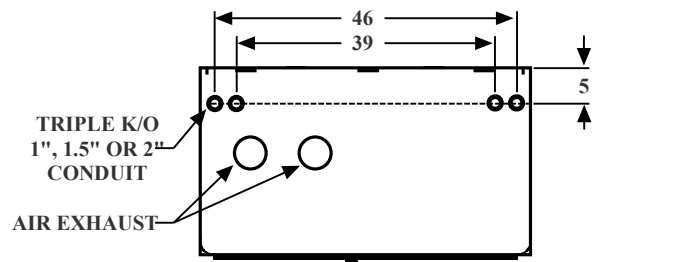
APPVD: H.N

12/01/22

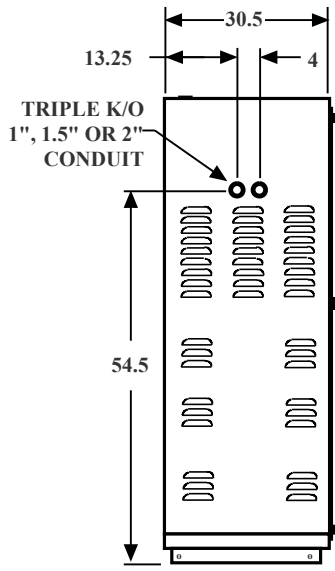
410-TD-012

REV
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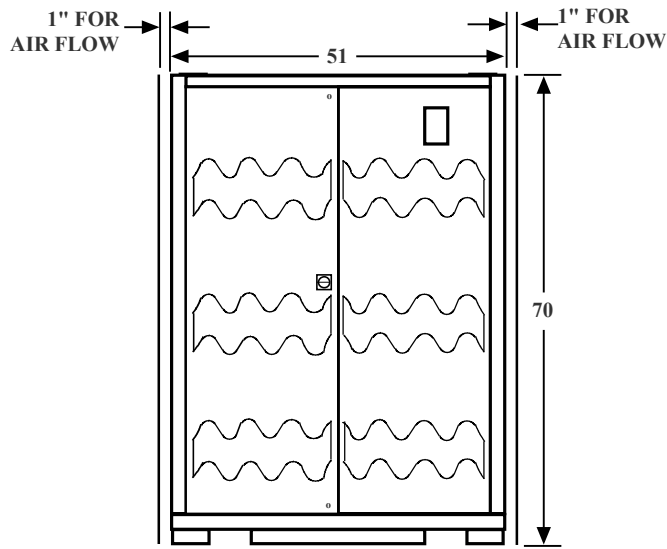
10 KW THRU 17 KW INVERTER WITH 90 MIN. BACKUP STANDARD VRLA BATTERY



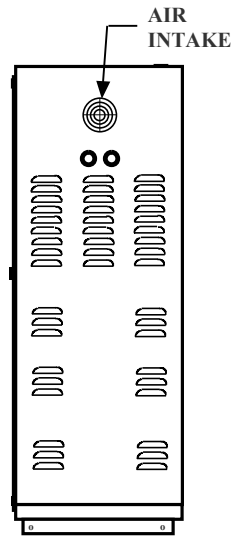
TOP VIEW



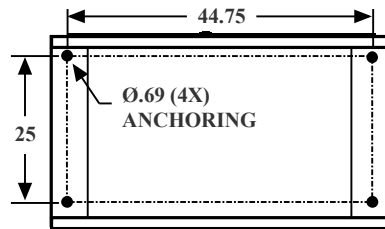
LEFT VIEW



FRONT VIEW

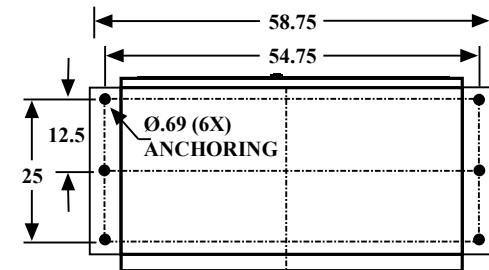


RIGHT VIEW



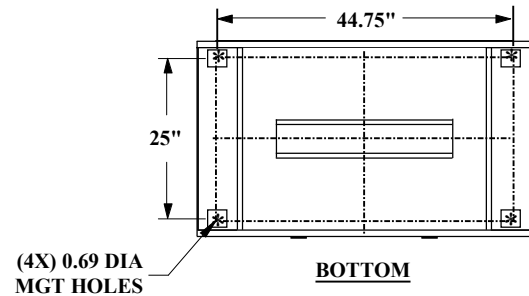
BOTTOM VIEW

INSTALLATION WITH EXTERNAL SEISMIC BRACKETS FOR ZONE 4



BOTTOM VIEW

INSTALLATION WITH INTEGRATED SEISMIC MOUNTING FOR ZONE 4



*- DENOTES ANCHOR LOCATION

NOTES:

ANCHORS FOR INTEGRATED SEISMIC MOUNTING:

1. USE 5/8" DIA x 3-3/4" MIN. EMBED HILTI KB-TZ ANCHORS, ICCESR-1917 (LARR 25701) OR APPROVED EQUAL (4) TOTAL PER CABINET, (2) PER ANCHOR BRACKET
2. CONCRETE: 5" THICK x 2,500 PSI (MIN REQ'D).
3. SOIL BEARING PRESSURE: 500 PSF (MIN. REQ'D)

ANCHORS FOR EXTERNAL SEISMIC BRACKET:

1. USE 1/2" DIA x 2-3/8" MIN. EMBED HILTI KB-TZ, ICCESR-1917 OR APPROVED EQUAL (6) TOTAL PER CABINET.
2. CONCRETE: 5" THICK x 2,500 PSI. (MIN REQ'D).
3. SOIL BEARING PRESSURE: 500 PSF. (MIN. REQ'D).

