EVENLITE
LIVES DEPEND ON US

| | |
|---|---|
| Project Name: | Approved By: |
| Catalog No: | Type No: |

# LITEMINDER OPTIMUS THREE PHASE

## 8,500VA - 33,000VA Modular Inverter System

The LiteMinder Optimus is the epitome of industry excellence. The Optimus sets a new benchmark, delivering exceptional power density in one of the smallest footprints available on the market. This breakthrough innovation maximizes valuable floor space and provides unmatched flexibility for seamless integration into a wide range of applications. Experience the future of lighting technology with our LiteMinder Optimus and unlock a world of unparalleled efficiency and uncompromised convenience.

## DESCRIPTION

- **Modularity:** LiteMinder features unique inverter modules available in increments from 8,500VA to 33,000VA capacities. Modules are interconnected to build the required system capacity, and can even be field upgraded to increase system sizes!
- **Control Features:** A keypad and LCD display provides user interface and extensive status diagnostics. Self test, Self-Diagnostics, in compliance with UL 924, is field configurable.
- **Web Site Monitoring:** Unique web interface constantly monitors the system status and records all essential data. Users can log on, view, interact and download records as needed. The factory can also monitor, diagnose remotely. Website monitoring free on every inverter (must use option code LGM).
- **Diagnostics:** In addition to Self-test, Self-Diagnostics, LiteMinder also includes unique startup diagnostics to aid in installation and maintenance: eight individual startup alarms (Communications, Set-Up Conflict, Low Battery, Back-feed, Transfer/AC Fuse, Short/ Overload, Miswire, Incorrect AC Input) eight individual Charger Alarms and eight individual Inverter Alarms.

## SPECIFICATIONS

- PWM MOSFET and IGBT (Model Dependant) Inverter provide Pure Sine Wave output with less than 3% THD, and fully compatible with LED Lighting Loads
- Fast transfer for H.I.D. compatibility ensures smooth operation of combined lighting loads, transfers in less than 2 mS
- Less than 3% THD, load power factor 0.5 Lag to 0.5 Lead, 98% efficient in standby mode
- Automatic Low Voltage Disconnect (LVD) set at 1.67 VPC
- Shorted circuit protected to 65KAIC tested and approved to UL 6180-5-1 standard
- Crest factor >4 for high inrush demanding loads, overload 120 percent for 10 minutes, 400 percent for 500mS
- VRLA Maintenance Free Lead Calcium Battery's provide the required 90 minute minimum run time in emergency mode
- Battery recharge time is less than 24 hours, meets all UL 924 and NFPA101 Life Safety Code requirements
- Operating temperature 20˚ to 30˚ C
- Brownout protection set for 85% of the nominal line voltage
- UL924 compliant Self-Test/Self-Diagnostics are standard, with interactive LCD display (MMI)

## FEATURES

- Modular inverter allows operation for three phase operation to order
- Automatic restart upon utility power return, no need to manually reset the system
- Input circuit breaker is provided sized to system rating
- Monthly and the annual 90 minute test can be programmed by the user for a specific date and time to ensure NFPA Code Compliance
- Up to 1000 events stored in the memory log on a "FIFO" basis, and is easily accessible thru the MMI (Man-Machine Interface) Panel
- MMI consists of a 5 button keypad for easy menu navigation
- A 4x20 backlit White display with heads-up LED's allow for a quick diagnosis of the system status and alarms
- Five LED indicators provide the status of the Inverter, Charger, AC present, Ready, and Switched Load (if provided with Switched Output Circuit Breakers)
- A dedicated System Test button is provided for a user initiated 30 second on demand test
- An Alarm On/Off LED is provided to indicate that an alarm is present.
- A dedicated Alarm Silence On/Off push button allows the user to silence the audible alarm
- SD card slot allows the user to download all Test, Event and Alarm Logs
- The Meter Menu allows the user to access the Input and Output Voltages, Output Current, Output VA, Battery Voltage, Battery Current, Battery Power, Temperature, System Days, Inverter minutes and Inverter Events
- The inverter and battery cabinets are constructed from 14 gauge CRS and are powder painted with no visible outside bolts or hardware
- Internally, the inverter has all galvanized or painted steel parts and shelves to resist corrosion and provide high durability and longevity
- Installer friendly front mounted battery terminals for easier and faster installation
- Three Rate Charger circuit is fully temperature compensated for added reliability

