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AC LV SWBD - 1200-1600A, 480-800VAC

UL 891 Certified SWBD's for Solar / BESS Applications

Multi-section SWBD platform designed for AC collection of Solar or distribution / integration of BESS projects. Thermally engineered for demanding outdoor applications, features up to 6000A bus and 5000A (6000A air cooled) main breaker. Other features include: Multiple mains, feeder sizes from 15A to 2500A, M-T-M control sections, generator quick connect options.

Product Details

- 480VAC, 600VAC, 800VAC, 3P3W or 3P4W
- UL / NEMA 1 or 3R
- Main breaker ranges: 1200A – 5000A (6000A air cooled), MLO up to 6000A, fixed or draw out
- Single ended or double ended (M-M or M-T-M)
- Feeder ranges ACB: 1200A, 1600A, 2000A, 2500A, fixed or draw out
- Feeder ranges MCCB: 150AF, 250AF, 400AF, 600AF, 800AF, 1000AF
- Feeder trip type: Thermal Mag or Electronic Trip
- Interrupt Ratings:
 - 100kAIC @ 480VAC
 - 65kAIC @ 600VAC
 - 50kAIC @ 800VAC
- Full front access, incoming / outgoing bottom or top entry
- Direct bus / busway option (side) for main / ACB feeder
- Control section M-T-M control schemes



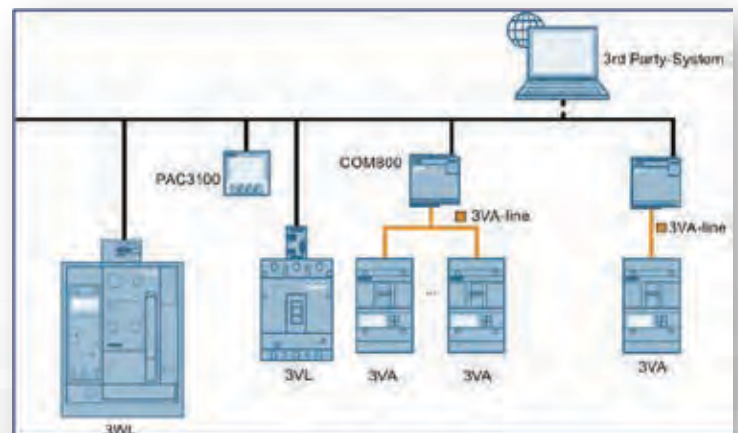
Pictured above: UL 891 / NEMA 3R, 480 / 800VAC, 6000A SWBD, single ended, with: cable input section, 5000A main, ACB feeder section, MCCB feeder section & SEL control section

Ample Power Capacity

Our 6000A Switchboard delivers the power capacity required, for Solar / BESS requirement. With fault current ratings of 100/65kAIC at 480/600V (supports 4500/3500kVA sized MV Transformers at 480/600VAC, respectively.)

Intelligence for Diagnostics, Metering, & Switching

Our SWBD's utilize Siemens' state-of-the-art power (3WA) and molded case (3VA6) circuit breakers. Full metering and diagnostics for each circuit is available from advanced trip units. Information is easily made available to via Modbus TCP or other ethernet / PLC protocol. If advanced communication is not required standard trip units are available.





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Pictured above: UL 891 / NEMA 3R, 480 / 800VAC, 6000A SWBD, double ended, with: cable input section, 5000A main, ACB feeder section, MCCB feeder, 2nd 5000A main, 2nd cable input section & SEL control section.

Future-Proof Your Solar / BESS Application

Our 6000A SWBD is not just a product, it's long-term investment. Its scalable design allows for easy upgrades and expansions, ensuring it can meet the needs of your plant both now and in the future. Designed on the newest version of Siemens' circuit breaker technology, your equipment will stand up to the test of time with ease.



Enhanced Safety Features

Safety is our top priority. Our 6000A SWBD comes with state-of-the-art safety features, including advanced circuit protection (AERMS per NEC 240.87) and fault detection capabilities. This ensures your equipment and personal are both safe.

Superior Reliability

EPEC is a proven leader in the design and build of LV AC SWBD's in the demanding solar, energy storage, and EV charging industries. We understand that downtime is not an option for your facility. That's why our 6000A Switchboard is designed for maximum reliability. It's robust construction and advanced engineering ensure consistent performance and minimal maintenance.



Pictured above: EPEC N3R "solar specific" SWBD. EPEC SWBD's are utilized in over 1 gigawatt of solar installations.