FOR ALL DETAILS REFER TO SEISMIC DWG. FOR EACH CABINET MOUNTING

NOTES:

ALL DIMENSIONS ARE IN INCHES.

1-PHASE UPS, WAVE RIDER 1
TECHNICAL DRAWINGS

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SHERRIS.

12/01/22

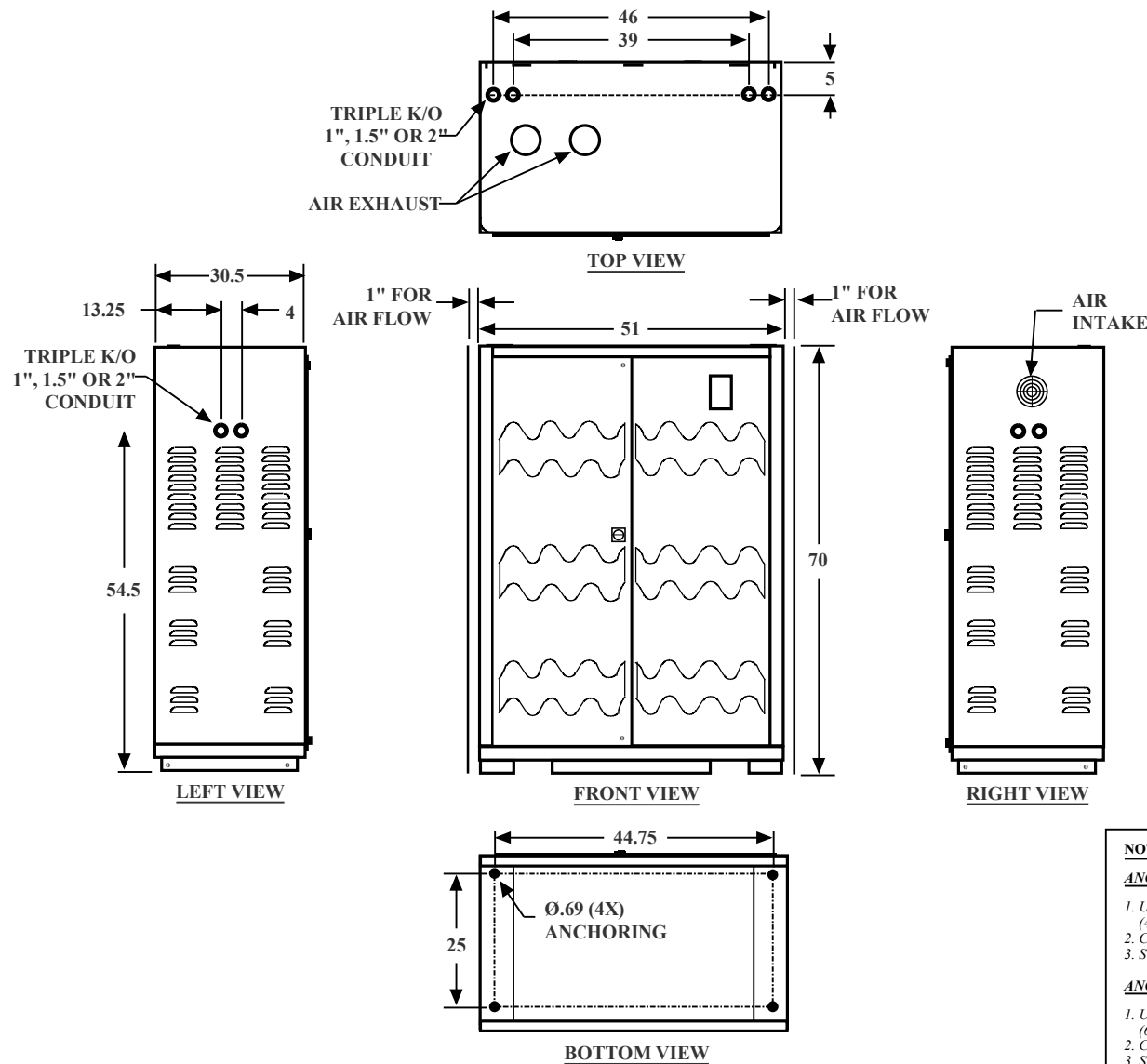
APPVD : H.N

12/01/22

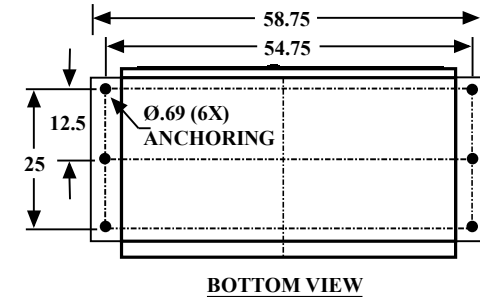
410-TD-013

REV
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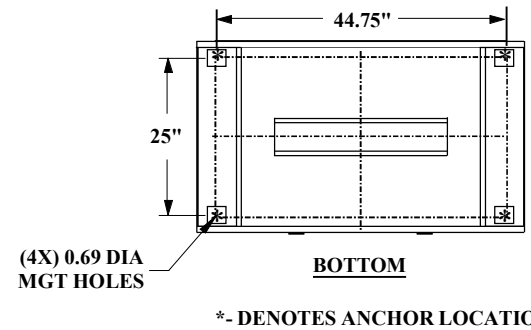
2.1 KW THRU 17 KW INVERTER WITH 90 MIN. BACKUP LONG LIFE BATTERY