# LITEMINDER OPTIMUS THREE PHASE

8,500VA - 33,000VA Modular Inverter System

## CERTIFICATION

- UL924 compliant Self-Test/Self-Diagnostics are standard, with interactive LCD display (MMI)
- Listed to UL924, and meets NFPA101 Life Safety Code, NFPA70-NEC and OSHA Requirements
- Buy American Act compliant
- Trade Agreements Act compliant

## WARRANTY

- Electronics are warranted for 2 years, extended out to 3 years with the purchase of factory startup. VRLA batteries have a 10-year warranty consisting of 1 year full and 9 years pro-rata - view complete warranty terms online at www.evenlite.com/terms-warranty.
- An extended warranty is available with the purchase of Factory Startup (FS). The Extended Warranty increases electronics coverage to five years. For complete details, please refer to the Central Power Systems Warranty.
- An extended battery warranty is also available, offering coverage periods of either 15 years (EB15) or 20 years (EB20), as specified in the Ordering Guide. This warranty includes one year of full replacement coverage at no charge, followed by 14 (EB15) or 19 (EB20) additional years of pro-rata coverage.

## ORDERING GUIDE

*LMOPT-26500-3P-IG-OG-S6-TA-MB-FS*

| MODEL | VA RATING | | CONFIGURATION | BATTERY TYPE | INPUT VOLTAGE | OUTPUT VOLTAGE |
|---|---|---|---|---|---|---|
| **LMOPT** | **8500** 8500VA | **20500** 20500VA | **3P** Three Phase[1] | **LC** Lead Calcium | **IF** 120V/208V[2] | **OF** 120V/208V[2] |
| | **10500** 10500VA | **26500** 26500VA | | | **IG** 277V/480V[3] | **OG** 277V/480V[3] |
| | **13300** 13300VA | **33000** 33000VA | | | | |
| | **17000** 17000VA | | | | | |
| **LMOPT** | | | **3P** | **LC** | | |

| OUTPUT BREAKER CONFIGURATION[4,5] | OPTIONS | | |
|---|---|---|---|
| **C(n)** 20A Normally On Output Breaker[6] | **TA** Trip Alarm for All Circuit Breakers[8] | **Z4** Seismic Zone 4 Certified | **M(n)** Maintenance Plan[12] |
| **(n)=** Quantity Required | **TB** 1 Summary/2 Programmable Terminal Block[9] | **RA** Remote Annunciator | **EB15** 15 Year Extended Battery Warranty[13] |
| **BB** Special Breaker Current Requirement[7] | **MB** Internal Maintenance Bypass Switch[10] | **KE** Keyed Lock | **EB20** 20 Year Extended Battery Warranty[14] |
| | **BI** BACnet Integration Module | **BTMS** Battery Thermal Management System | **UP** Ship Inverter Less Batteries |
| | **LGM** LifeGuard® Monitoring | **FS** On-Site Startup Commissioning | **EPO** Emergency Power Off |
| | **DT** 60ms Delayed Transfer | **EW** 5 Year Extended Warranty[11] | **BL** Output Breaker Locks[15] |

**ORDERING NOTES**

1 120/208VAC or 277/480VAC
2 L-N/L-L
3 L-N/L-L - 4 wire and ground
4 See Output Breaker Quantity Limitations table
5 Three phase inverters require breakers per phase. Must be specified in multiples of 3.
6 Consult factory for Normally Off and Switched output options
7 Contact factory
8 Maximum number of breaker trip alarms model dependant
9 For form C dry contacts
10 Make before break
11 Requires On-Site Startup Commissioning [FS]
12 N=years (minimum: 2 / maximum: 5)
13 1 full year with 14 years pro-rated
14 1 full year with 19 years pro-rated
15 1 provided per output circuit breaker specified

Fill in fields from categories above and complete type and part number.

Type No:

Full Part No:

| OUTPUT BREAKER QUANTITY LIMITATIONS | |
|---|---|
| ALL CONFIGURATIONS | |
| **36X20A** | Normally On Without [TA] or [MB] |
| **33X20A** | Normally On With [MB] |
| **24X20A** | Normally On With [TA] |
| **21X20A** | Normally On With [TA] or [MB] |

