E3MAX-1P

13,300-17,000 VA Single Phase Modular AC Inverter

DATE:

PROJECT

COMMENTS:

FEATURES

- Optional Web-based Monitoring Platform – easily view, interact with, download and manage records as needed on any PC or mobile device
- Programmable and password protected user interface
- 98% efficient for minimal BTU losses
- PWM Inverter provides pure sine wave output with less than 3% THD
- Crest factor >4 overload protection for demanding high in-rush loads
- Programmable transfer time – select between standard and fast transfer times for load and site compatibility
- UL listed 90 minute run-time
- Compatible with all lighting loads, including HID
- Variable time delay
- Battery recharges in less than 24 hours
- Single phase output
- Start-Up Diagnostics checks for proper installation

ORDERING INFORMATION *E3MAX-13300-1P-IA-OA-C##*

1. SERIES		2. VA RATING		3. PHASE		4. BATTERY TYPE		5. INPUT VOLTAGE		6. OUTPUT VOLTAGE	
E3MAX	-		-	1P	-		-	IB	-	OB	-
		13300 13300 VA Single Phase **17000** 17000 VA Single Phase		**1P** Single Phase		**LC** Lead Calcium **LB** Less Batteries		**IB** 277V		**OB** 277V	

7. OUTPUT BREAKER - NORMALLY ON*

C* * Normally On Breakers[1]

10. OPTIONS

BLANK = NO OPTION

MB	Maintenance Bypass Switch
CB	Custom Breaker
DT	Delayed Transfer
EBW20	Extended Battery Warranty
EEW	Extended Electronics Warranty
TA	Trip Alarm with Breaker
RA	Remote Annunciator (Not Included with TB)
TB	Programmable Terminal Block (Not Included with RA)
BI	BMS Integration
BTMS	Battery Thermal Management System
EO	Emergency Power Off
WEB	Web Monitoring Connection[3]
LO	Breaker Locks
Z4	Seismic Zone 4 Restraints (Includes KE)

NOTE

Maximum number of OUTPUT breakers supported depends on sizing and option selection. Contact factory for specific details.

ORDERING NOTES

1. See breaker configuration table on page 3 for maximum breakers.
2. In order to use the web-based monitoring available at **Isolite.com**, the -WEB option must be selected.

ACCESSORIES ON BACK

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ACCESSORIES; ORDER SEPARATELY

- **E3MAX-MP#** = Maintenance Plan plus number of years (#)
- **FS** = Factory Start-Up

SPECIFICATIONS

OPTIONAL FEATURES

- Maintenance bypass switch
- Circuit breakers – supervised or unsupervised
- Maintenance contract/plan
- Remote Annunciator
- Factory Start-Up – increases electronics warranty to 3 years
- Circuit breaker protected loads (Switched, Normally On, and Normally Off)
- Fault summary alarm and 2 programmable alarms – Form C dry contacts

FRONT PANEL

- Modern 4x20 LCD character display with white LED back-light
- Heads-up diagnostic LEDs include 5 status (AC present, battery charging, inverter power, system ready, switched load energized), fault summary LED, and 5 specific faults (unit in bypass, circuit breaker trip, Start-Up fault, charger fault, inverter fault)
- Dedicated System Test button – initiates 30-second test with UL compliant diagnostics
- 5-button keypad for menu navigation
- Sonic alarm with dedicated enable/disable pushbutton with heads-up LED. Alarm silence has 24-hour ring-back for alarm reminder
- SD memory card – download and store all events, tests, and alarm logs (password protected)
- USB connector – access to all event, tests, and alarm logs (password protected)
- Ethernet – 10 BASE-T, TCP/IP web serving

BATTERY

- Front access VRLA batteries with 10-Year prorated warranty

TEMPERATURE RATING

- Inverter Operating Temperature: 32°F to 104°F (0°C to 40°C)
- Battery Operating Temperature: 68°F to 86°F (20°C to 30°C) per UL 924 Specifications

MAINTENANCE PLAN

- Once per year the manufacturer's technician shall visit the site to perform maintenance and software upgrades as needed. Maintenance shall include battery voltage checks, torque setting verification, cleaning, and a thorough visual inspection. All electronics warranties shall be extended to the duration of the Maintenance Plan. Maintenance Plans can be purchased for a duration of 1 year to 5 years.