INSTALLATION WITH EXTERNAL SEISMIC BRACKETS FOR ZONE 4



INSTALLATION WITH INTEGRATED SEISMIC MOUNTING FOR ZONE 4



NOTES:

ANCHORS FOR INTEGRATED SEISMIC MOUNTING:

1. USE 5/8" DIA x 3-3/4" MIN. EMBED HILTI KB-TZ ANCHORS, ICCES ESR-1917 (LARR-25701) OR APPROVED EQUAL (4) TOTAL PER CABINET, (2) PER ANCHOR BRACKET
2. CONCRETE: 5" THICK x 2,500 PSI (MIN REQ'D).
3. SOIL BEARING PRESSURE 500 PSF (MIN. REQ'D)

ANCHORS FOR EXTERNAL SEISMIC BRACKET:

1. USE 1/2" DIA x 2-3/8" MIN. EMBED HILTI KB-TZ, ICCES ESR-1917 OR APPROVED EQUAL (6) TOTAL PER CABINET.
2. CONCRETE: 5" THICK x 2,500 PSI. (MIN REQ'D).
3. SOIL BEARING PRESSURE: 500 PSF. (MIN. REQ'D).

FOR ALL DETAILS REFER TO SEISMIC DWG. FOR EACH CABINET MOUNTING

NOTES:

- 1) ALL DIMENSIONS ARE IN INCHES.
- 2) LONG-LIFE BATTERY OPTION: 14KW THRU 17KW HAS 2 CABINETS: ONE FOR ELECTRONICS/INVERTER AND ONE FOR BATTERIES

1-PHASE UPS, WAVE RIDER 1
TECHNICAL DRAWINGS

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SHERRIS.

12/01/22

APPVD : H.N

12/01/22

410-TD-014

REV
A

REMOTE STATUS PANEL

**SIDE
MOUNT
PROVISION**

**BACK
MOUNT
PROVISION**

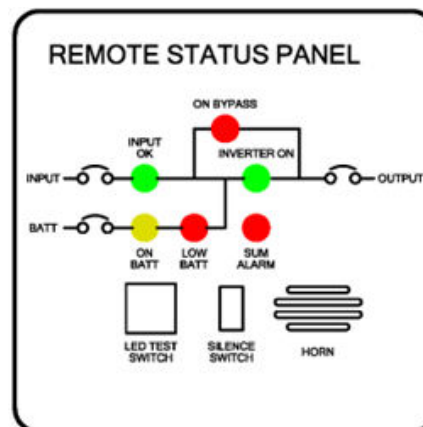


**USE
BUMPER
FOR
CONSOLE
INSTALL**

**TO UPS P100 TERMINAL
BLOCK
SEE INSTALLATION
INSTRUCTION SHIPPED
WITH THE ASSEMBLY**

Remote Status Panel displays the following:

INPUT OK:	Input power is within acceptable range
INVERTER ON:	Inverter is on
ON BYPASS:	Unit is on Bypass Mode
ON BATT:	Unit is running from Battery
LOW BATT:	Battery voltage is at low voltage before shutdown
SUM ALARM:	Unit is on critical alarm such as: Over temperature, DC OV/UV
HORN:	Audible warning for alarm condition
SILENCE WATCH:	Silences the audible warning
LED TEST:	Tests the LED's by push in



NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. 7.5KW CAN BE IN 39" OR 51" WIDE CABINET DEPENDING ON THE BATTERY TYPE.