AC Recombiner - 1200 to 4000A, 480-600VAC



UL 891 Certified Switchboards for BESS Applications

Main breaker switchboard platform for both 480VAC and 600VAC string inverter applications. Supporting up to (40) feeders in one PV rated switchboard. Multiple feeder breaker size options and combinations available, with bus ampacities from 1200A to 4000A. MVT connections available by direct bus or by cable.

Product Details

- Combiner and / or recombiner functionality
- 480 or 600VAC, 3PH, 4W (90" x 60" x 36")
- 1200A to 4000A main breaker / bus rating options
- Drives up to 3,000kVA transformer @ 600VAC
- Main lug only option also available
- High density (up to 40 x 100AF) branch feeders
- Feeder ranges: 100AF, 150AF, 250AF, 400AF, 600AF, 800AF
- Feeder trip type: Thermal Mag or Electronic Trip
- Interrupt Ratings:
 - 65kAIC @ 480VAC
 - 50kAIC @ 600VAC
- Surge suppressor option
- Oversized lug options for feeders available
- CT / PT / metering packages available
- Thermally engineered NEMA 3R enclosure

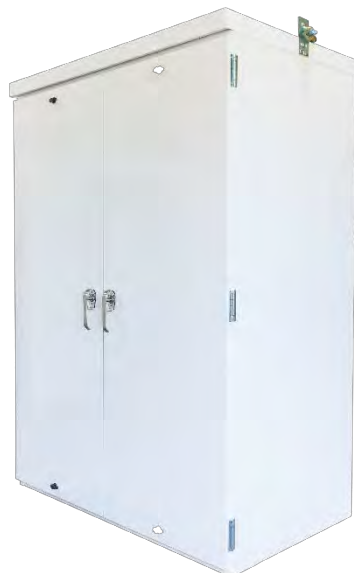


Pictured above: UL / NEMA 3R 480 / 600VAC, 4000A bus, 4000A main with qty (20) 150AF MCCB feeders

Additional Views

Pictured direct right: Unit with NEMA / UL 3R doors closed. This AC Recombiner platform provides maximum of (30) feeders @ 150AF or 250AF and (40) feeders @ 100AF, plus main breaker, in a compact 90" x 60" x 36" unit size.

Pictured far right: Interior view of 4000A unit with dead front removed. Cable entry at the bottom, unit either direct cabled to MVT (see rear of flyer) or directly cabled.

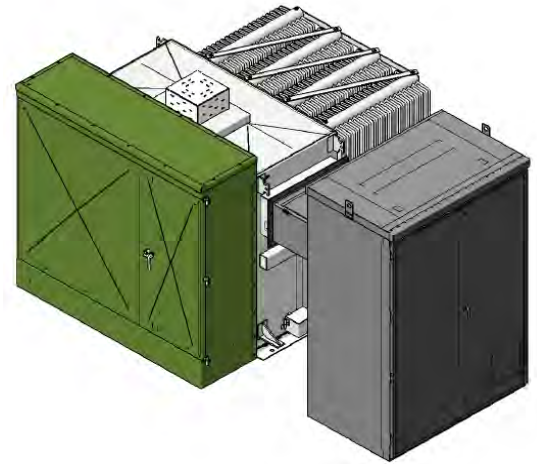


480VAC – 600VAC BOS Equipment

Custom Throated Transformer Connections

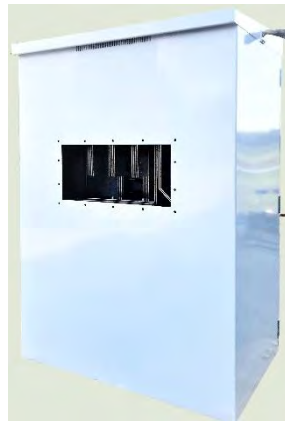
Details

- Single or dual recombiner direct bussed connections to MVT
- MVT / block sizes: Single up to 3,000kVA, dual up to 5,000kVA
- Available with copper bus bars for MVT connection, or optional UL listed ERIFLEX flexible bus bars in UL 870 trough
- Engineered, PE stamped recombiner / transformer skirts available



Pictured above: Single 600VAC, 4000A, UL / NEMA 3R UL 891 switchboard with close coupled bus connection to 2,800kVA MV transformer.

Pictured far left: Rear unit view showing close up on direct bus tie to MVT. Left: full back view.