# LITEMINDER OPTIMUS THREE PHASE

8,500VA - 33,000VA Modular Inverter System

## DIMENSIONS, WEIGHT & LOAD CAPACITY

| MODEL | NO. OF CABINETS | CABINET WIDTH | CABINET HEIGHT | CABINET DEPTH | CABINET WEIGHT | TOTAL BATTERY WEIGHT | TOTAL SHIPPING WEIGHT | MAX BTUs HOUR AT FULL LOAD | MAX CONNECTED LOAD | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 90 MINUTE RUNTIME | 120 MINUTE RUNTIME |
| LMOPT-8500 | 2 | 53" | 77" | 25" | 650 lbs | 1,216 lbs | 2,366 lbs | 563 | 8,500 VA | 6,187.5 VA |
| LMOPT-10500 | 2 | 53" | 77" | 25" | 650 lbs | 1,520 lbs | 2,670 lbs | 716 | 10,500 VA | 7,875 VA |
| LMOPT-13300 | 2 | 53" | 77" | 25" | 740 lbs | 1,936 lbs | 3,176 lbs | 908 | 13,300 VA | 9,975 VA |
| LMOPT-17000 | 2 | 53" | 77" | 25" | 740 lbs | 2,420 lbs | 3,660 lbs | 1,142 | 17,000 VA | 12,750 VA |
| LMOPT-20500 | 3 | 79.5" | 77" | 25" | 970 lbs | 3,040 lbs | 4,950 lbs | 1,807 | 20,500 VA | 15,375 VA |