REMOTE STATUS PANEL ASSEMBLY

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : M.TANG

12/07/22

APPVD : H.N

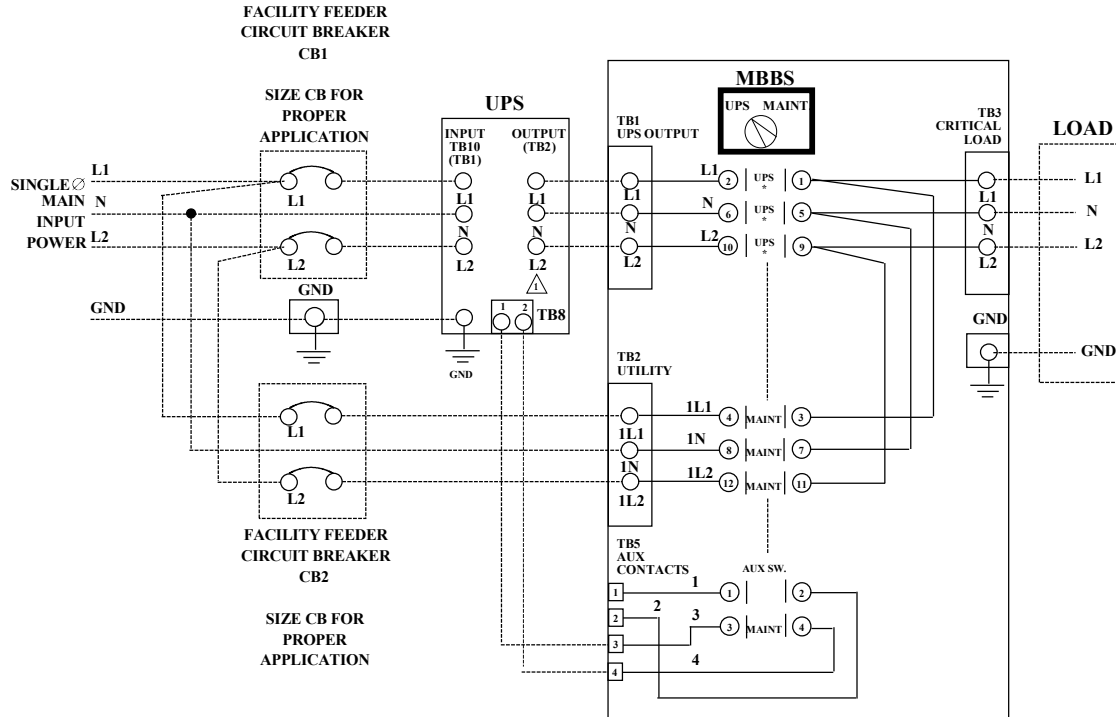
12/07/22

410-SV-TD-014

REV
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INDOOR & OUTDOOR UNITS

SINGLE-PHASE "MAKE BEFORE BREAK" EXTERNAL WRAP AROUND BY-PASS SWITCH

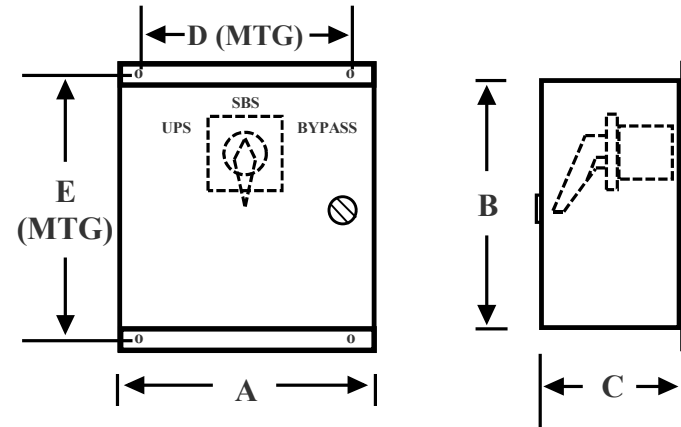


SWITCH DIMENSIONS

3000-046	175 AMPS	20	20	12	18.5	18.5
3000-045	110 AMPS	14	16	10	12	16.75
3000-044	55 AMPS	14	16	6	12	16.75
PART NUMBER	RATING	DIM A	DIM B	DIM C	DIM D (MTG)	DIM E (MTG)

SELECTION CHART FOR SINGLE PHASE UPS

KVA 3	KVA 5	KVA 7.5	KVA 10	KVA 15	KVA 20	FOR WIRING DIAGRAM SEE DWG
3000-044	3000-044	3000-044	3000-045	3000-045	3000-045	6001-032-11-S



NOTES:

- 1) FOR 120 VOLT TB2-1-2
FOR 240 VOLT TB2-5-1
FOR 277 VOLT TB2-6-1

2) L3 NOT USED

INCOMING POWER: TO 600 VOLTS AC, SINGLE PHASE, 60 HZ
INTERNAL CABLE:

55A: #8 AWG (60A)

110A: #2 AWG (140A)

TERMINALS ARE SIZED FOR PROPER APPLICATION

NOTES:

- 1) SWITCH CONTACTS ARE SINGLE PHASE L-NEUTRAL "MAKE BEFORE-BREAK".
- 2) CONTACTS MARKED "UPS" ARE CLOSED IN THE "UPS" POSITION.
- 3) CONTACTS MARKED "BY-PASS" ARE CLOSED IN THE "BY-PASS" POSITION.
- 4) CONTACTS MARKED "SBS" ARE CLOSED IN THE "SBS" POSITION.
- 5) WRAP AROUND BY-PASS SWITCH SHOULD BE USED WITH SAME INPUT/OUTPUT VOLTAGE
- 6) WRAP AROUND BY-PASS SWITCH CAN ONLY BE USED WITHOUT ANY BUILT IN SECONDARY DISTRIBUTION CIRCUIT BREAKER IN UPS.

**1-PHASE UPS, WAVE RIDER 1
TECHNICAL DRAWINGS**

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SHERRIS.