600VAC Revenue Metering and Auxiliary Power Panels

Details - Revenue Metering

- 600VAC rated PTs and CTs for standard and revenue grade metering
- UL508A rated metering cabinet, style matched to AC Recombiner
- MCCB monitoring and control (aux contact and shunt trip) available

Details - Auxiliary Power Panels

- UL Listed **Powertran** "Powercenter" combines auxiliary transformer and circuit breaker distribution functions into one cabinet
- Sizing from 5kVA to 30kVA: Primary voltages 800 / 600 / 480VAC
- Secondary voltages 480 / 240 / 120VAC
- Compact and economical solution for auxiliary power loads, including SCADA, tracker motors, heating and cooling, etc.



Pictured left: Top down view of 7.5kVA power center 480: 240/120 with (7) secondary MCBs. Pictured right: 800VAC metering cabinet (view door removed) with PTs and ION 8650 revenue grade meter.





600VAC PV Switchboard

600VAC, UL 891, 1200-4000A (Recombiner)

Specifications UL 891 PV Approved Switchboard

Quantity: 1

Alignment: Front Access

Service: 600VAC, 3Ph, 4W

Minimum Interrupt Rating: 50 kA (65kAIC @ 480VAC)

Bus Specifications

Bus Amps: 1200 to 4000A Bus bracing 50KAIC (65kAIC @ 480VAC)

Neutral Amps: N/A

Bus Material: Copper

Gnd Bus Mat: Copper .25 x 2" (qty 2)

Incoming Information

Incoming Entry: Bottom

Incoming Qty / Sz: Up to 350MCM (150/250AF), Cu/Al, landing on MCCBs directly. Up to 600MCM x (2)per phase (400/600AF), Up to 500MCM x (3) per phase (800AF)

Outgoing Information

Outgoing Entry: Rear, hard buss connection to Medium Voltage Transformer through UL 870, NEMA 3R trough, or alternatively, direct cable connection to MVT.

Structure Specifications

Enclosure Type: Type 3R (non walk-in) Flat Roof

Special Notes:

Enclosure Properties

Structure #

1

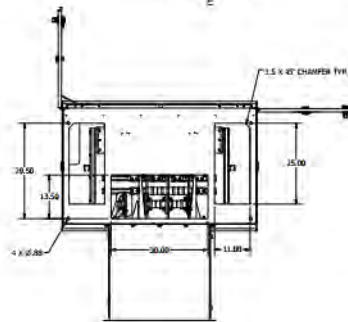
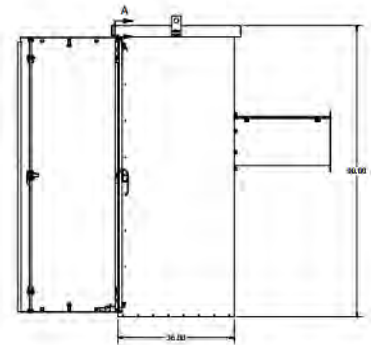
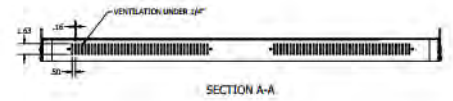
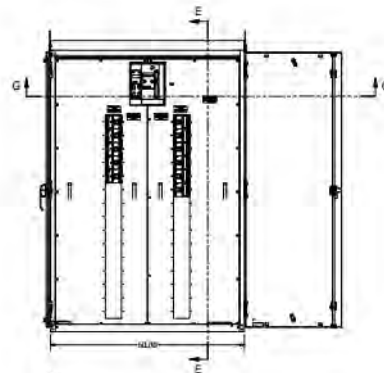
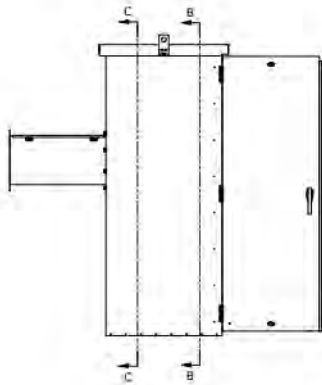
Up to 20* feeders, right post, (100AF,150AF, 250AF, 400AF, 600AF,800AF), ETU or TM trip

Main ACB w/ LSIG (or alternate main switch or MLO)

Up to 20* feeders. Left post, (100AF,150AF, 250AF, 400AF, 600AF, 800AF), ETU or TM trip

*Number of feeders is dependent on physical size, and total amperage. Max 20 feeders per post for 100AF, max 15 feeders per post for 150/250AF, etc.. Switchboard has (2) mounting posts.