APPROVALS

- UL 924
- New York City Approved, Calendar Number 51575
- NFPA101 Life Safety Code
- NFPA70-NEC
- OSHA
- NEMA Type 1 enclosure
- BAA Compliant

BMS INTEGRATION

- BACNet IP
- BACNet MS/TP
- Modbus TCP
- Modbus RTU

WARRANTY

- Isolite warrants the E3MAX series electronics assembly against defects in material and workmanship for a period of 2 years, or 3 years with factory Start-Up option. Extended Warranty options available.
- Batteries must be installed within 180 days.
- The average annual temperature shall not exceed 77°F.
- Temperatures shall not exceed 92°F for more than 30 days annually.
- Isolite warrants the E3MAX series lead calcium batteries for a 1-year full and 9-year prorated limited warranty.
- For further details, refer to General Warranty and Obligations in the Isolite manual or on our website.
- The EEW option extends the electronics warranty to 5 years. Batteries are not included in the extended warranty.

NOTES

- Due to power factor calculations, we recommend only loading the E3MAX inverter to 90% of load wattage.
- Max power for any phase (L-N, L-L) is 1/3 of total power capacity.
- For Two Phase, Split Phase, or Three Phase, see E3MAX-2P, E3MAX-SP, or E3MAX-3P.

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MAXIMUM BREAKERS		
Phase	# of Breakers Normally On	# of Breakers Normally On with TA
Single-Phase (1P)	36	24

WEIGHT & DIMENSIONS									
Phase	Power Rating (kW)	# of Cabinets	Width (in)	Height (in)	Depth (in)	Inverter Cabinet Weight (lbs)	Battery Cabinet Weight (lbs)	Shipping Weight (lbs)	# of Batteries
Single-Phase (1P)	13.3 kW	2	53	77	25	790	2336	3161	16
	17.0 kW	2	53	77	25	790	2820	3645	20

ELECTRICAL DATA					
Model	Power Rating (kW)	Minimum Feed Breaker	Suggested Feed Breaker	Full Load BTU/Hr	WH Ratings
		Input Voltage IB	Input Voltage IB		
E3MAX-13300-1P	13.3 kW	78 A	80 A	907	30720
E3MAX-17000-1P	17.0 kW	99.7 A	100 A	1159	38400
NOTE: Mixed input/output voltages are handled as ETO and may lead to additional hardware and changes in cabinet configuration.					

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OPTION DEFINITIONS

Battery Thermal Management System (BTMS)
A more advanced temperature reading configuration that measures temperature at the busbar between every two batteries.

BMS Integration (BI)
The inverter sends info to a Building Management System via a wired connection.

Breaker Locks (LO)
Allows breakers to be locked in the on or off position.

Custom Breaker (CB)
Output breakers of unique amperage/voltage.

Delayed Transfer (DT)
This slows down "Fast Transfer" from 2mS to a standard transfer time of 50mS. This option is ideal for movie theaters or other places with soft ambiance lighting to avoid premature deployment of emergency lighting power in a brownout situation.

Emergency Power Off (EO)
A big red button that kills power to everything.

Extended Battery Warranty (EBW20)
Extends the prorated battery warranty schedule to 20 years.

Extended Warranty (EW)
Extended Warranty can be purchased only if the on-site Factory Start-Up has been purchased as well. Extended Warranty increases the electronics warranty from the standard 3 years (with Factory Start-Up) to a full 5 years.

Factory Start-Up (FS)
On-site Factory Start-Up includes an on-site visit from an Isolite Technician for inverter activation and demonstration. On-site Factory Start-Up increases electronics warranty from 2 to 3 years. Please see page 34 for full warranty details. To purchase and schedule Factory Start-Up, please visit our website and select "inverters" on the main menu and see "Start-Up Form." Fill out the form, and send it to the email address on the form.

Free phone start-up is available as well. For over the phone assistance with your inverter or start-up, please call our Inverter Tech Support at 800-967-5573, and they will be happy to assist you. Note that the phone start-up does not increase the warranty.

Keyed Enclosure (KE)
Locking cabinet with key for areas where unauthorized tampering is a concern.

Maintenance Bypass Switch (MB)
Internal switch to bypass all inverter operations. When activated, input power is transferred directly to the output breakers, allowing inverter servicing.

Maintenance Plan (M#)
Customer may choose from 1 year (M1) to 5 year (M5) maintenance plans. Once per year an Isolite Technician will visit the site to perform maintenance and software upgrades. The maintenance includes battery voltage checks, torque setting verification, cleaning, and physically ensuring that the inverter is 100% operational. If any issues with the inverter are found, Isolite will fix or replace parts as necessary. All electronics warranty is extended to the duration of the maintenance plan. Note that the battery warranty is not extended and will keep the standard 10 year prorated schedule.

Programmable Terminal Block (TB)
Allows inverter operations to be output to another system such as Lutron, or Crestron. Form C dry contact ensures integration into these systems with ease.

Remote Annunciator (RA)
An LED indicator and audible alarm which enables the user to monitor the status of the inverter from a remote location where the annunciator is mounted. An annunciator located in a separate office will alert those present that the inverter is in an alarm condition.