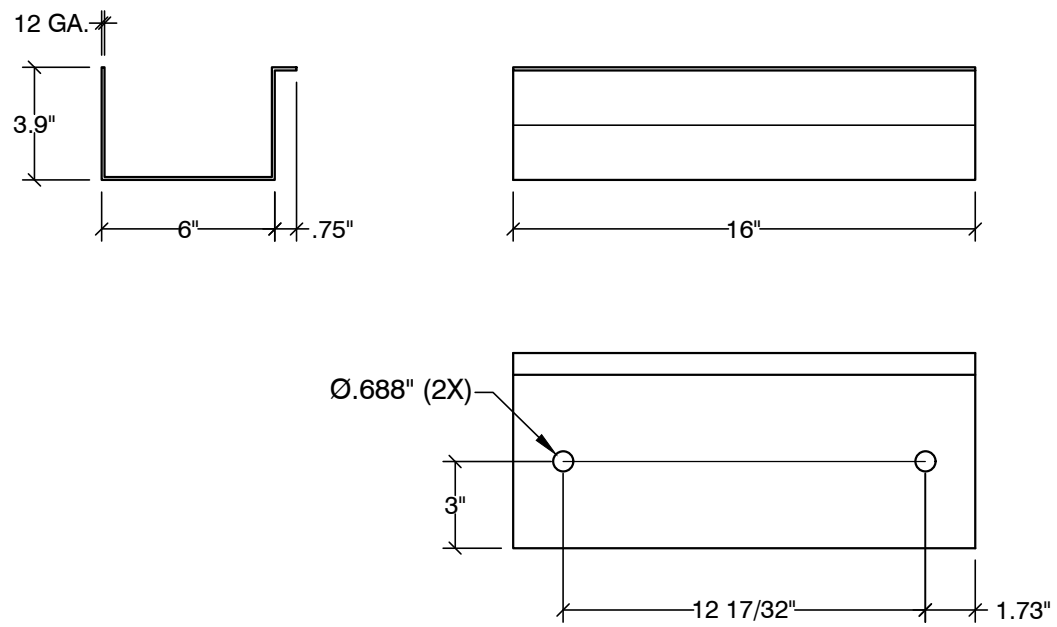
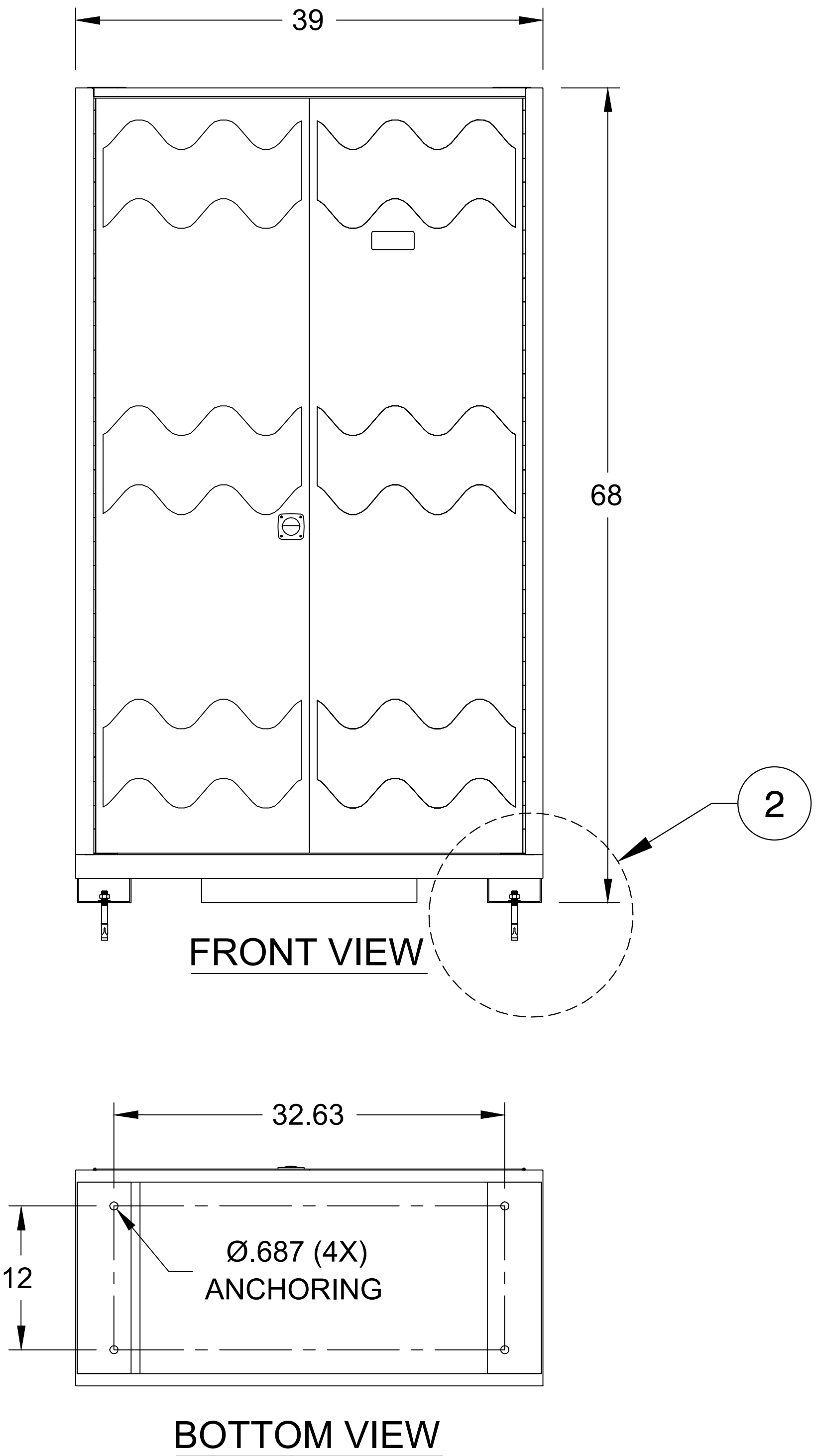
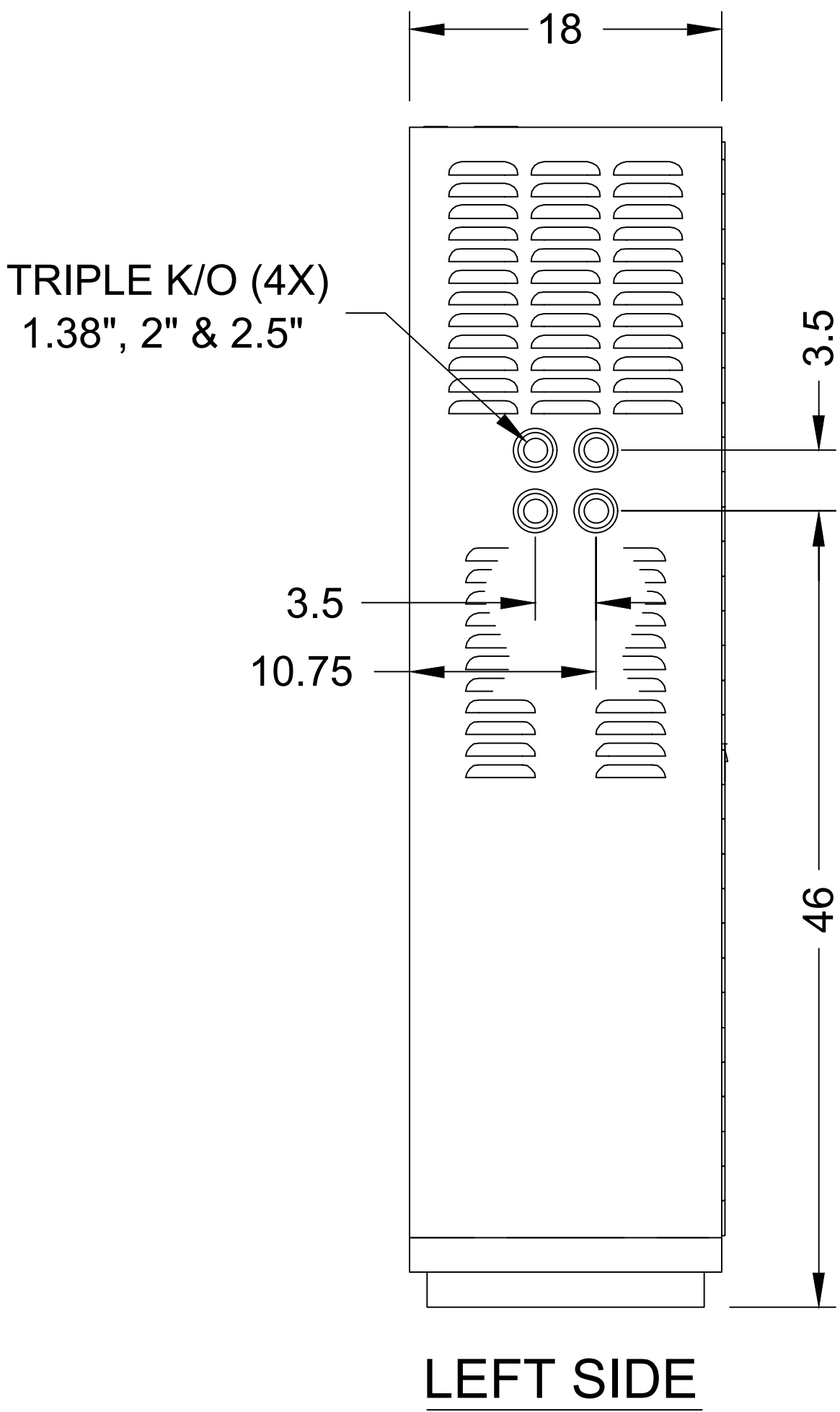
12/01/22

