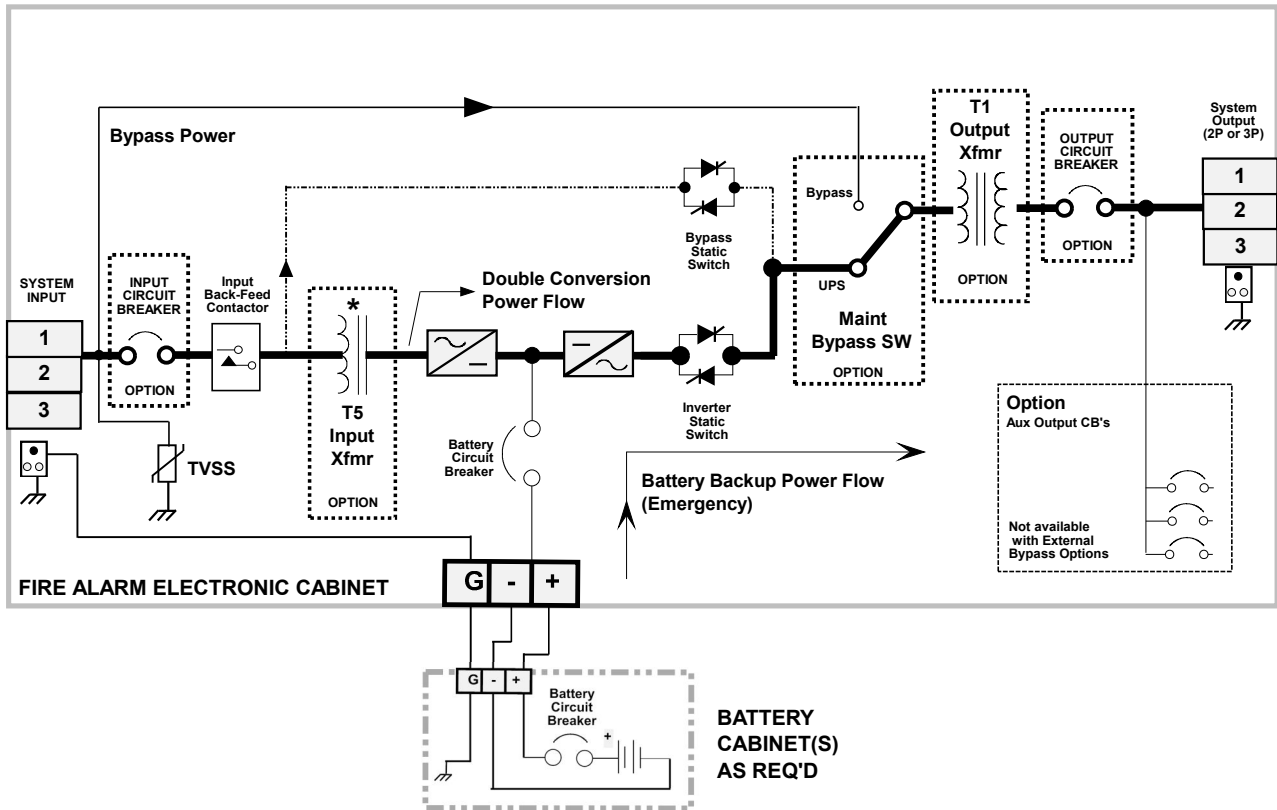


FIRE ALARM BACKUP TYPICAL SINGLE LINE DIAGRAM



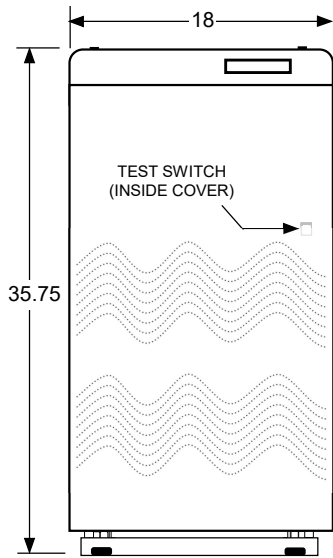
NOTES:

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

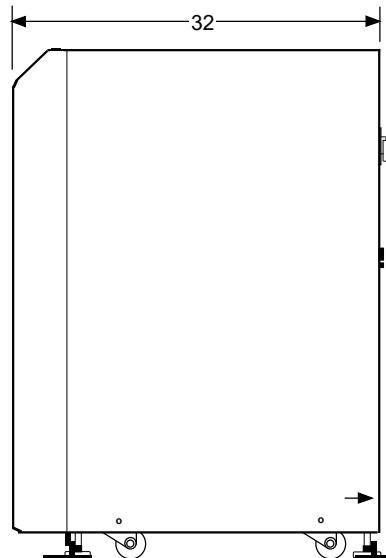
		TYPICAL FIRE ALARM BACKUP SINGLE LINE DIAGRAM	
SDR: M.TANG	12/1/23		
APPVD: SHERRI	12/1/23	SHT 1 OF 1	
CHKD: HAI	12/1/23	SUBJECT TO CHANGE WITHOUT NOTICE	

FIRE ALARM BACKUP SYSTEM

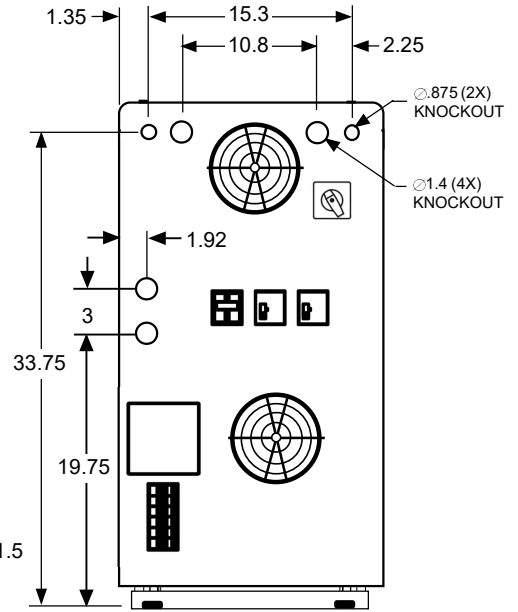
ELECTRONIC CABINET (0.5 KW - 15 KW)



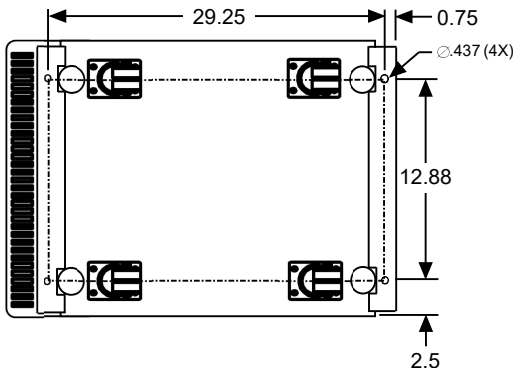
FRONT VIEW



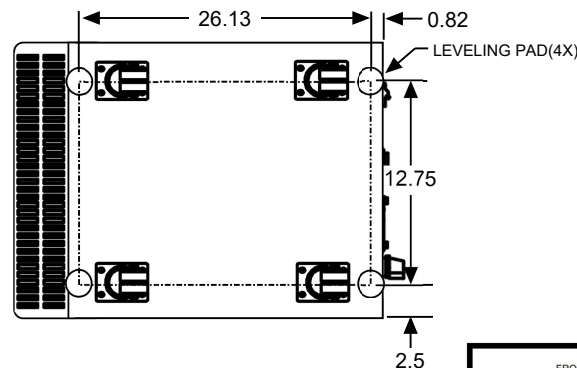
SIDE VIEW



BACK VIEW



**INSTALLATION W/ SEISMIC BRACKETS
FOR ZONE 4 BOTTOM VIEW**



BOTTOM VIEW

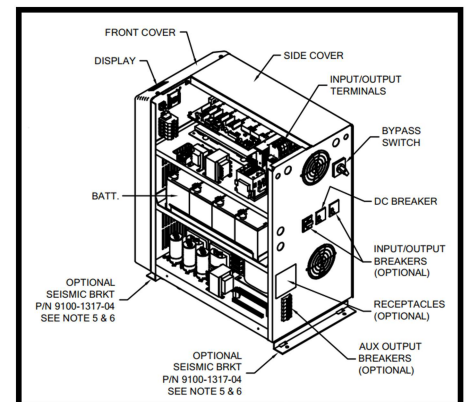
BATTERY CABINET MOUNTING SELECTION CHECKLIST

☐ STANDARD
MOUNTING

☐ SEISMIC
MOUNTING
SEE NOTE #2

NOTES:

- ALL DIMENSIONS SHOWN ARE APPROXIMATE & IN INCHES.
- OPTIONAL SEISMIC BRACKETS AVAILABLE
- CABINET QUANTITY:
 - ELECTRONIC CABINET = 1
 - BATTERY CABINET = 1
- RATING:
 - 3 KVA, SINGLE PHASE
 - 120 VOLTS INPUT, 120 VOLTS OUTPUT
 - 24 HOURS BATTERY BACKUP TIME MAXIMUM
- CABINET WEIGHT:
 - ELECTRONIC CABINET = 320 LBS.
 - BATTERY CABINET = 600 LBS (W/ BATTERIES)



ISOMETRIC VIEW



FIRE ALARM BACKUP ELECTRONIC CABINET

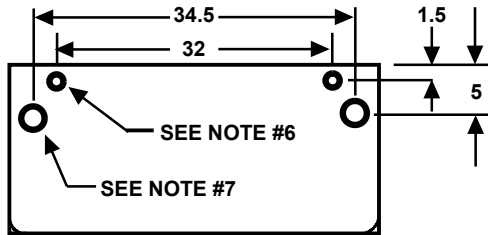
SDR: M.TANG 12/13/23
APPVD: SHERRI 12/13/23
CHKD: HAI 12/13/23

DWG NO.:
145-TD-011

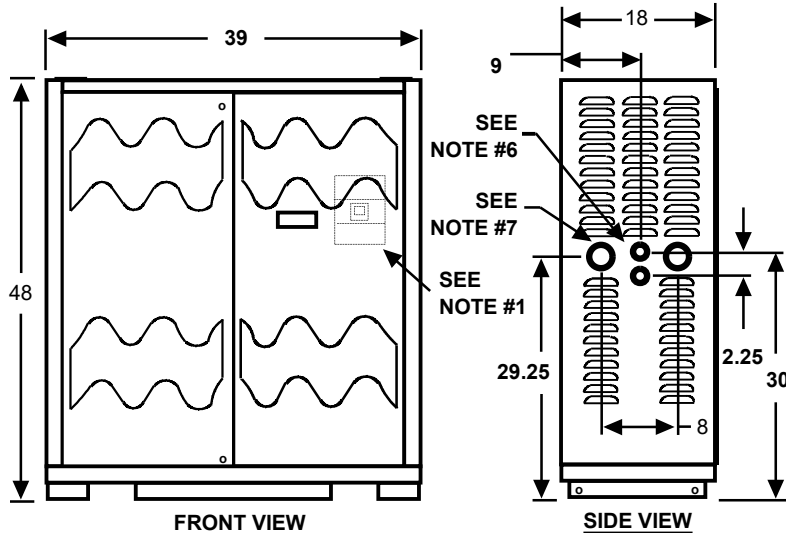
REV.: A
SHT 1 OF 1

SUBJECT TO CHANGE WITHOUT NOTICE

"B" SIZE BATTERY CABINET STANDARD VRLA BATTERY

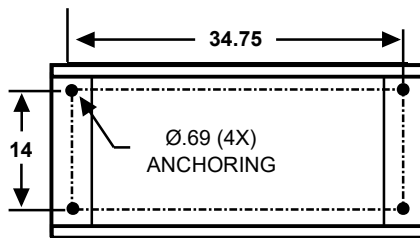


TOP VIEW



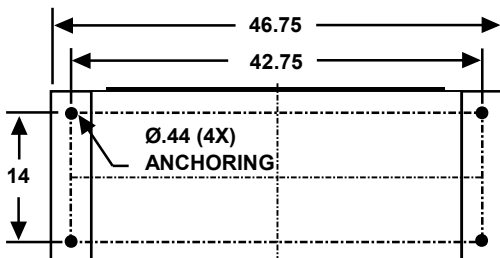
FRONT VIEW

SIDE VIEW



BOTTOM VIEW

INSTALLATION WITH EXTERNAL SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



BOTTOM VIEW

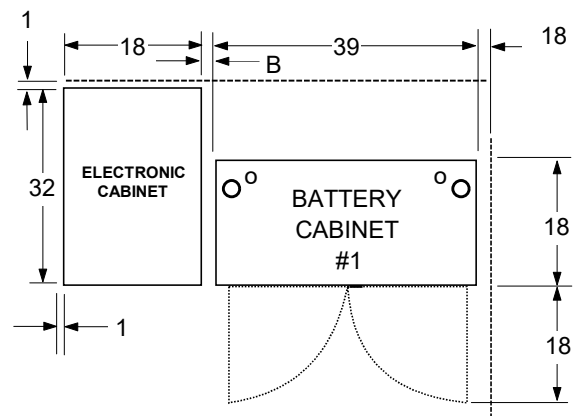
NOTES:

- 1) EACH BATTERY CABINET INCLUDES 1 BATTERY BREAKER
- 2) CONSTRUCTION: NEMA 1 INDOOR
- 3) OPTIONAL SEISMIC BRACKETS AVAILABLE
- 4) FOR ANCHORING INFO., REFER TO SEISMIC DRAWING
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) KNOCKOUT FOR 3/4" OR 1" CONDUIT
- 7) KNOCKOUT FOR 1.5" OR 2" CONDUIT
- 8) OPTIONAL RACKS AVAILABLE FOR STACKING BATTERY CABINETS
- 9) CONSULT FACTORY FOR BATTERY CONFIGURATIONS OR LAYOUTS NOT SHOWN IN DRAWING (I.E. 7.5 KW - 15 KW)

RECOMMENDED SYSTEM LAYOUTS

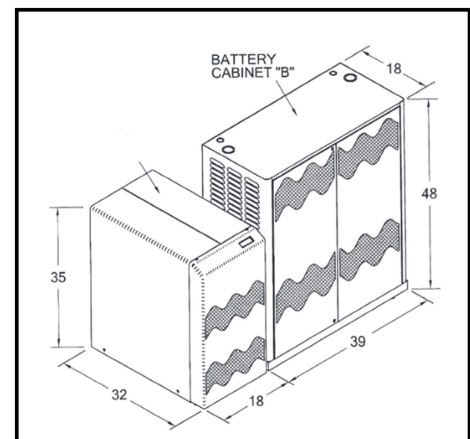
BATTERY CONFIG. SELECTION CHECKLIST

- | | |
|---|--|
| ☐ 0.5KW120 MIN. | ☐ 2KW240 MIN. |
| ☐ 0.5KW240 MIN. | ☐ 3KW30 MIN. |
| ☐ 0.5KW480 MIN. | ☐ 3KW60 MIN. |
| ☐ 0.75KW120 MIN. | ☐ 3KW120 MIN. |
| ☐ 0.75KW240 MIN. | ☐ 4KW30 MIN. |
| ☐ 0.75KW480 MIN. | ☐ 4KW60 MIN. |
| ☐ 1KW120 MIN. | ☐ 4KW120 MIN. |
| ☐ 1KW240 MIN. | ☐ 5KW15 MIN. |
| ☐ 1KW480 MIN. | ☐ 5KW30 MIN. |
| ☐ 1.5KW120 MIN. | ☐ 5KW60 MIN. |
| ☐ 1.5KW240 MIN. | ☐ 5KW120 MIN. |
| ☐ 2KW60 MIN. | |
| ☐ 2KW120 MIN. | |