Seismic Restraints (Z4)
Seismic Restraints are shaker table tested and seismic certified to the latest California Building Code (CBC) 2016. Shake table testing was performed in accordance with International Code Council Evaluation Service Acceptance Criteria 156 (ICC-ES AC156) and is OSHPD approved. For more details, please reference our Seismic Certified Inverters booklet. Locked cabinet (KE) standard when Z4 is chosen.

Trip Alarm with Breaker (TA)
Trip Alarm is a feature of Isolite Inverters that notifies the instrument panel if any breaker output is tripped. This will broadcast an alarm to the remote (*requires additional Remote Annunciator (RA) purchase).

Wall Mounting Bracket (WB)
Mounts inverter to the wall (E3MAC-1000 only).

Web Monitoring Connection (WEB)
Access critical data from the inverter through the internet.

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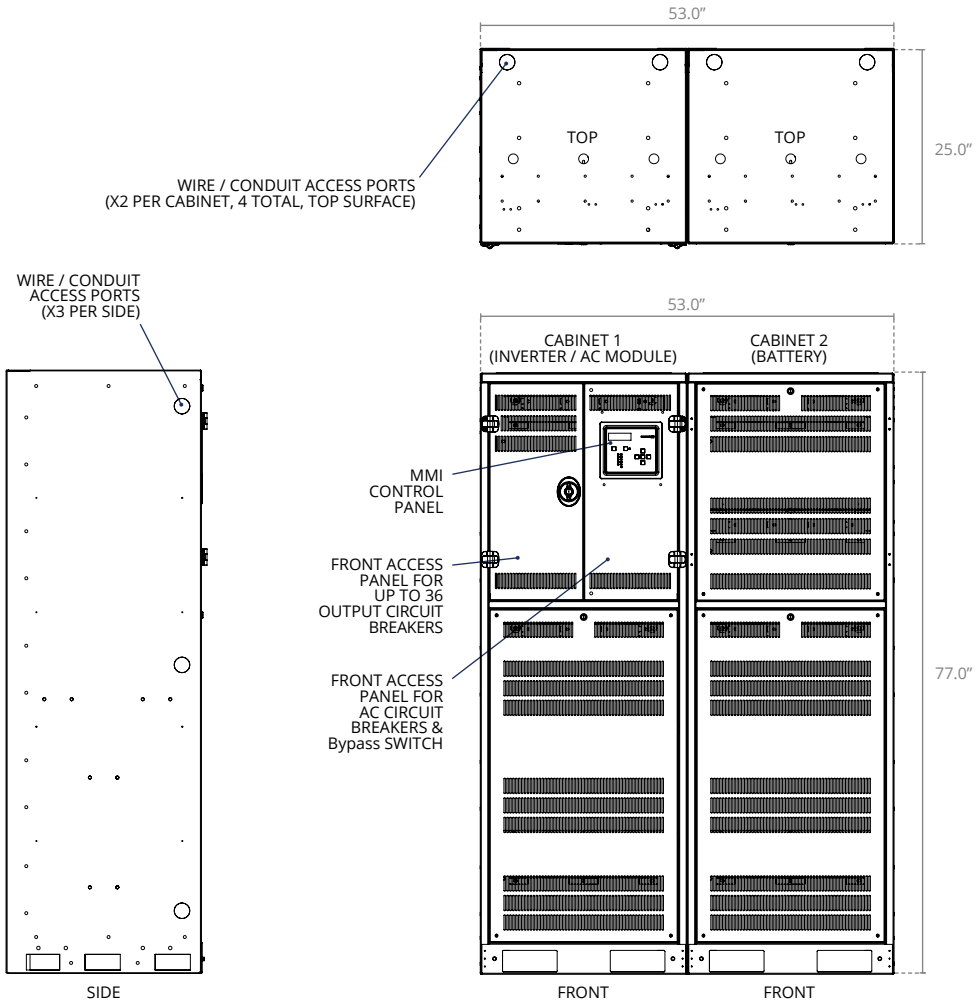
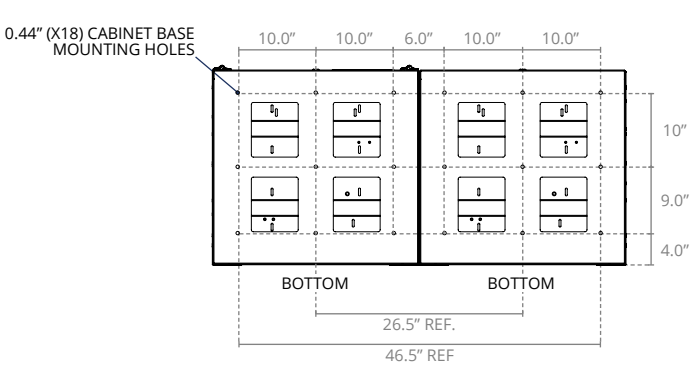
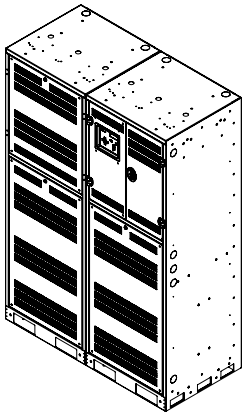
DIAGRAMS