APPVD : H.N

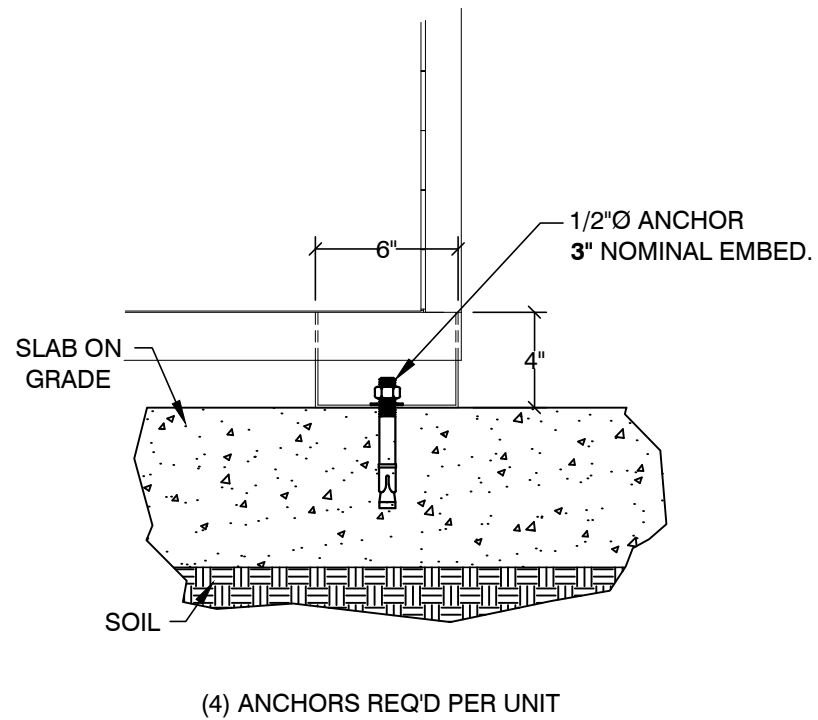
12/01/22

410-TD-015

REV
A



1 ANCHOR BRACKET DETAIL



- NOTES:
1. DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 LABC, Fa = 1.2 & Ss = 1.82
 2. STORAGE CAPACITY: **2,150#** MAX. WEIGHT.
 3. ANCHORS: HILTI KWIK BOLT TZ 2, ICC #**ESR-4266** W/ LABC SUPPLEMENT
 4. CONCRETE: **5\"** THICK x **2,500** PSI.
 5. SOIL BEARING PRESSURE: **500** PSF. (MIN. REQ'D).
 6. EVALUATION BASED ON NORTHRIDGE LOCATION (ONE OF THE HIGHEST LA FAULT AREAS) WITH THE FOLLOWING CALCULATION AS A TYPICAL EXAMPLE. (ASSUMED GROUND FLOOR INSTALLATION)

2 ANCHOR DETAIL

LOADS & DISTRIBUTION:
ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION
REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 LABC

Fp (13.3-1)= 0.4 x ap x Sps x Wp/ [Rp/ Ip]	0.234 x Wp	
Fp (13.3-2)= 1.6 x Sps x Ip x Wp	2.336 x Wp	SHALL NOT BE GREATER THAN
Fp (13.3-3)= 0.3 x Sps x Ip x Wp	0.438 x Wp	SHALL NOT BE LESS THAN