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC

ISOMETRIC VIEW OF "B" SIZE BATTERY CABINET LAYOUT



SDR: MT	12/14/23
APPVD: SS	12/14/23
CHKD: HN	12/14/23

FIRE ALARM BACKUP BATT CAB, 48" HIGH

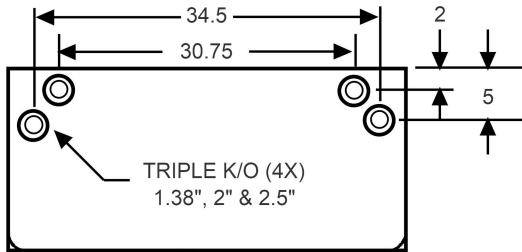
DWG NO.:
145-TD-012

REV.: A

SHT 1 OF 1

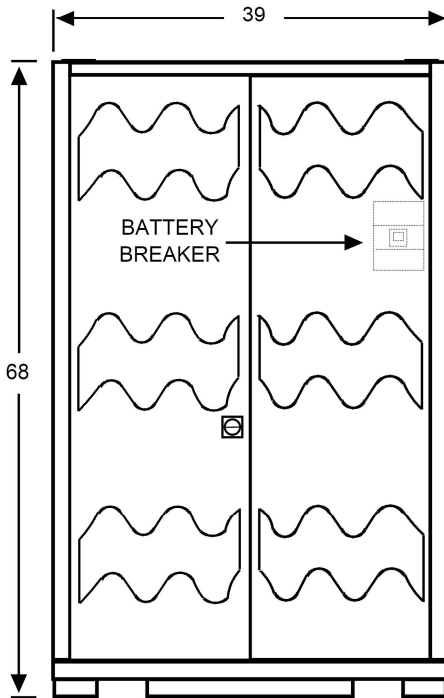
SUBJECT TO CHANGE WITHOUT NOTICE

"C" SIZE BATTERY CABINET STANDARD VRLA BATTERY

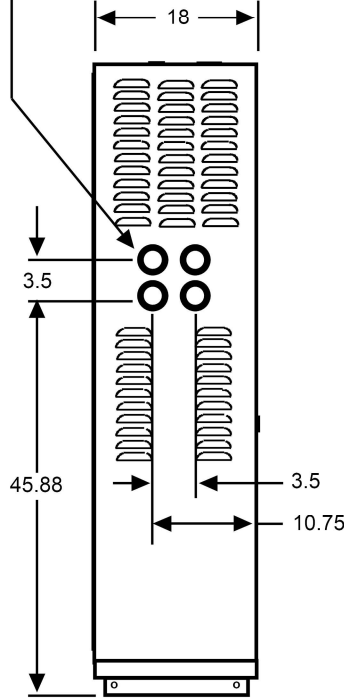


TOP VIEW

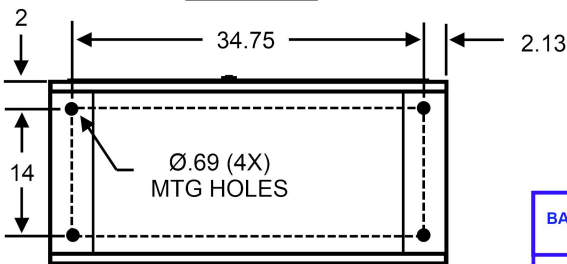
SEE
NOTE #4



FRONT VIEW

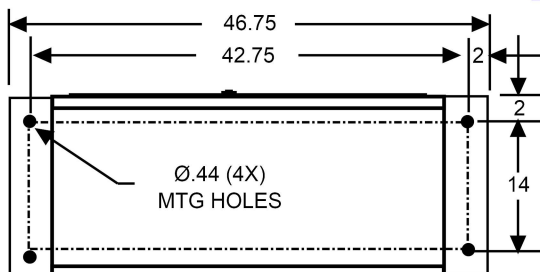


SIDE VIEW



BOTTOM VIEW

INSTALLATION WITH SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



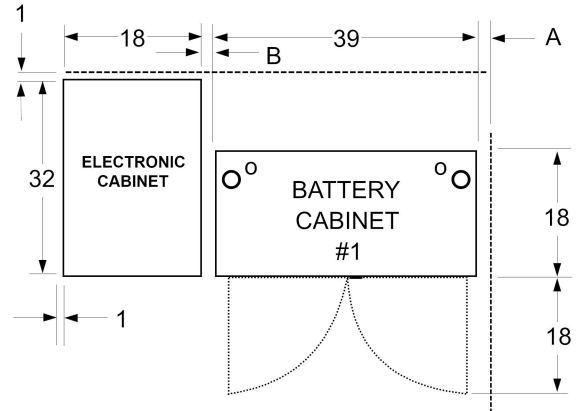
BATTERY CABINET MOUNTING SELECTION CHECKLIST

- ☐ STANDARD MOUNTING
- ☐ SEISMIC MOUNTING
SEE NOTE #2

RECOMMENDED SYSTEM LAYOUTS

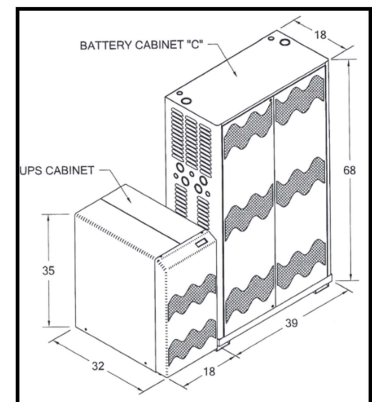
BATTERY CONFIG. SELECTION CHECKLIST

- ☐ 0.5KW1440 MIN.
- ☐ 0.75KW1440 MIN.
- ☐ 1KW.....1440 MIN.
- ☐ 1.5KW480 MIN.
- ☐ 2KW480 MIN.
- ☐ 3KW240 MIN.
- ☐ 3KW480 MIN.
- ☐ 4KW240 MIN.
- ☐ 5KW240 MIN.