| LMOPT-26500 | 3 | 79.5" | 77" | 25" | 970 lbs | 3,872 lbs | 5,782 lbs | 2,455 | 26,500 VA | 19,875 VA |
| LMOPT-33000 | 3 | 79.5" | 77" | 25" | 970 lbs | 4,840 lbs | 6,750 lbs | 3,375 | 33,000 VA | 24,750 VA |

## INPUT CURRENT & BTU CHART

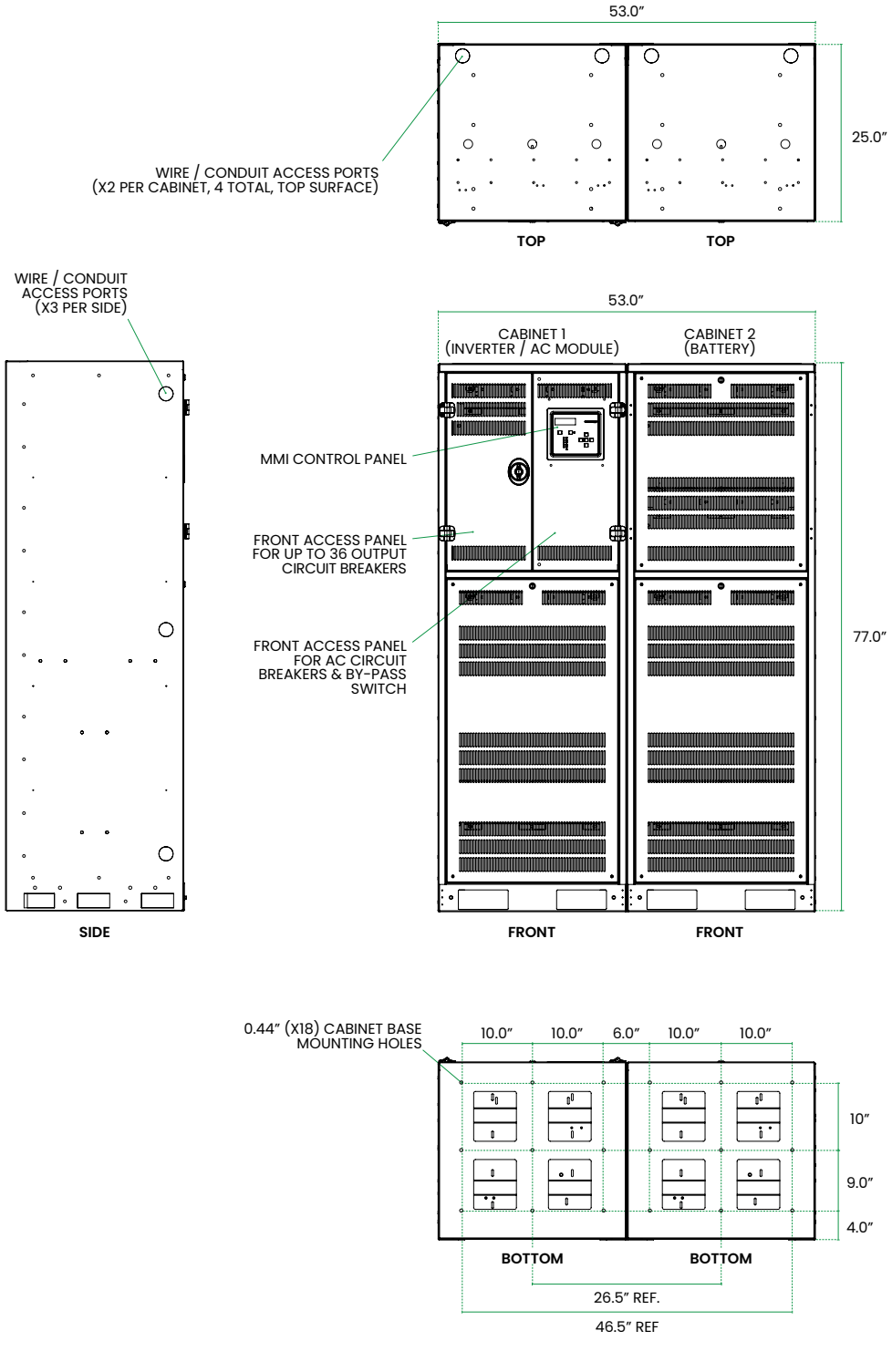
| INPUT POWER | INPUT VOLTAGE | INPUT CURRENT | SUGGESTED FEED BREAKER | MAX BTUS HOUR AT FULL LOAD |
|---|---|---|---|---|
| 8500 | 120 / 208 | 29.5 | 40 | 580 |
| | 277 / 480 | 12.8 | 20 | |
| 10500 | 120 / 208 | 36.5 | 50 | 716 |
| | 277 /480 | 15.8 | 20 | |
| 13300 | 120 / 208 | 46.1 | 60 | 907 |
| | 277 /480 | 20.0 | 30 | |
| 17000 | 120 / 208 | 59.0 | 70 | 1159 |
| | 277 /480 | 25.6 | 40 | |
| 20500 | 120 / 208 | 71.2 | 90 | 1398 |
| | 277 /480 | 30.8 | 40 | |
| 26500 | 120 / 208 | 92.0 | 125 | 1807 |
| | 277 /480 | 39.9 | 50 | |
| 33000 | 120 / 208 | 114.5 | 150 | 2250 |
| | 277 /480 | 49.6 | 70 | |