SITE CLASS = D
Fa = **1.2**
Ss = **1.82**
Sps = 1.46
Ip = 1.00
Rp = 2.5
ap = 1

Wp = **2150 LB**

0.7Fp = 0.7*0.438*Wp
= 0.31*2150 LB
= 659 LB

ASCE 7-16 Table 13.5-1
ASCE 7-16 Table 13.5-1

OVERTURNING ANALYSIS:
CABINET HEIGHT, Ht = 68.0 IN
ANCHORS SPACING, D = 12.0 IN

Mot = Vtotal*(1/2 Ht)
= 659 LB * 68 IN * 1/2
= 22,412 IN-LB

Mst = Wp*D/2
= 2150 LB * 12 IN/2
= 12,900 IN-LB

Puplift = (Mot - 0.6*Mst)/D
= (22412 IN-LB - 0.6 * 12900 IN-LB)/12 IN
= 1223 LB <= UPLIFT

ANCHORS
ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-19 CHAPTER 17
PULLOUT : 1170 LB
SHEAR : 2390 LB

Tallowable, ASD
Vallowable, ASD

COMBINED STRESS = (1223 LB/2340 LB) + (659 LB/9560 LB)
= 0.59 < 1.2 OK

USE 1/2"Ø x 3"MIN. EMBED. HILTI KB-T22 (ICC ESR-4266) OR APPROVED EQUAL
(4) PER CABINET, (2) PER ANCHOR BRACKET

POWER COMPANY
9301 TAMPA AVE.
NORTHRIDGE, CA 91324

ADDRESS:

DESCRIPTION

BY

DATE

REV



EST. 1985
SEIZMIC
ENGINEERING, INC.
1130 E. Cypress St.
Covina, California
91724
Tel.(909)869-0989

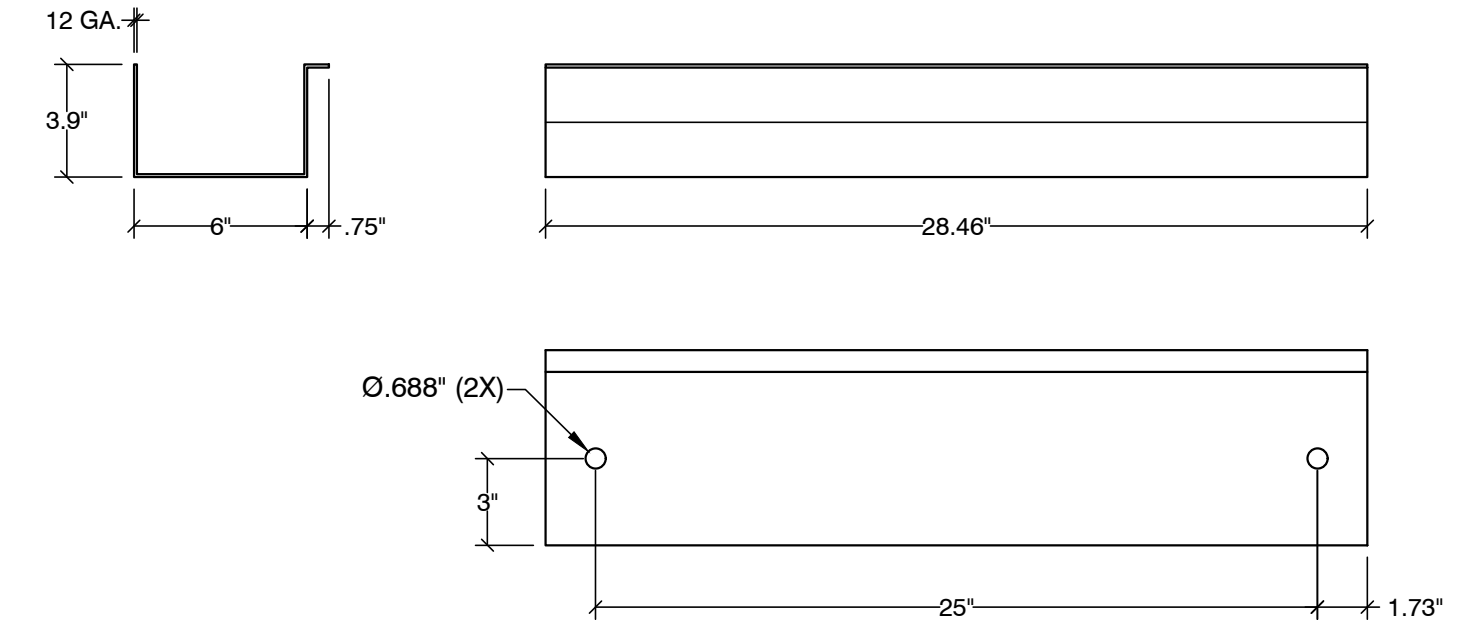
DRAWN BY: M.V. / T.C.
DATE: 01/11/23
LAST REV. BY:
REV. DATE:
TYPE:
SCALE: N.T.S.
APRVD BY: SAL E. FATEEN