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC

ISOMETRIC VIEW OF "C" SIZE BATTERY CABINET LAYOUT



NOTES:

- 1) CONSTRUCTION: NEMA1 INDOOR
- 2) OPTIONAL SEISMIC BRACKETS AVAILABLE
- 3) ANCHORING HARDWARE TO BE SUPPLIED BY CUSTOMER (REFER TO SEISMIC DWG)
- 4) TRIPLE K/O FOR 1", 1.5" OR 2" CONDUIT
- 5) ALL DIMENSIONS ARE IN INCHES
- 7) OPTIONAL RACKS AVAILABLE FOR STACKING BATTERY CABINETS
- 8) CONSULT FACTORY FOR BATTERY CONFIGURATIONS OR LAYOUTS NOT SHOWN IN DRAWING (I.E. 7.5 KW - 15 KW)



FIRE ALARM BACKUP BATT CAB, 68" HIGH

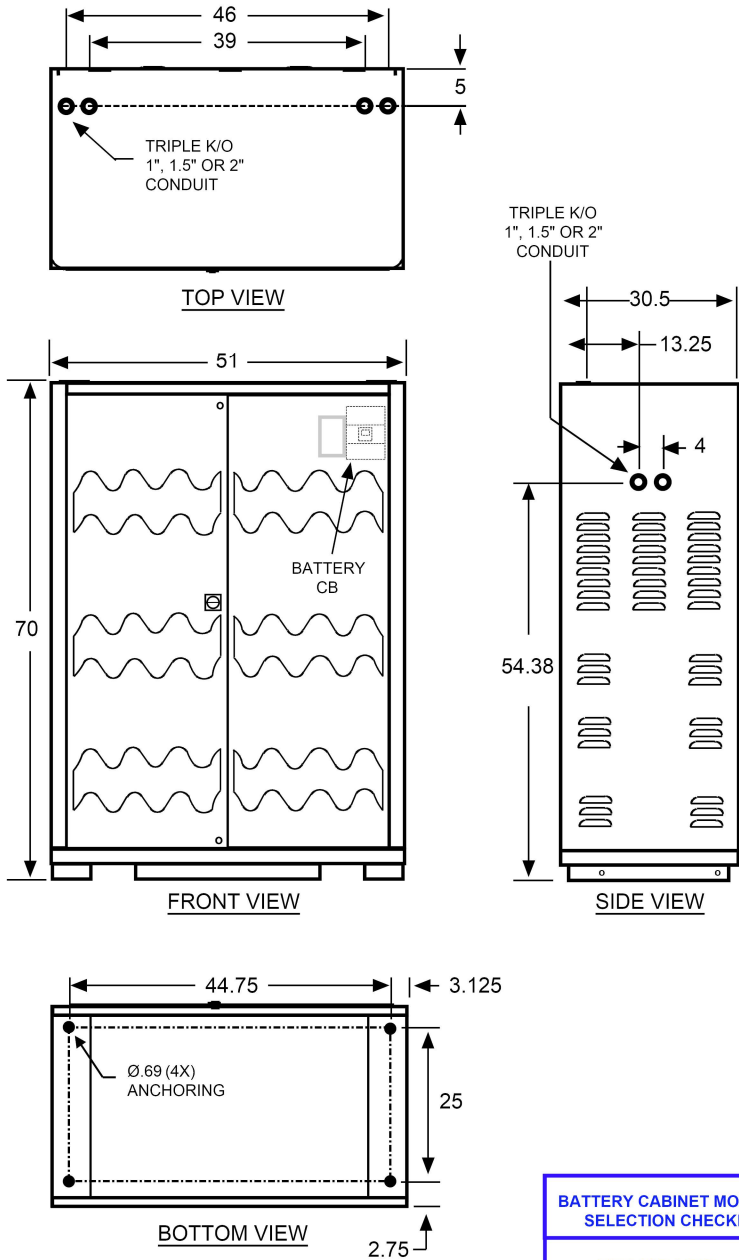
SDR : M.TANG	12/14/23
CHKD : SS	12/14/23
APPVD : HN	12/14/23

DWG NO.: 145-TD-013

REV.: A
SHT 1 OF 1

SUBJECT TO CHANGE WITHOUT NOTICE

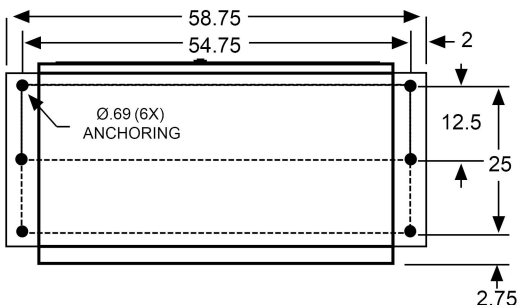
"D" SIZE BATTERY CABINET STANDARD VRLA BATTERY