2 CABINET CONFIGURATION







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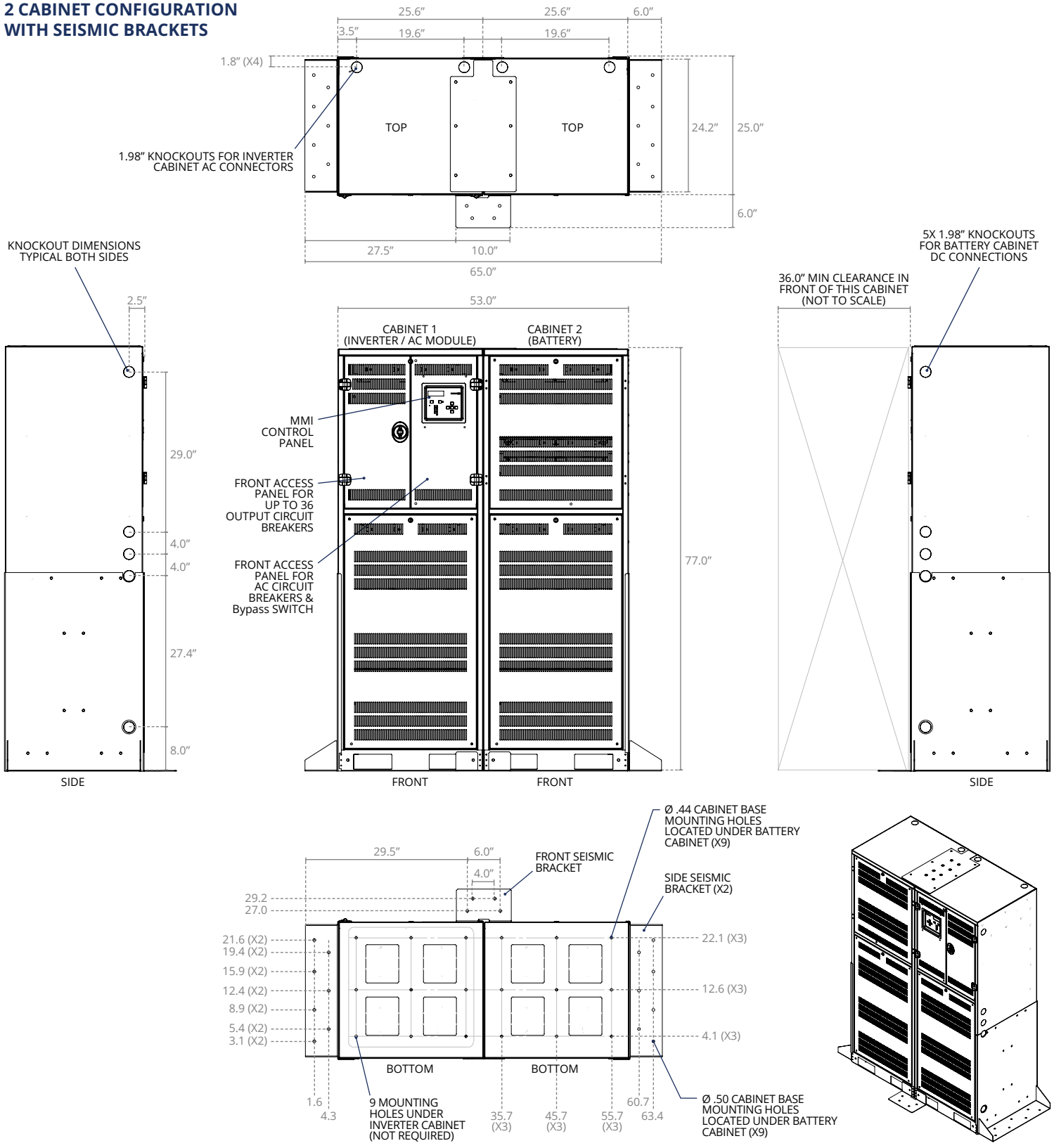
DIAGRAMS (CONTINUED)

2 CABINET CONFIGURATION WITH SEISMIC BRACKETS



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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 Trip	BI	8	10008
Start-Up 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	30113/30114 (UINT32)
System Events	AI	20	30115/30116 (UINT32)