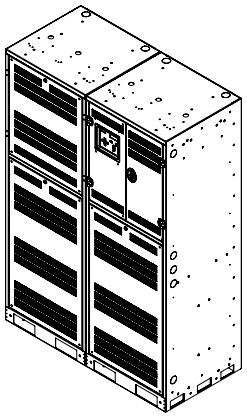
**NOTES**

- Input Current = Output Current + Max Charge Current
- Suggested Feed Breaker sizes are rounded up in 10 Amp increments
- Input Power requires 3 wires, Neutral and Ground. Neutral is passed through and current carrying - Feeder Neutral to be sized same as line conductors.
- KAIC Rating for all models = 65KAIC (UL rated per UL 61800-5-1)
- Short Circuit current rating = 65KA for ALL models.

## DIMENSIONS

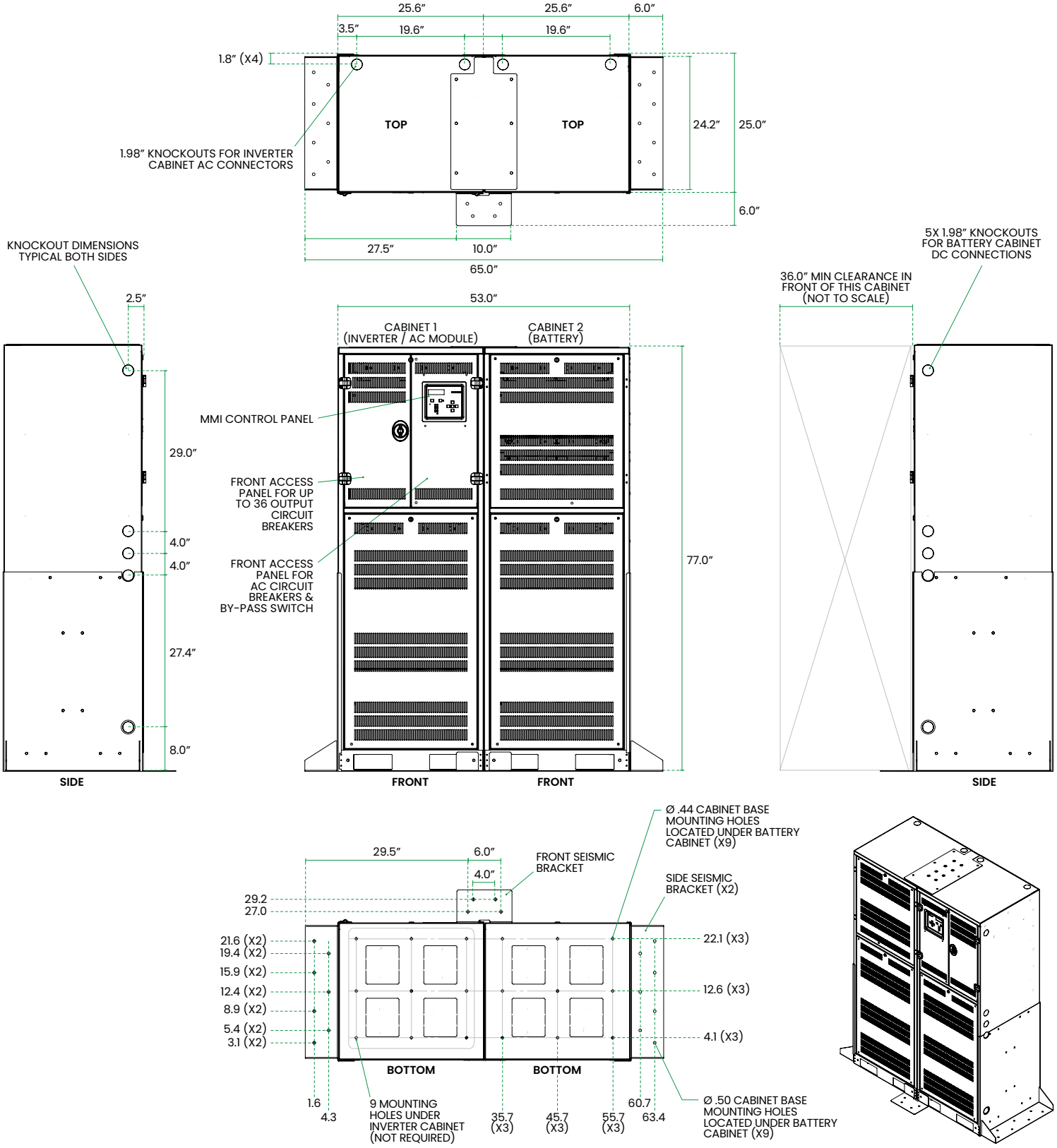
### 2 CABINET CONFIGURATION



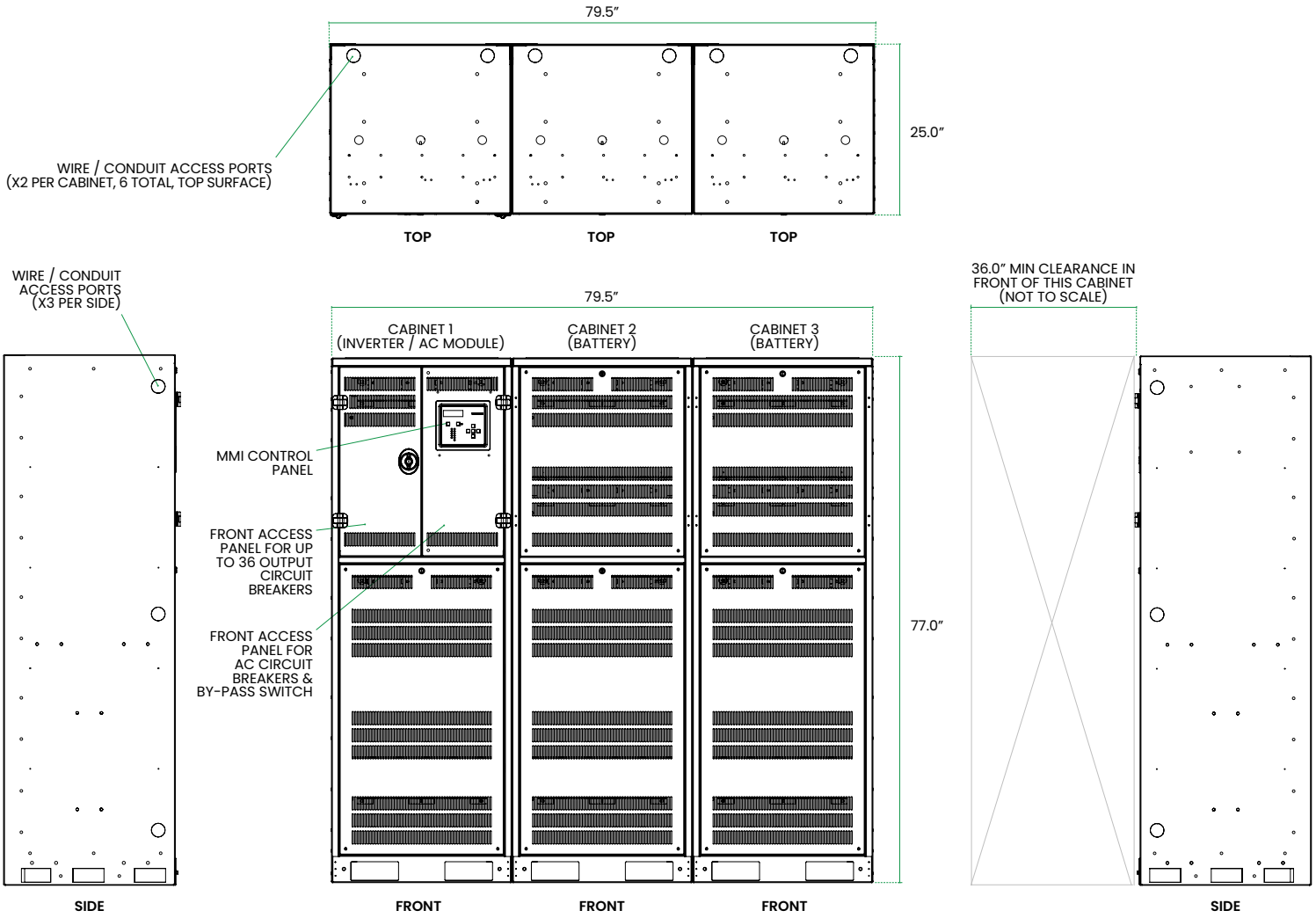
## DIMENSIONS (CONTINUED)