BATTERY CABINET MOUNTING SELECTION CHECKLIST

- ☐ STANDARD MOUNTING
- ☐ SEISMIC MOUNTING
SEE NOTE #2

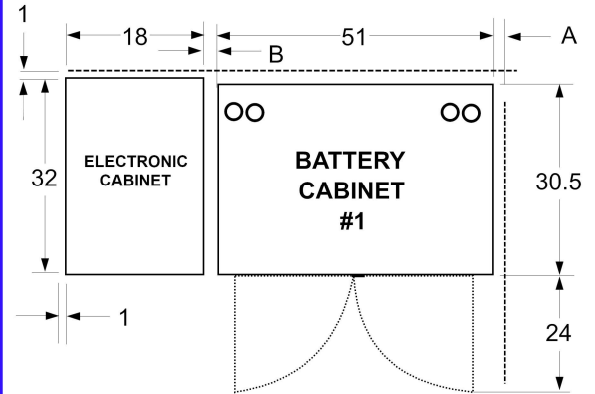
INSTALLATION WITH SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



RECOMMENDED SYSTEM LAYOUTS

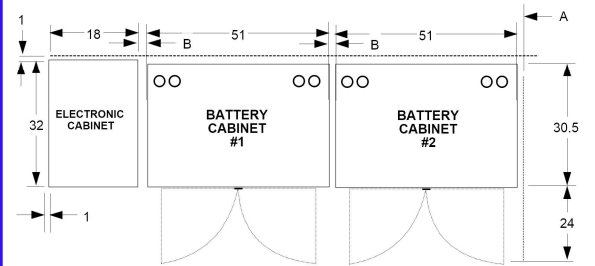
BATTERY CONFIG. SELECTION CHECKLIST

- ☐ 1.5KW1440 MIN.
- ☐ 2KW1440 MIN.
- ☐ 3KW1440 MIN.
- ☐ 4KW480 MIN.
- ☐ 5KW480 MIN.



BATTERY CONFIG. SELECTION CHECKLIST

- ☐ 4KW1440 MIN.
- ☐ 5KW1440 MIN.



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC

NOTES:

- CONSTRUCTION: NEMA1 INDOOR
- OPTIONAL SEISMIC BRACKETS AVAILABLE:
ANCHORS FOR EXTERNAL SEISMIC BRACKET:
 - USE 1/2" DIA x 2-3/8" MIN. EMBED HILTI KB-TZ, ICC ESR-1917 OR APPROVED EQUAL (6) TOTAL PER CABINET.
 - CONCRETE: 5" THICK x 2,500 PSI. (MIN REQ'D).
 - SOIL BEARING PRESSURE: 500 PSF. (MIN. REQ'D).

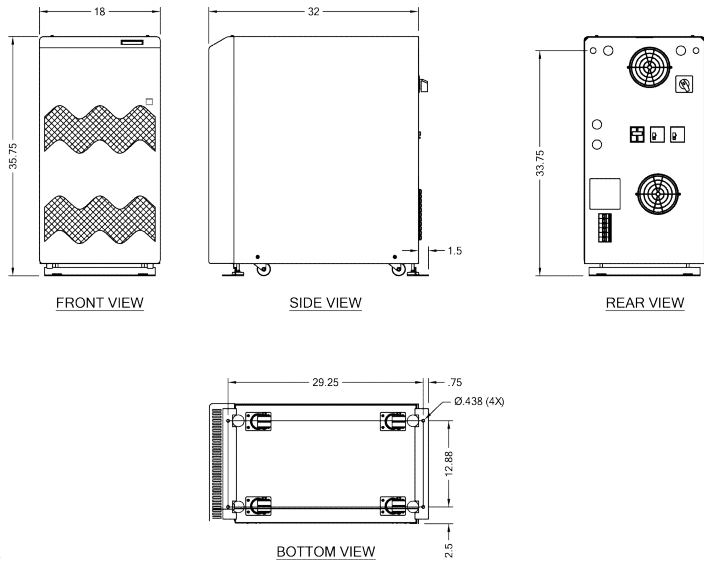
FOR ALL DETAILS REFER TO SEISMIC DWG. FOR EACH CABINET MOUNTING

- DIMENSIONS ARE IN INCHES
- CONSULT FACTORY FOR BATTERY CONFIGURATIONS OR LAYOUTS NOT SHOWN IN DRAWING (I.E. 7.5 KW - 15 KW)