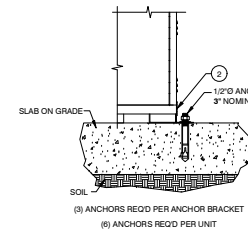
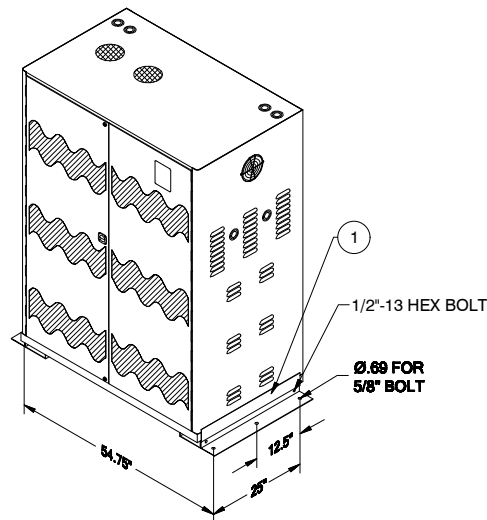
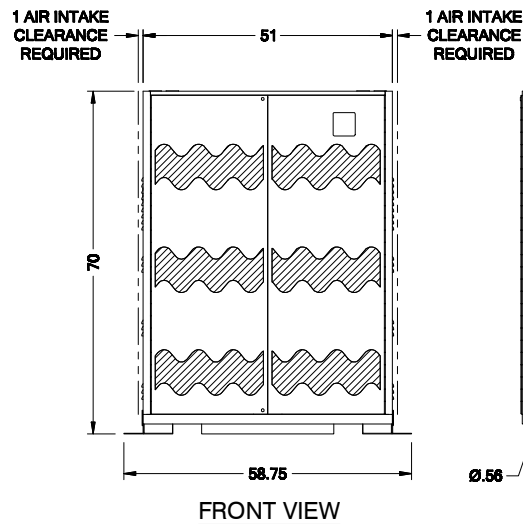
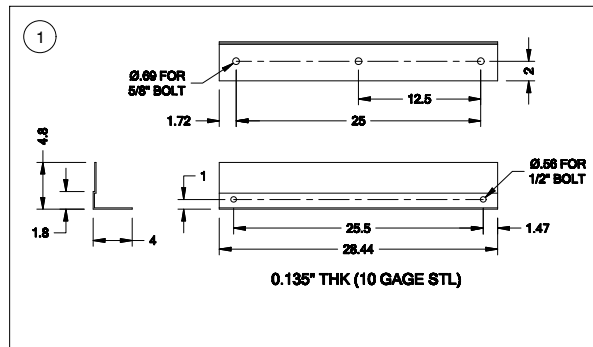
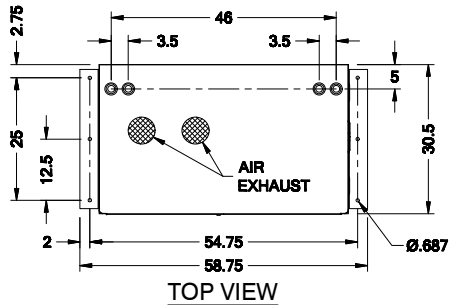


DESCRIPTION:

CABINET
DETAILS

DRAWING NUMBER:
23-0067-A





NOTES:

- DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 LABC.
- STORAGE CAPACITY: 4,640# MAX. WEIGHT.
- ANCHORS: HILTI KWIK BOLT T2 Z.
- CONCRETE: 4\"/>

LOADS & DISTRIBUTION: CABINET

ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION
REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 LABC

F_p (13.3-1): $0.4 \times ap \times S_{ps} \times W_p / (R_p / I_p)$	$0.234 \times W_p$	SHALL NOT BE GREATER THAN SHALL NOT BE LESS THAN
F_p (13.3-2): $1.6 \times S_{ps} \times I_p \times W_p$	$2.336 \times W_p$	
F_p (13.3-3): $0.3 \times S_{ps} \times I_p \times W_p$	$0.438 \times W_p$	

SITE CLASS = D

$F_a = 1.2$

$S_s = 1.83$

$S_{ps} = 1.46$

$I_p = 1.00$

$ap = 2.5$

$ap = 1$

ASCE 7-16 Table 13.5-1

ASCE 7-16 Table 13.5-1

$W_p = 4640 \text{ LB}$

$D \cdot F_p = 0.7 \cdot D \cdot 438 \cdot W_p$

$= 0.31 \cdot 4640 \text{ LB}$

$= 1,423 \text{ LB}$

OVERTURNING ANALYSIS:

CABINET HEIGHT, $H = 70.0 \text{ IN}$

ANCHORS SPACING, $D = 25.0 \text{ IN}$

$M_{ot} = V_{total} \cdot H / 2$

$= 1423 \text{ LB} \cdot 70 \text{ IN} \cdot 1/2$

$= 49,792 \text{ IN-LB}$

$M_{st} = W_p \cdot D / 2$

$= 4640 \text{ LB} \cdot 25 \text{ IN} / 2$

$= 58,000 \text{ IN-LB}$

$P_{u\text{lift}} = (M_{ot} - 0.6 \cdot M_{st}) / D$

$= (49,792 \text{ IN-LB} - 0.6 \cdot 58,000 \text{ IN-LB}) / 25 \text{ IN}$

$= 600 \text{ LB}$

$\leq UPLIFT$

ANCHORS

ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-14 CHAPTER 17

PULLOUT: 1170 LB

SHEAR: 2590 LB

$V_{allowable, ACI}$

COMBINED STRESS $= (600 \text{ LB} / 3510 \text{ LB}) + (1423 \text{ LB} / 14340 \text{ LB})$

< 0.27

USE 1/2" $\times$ 3" MIN. EMBED. HILTI KB-T2Z (ICC ESR-4266) OR APPROVED EQUAL

(6) PER CABINET

POWER COMPANY
NORTHBRIDGE, CA 91364

NOTES:

DESCRIPTION:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

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BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

BY:

DATE:

CABINET ELEVATIONS

CALCULATIONS

DESCRIPTION:

CABINET
DETAILS

DRAWING NUMBER:

24-0186-B