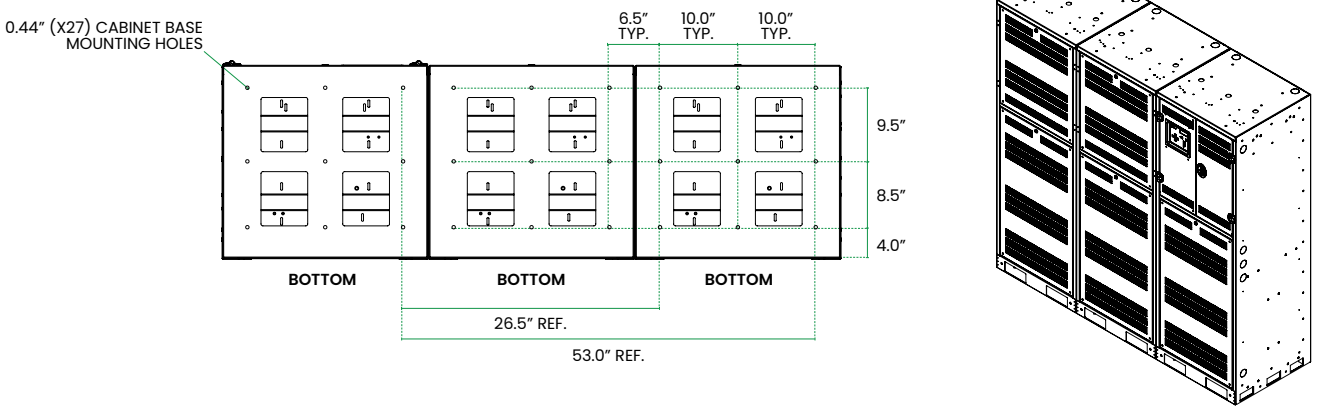
### 2 CABINET CONFIGURATION WITH SEISMIC BRACKETS

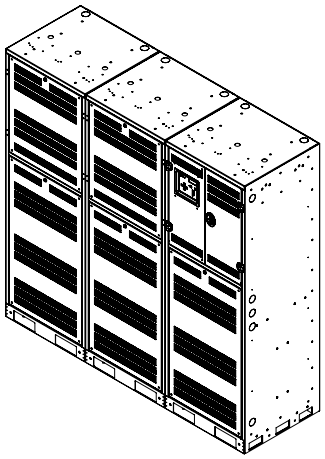


## DIMENSIONS (CONTINUED)

### 3 CABINET CONFIGURATION

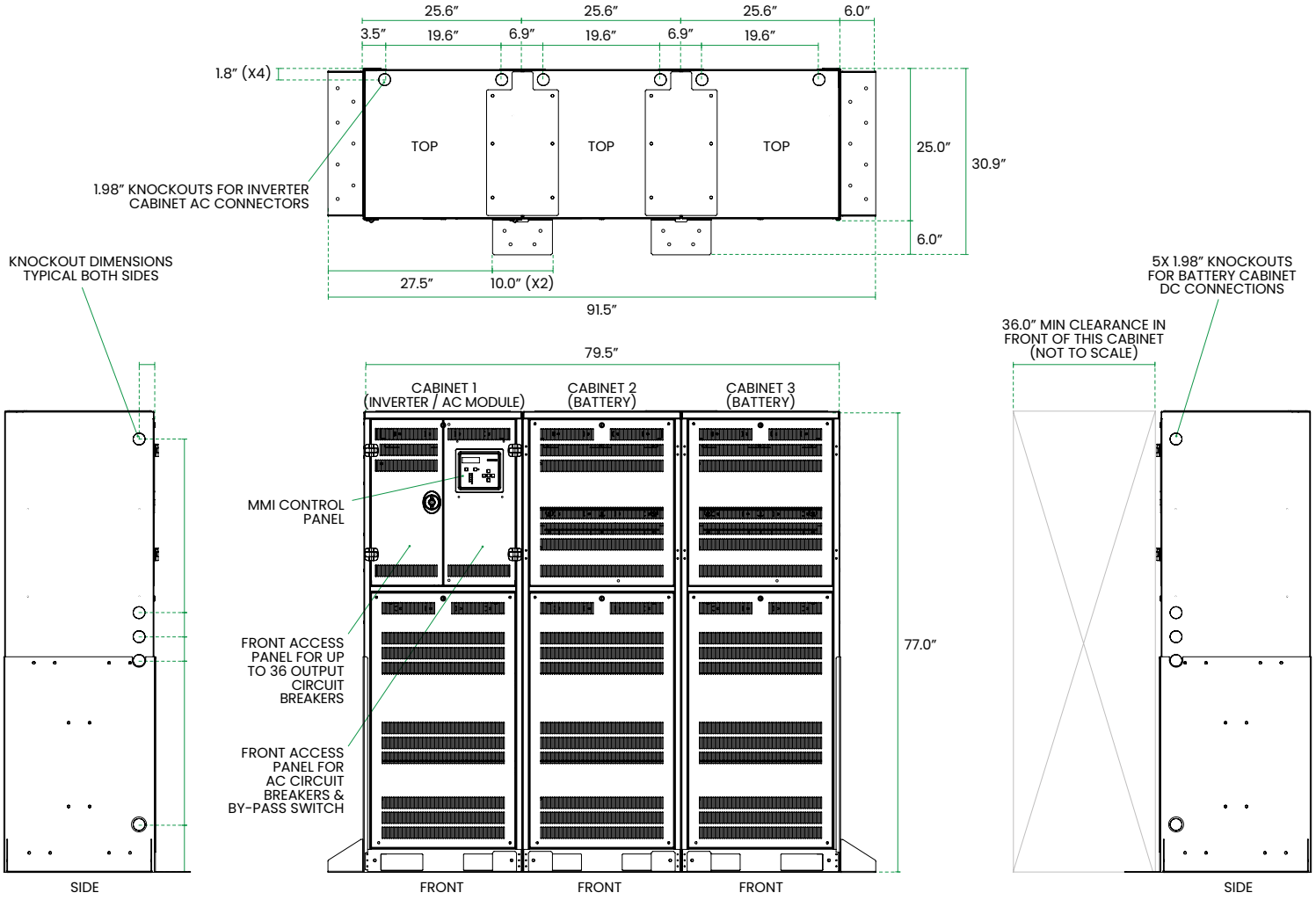


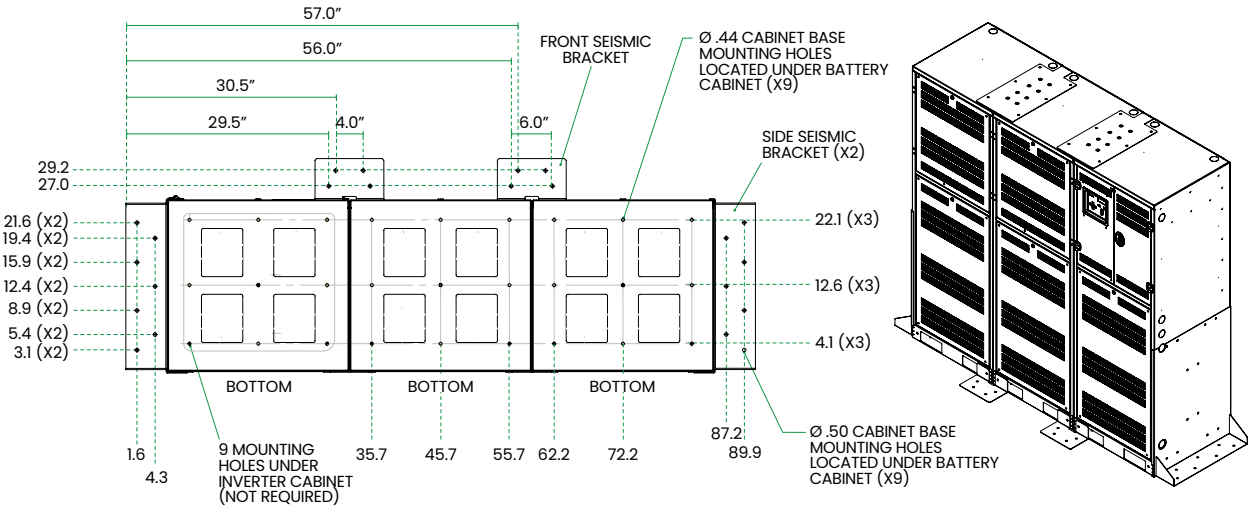



## DIMENSIONS (CONTINUED)

### 3 CABINET CONFIGURATION WITH SEISMIC BRACKETS



## BMS INTERFACE POINTS LIST

| POINT NAME | BACNET OBJECT TYPE | BACNET OBJECT ID | MODBUS REGISTER |
|---|---|---|---|
| Inverter | BI | 1 | 10001 |
| Charger | BI | 2 | 10002 |
| AC Present | BI | 3 | 10003 |
| Ready | BI | 4 | 10004 |
| Switched Load | BI | 5 | 10005 |
| Alarm Summary | BI | 6 | 10006 |
| Bypass | BI | 7 | 10007 |
| Circuit Breaker Tip | BI | 8 | 10008 |
| Startup Fault | BI | 9 | 10009 |
| Charger Fault | BI | 10 | 100010 |
| Inverter Fault | BI | 11 | 100011 |
| Input Voltage (Phase A) | AI | 1 | 30001/30002 (FLOAT) |
| Input Voltage (Phase B) | AI | 2 | 30003/30004 (FLOAT) |
| Input Voltage (Phase C) | AI | 3 | 30005/30006 (FLOAT) |