**FIRE ALARM BACKUP
BATT CAB, 51" WIDE**

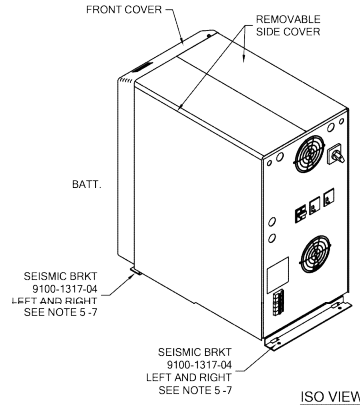
SDR: M.TANG	12/14/23	DWG NO.: 145-TD-014	REV.: A
CHKD: SS	12/14/23		SHT 1 OF 1
APPVD: HN	12/14/23	SUBJECT TO CHANGE WITHOUT NOTICE	



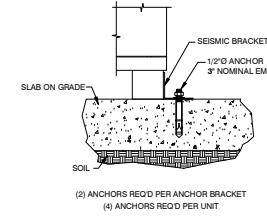
NOTES:

- 1) ALL DIMENSIONS SHOWN ARE APPROXIMATE.
- 2) CONSTRUCTION: INDOOR.
- 3) RATING: FROM 3 KVA UP TO 15 KVA.
- 4) WEIGHT: UP TO 680 LBS
- 5) INDICATED MOUNTING HARDWARE TO BE SUPPLIED BY CUSTOMER.
- 6) SEISMIC BRACKET MAT'L: 10 GAGE PAINTED STEEL ANGLE.
- 7) SEISMIC BRACKETS ARE INTERLOCKING TO LEVELING PADS OF UNIT AND BOLT TO GROUND.

REVISION				
REV	ECO	DESCRIPTION	DATE	APP'D
X2	N/A	PRELIMINARY	2/26/24	H.N.



ANCHORING BRACKET INSTALLATION				
CADD:	S.S.	12/26/23	SIZE	DWG
CHKD:	SHERIDAN	12/26/23		
APP'D:	HANGLUYER	12/26/23	SCALE	EST. WT.
				36" x 1" x 1"



1 ANCHOR DETAIL

LOADS & DISTRIBUTION: 6001-070-1

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

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

SITE CLASS = D	
$F_a = 1.2$	
$S_s = 1.83$	
$S_{DS} = 1.46$	
$ip = 1.00$	
$R_p = 2.5$	ASCE 7-16 Table 13.5-1
$ap = 1$	ASCE 7-16 Table 13.5-1

$W_p = 680 \text{ LB}$

$0.7F_p = 0.7 \times 0.438 \times W_p$
 $= 0.31 \times 680 \text{ LB}$
 $= 208 \text{ LB}$

OVERTURNING ANALYSIS:

CABINET HEIGHT, $H_c = 35.8 \text{ IN}$

ANCHORS SPACING, $D = 12.5 \text{ IN}$

$M_{ot} = V_{tot} \times (H_c / 2)$
 $= 208 \text{ LB} \times 35.75 \text{ IN} \times 1/2$
 $= 3,727 \text{ IN-LB}$

$M_{st} = W_p \times D / 2$
 $= 680 \text{ LB} \times 12.88 \text{ IN} / 2$
 $= 4,379 \text{ IN-LB}$

$P_{uLift} = (M_{st} - 0.6 \times M_{ot}) / D$
 $= (3,727 \text{ IN-LB} - 0.6 \times 4,379 \text{ IN-LB}) / 12.88 \text{ IN}$
 $= 85 \text{ LB}$
 $\leq UPLIFT$

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

PULLOUT: 1170 LB
SHEAR: 2380 LB
 $T_{allowable, ACI}$
 $V_{allowable, ACI}$

COMBINED STRESS $= (85 \text{ LB} / 2380 \text{ LB}) + (208 \text{ LB} / 95560 \text{ LB})$
 $= 0.06$
 $< 1.2 \text{ OK}$

USE $1/2" \times 3" \text{ MIN. EMBED. HLTI KB-T22 (ICC ESR-4266) OR APPROVED EQUAL}$
(4) PER UNIT

POWER COMPANY
NORTHBRIDGE, CA 91324

NOTES

DESCRIPTION

DATE

BY

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