| Output Voltage (Phase A) | AI | 4 | 30007/30008 (FLOAT) |
| Output Voltage (Phase B) | AI | 5 | 30009/30010 (FLOAT) |
| Output Voltage (Phase C) | AI | 6 | 30011/30012 (FLOAT) |
| Output Current (Phase A) | AI | 7 | 30013/30014 (FLOAT) |
| Output Current (Phase B) | AI | 8 | 30015/30016 (FLOAT) |
| Output Current (Phase C) | AI | 9 | 30017/30018 (FLOAT) |
| Battery Voltage | AI | 10 | 30019/30020 (FLOAT) |
| Battery Current | AI | 11 | 30021/30022 (FLOAT) |
| Temperature | AI | 12 | 30023/30024 (FLOAT) |
| Output VA (Phase A) | AI | 13 | 30101/30102 (UINT32) |
| Output VA (Phase B) | AI | 14 | 30103/30104 (UINT32) |
| Output VA (Phase C) | AI | 15 | 30105/30106 (UINT32) |
| Battery Power | AI | 16 | 30107/30108 (UINT32) |
| System Runtime (Days) | AI | 17 | 30109/30110 (UINT32) |
| Inverter Runtime (Minutes) | AI | 18 | 30111/30112 (UINT32) |
| Inverter Runtime (Seconds) | AI | 19 | 30113/3014 (UINT32) |
| System Events | AI | 20 | 30115/30116 (UINT32) |