Typical Layout – External - Bus Connection



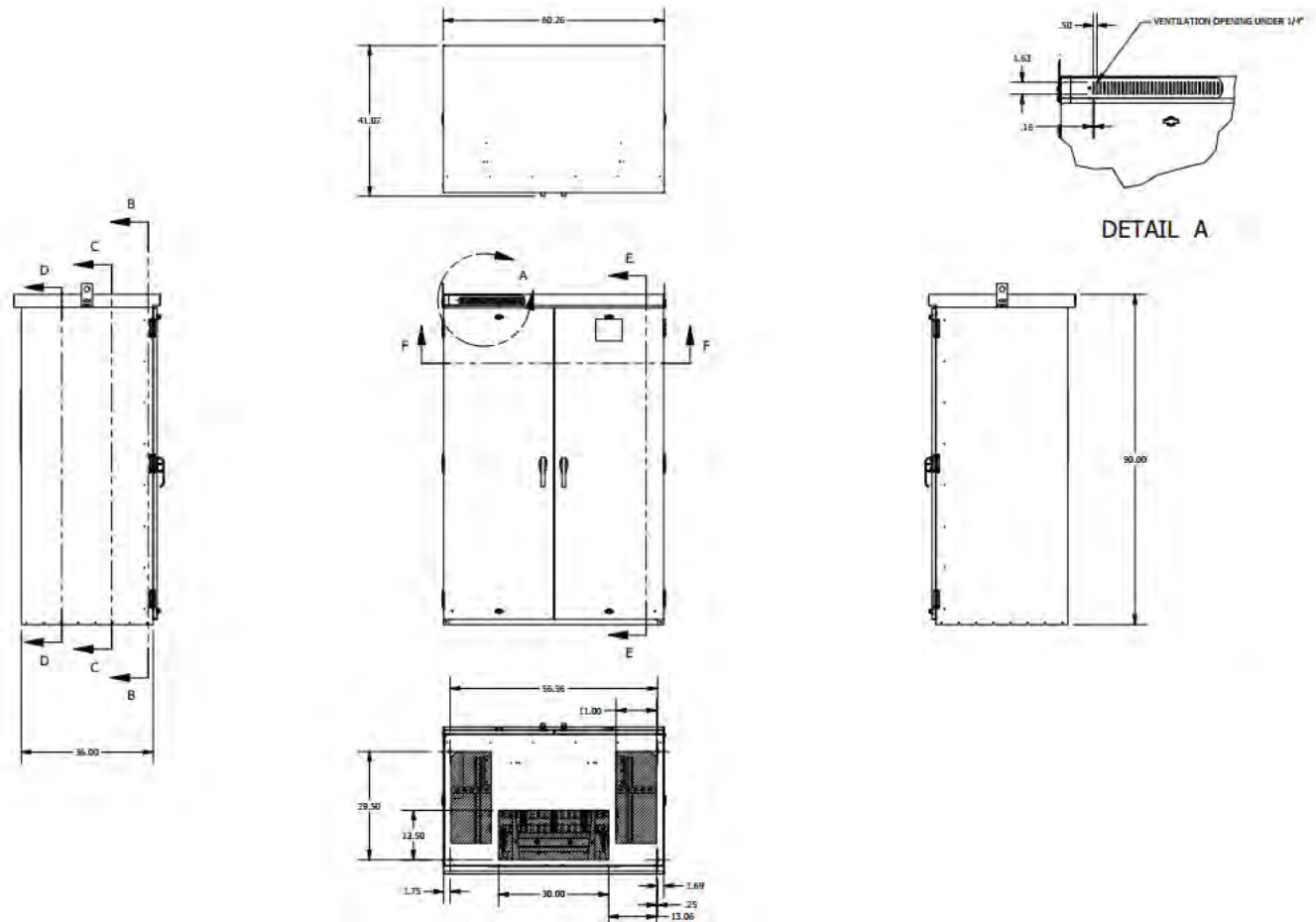
H = 90"

W = 60"

D = 36"

Weight = 2500lbs (1200-2500A) 5,500lbs (4000A)

Typical Layout – External - Cable Connection



H = 90"

W = 60"

D = 36"

Weight = 2500lbs (1200-2500A); 5,500lbs (4000A)

600VAC PV Switchboard

Additional Images

View, Nema 3R Doors Open, Dead Front View



1200-4000A



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View, Internal Trough Bus Connection, 4000A Trough is certified UL 870 and NEMA 3R



480-600VAC BoS Family

Compact in Size, Powerful in Action



400-1200A Freestanding UL-891 Switchboard

- Main breaker, LSIG, AERMS, main lug option
(up to 65kAIC @480 / 65kAIC @600)
- No nuisance tripping, electronic trip breakers on main & all feeders
- Reduce cable sizing, 100% rated MCCBs
- Compact, 80" x 42" x 24" (padmount)
- Cable connection to MV transformer
- NEMA 3R
- UL891 certified

MAIN BREAKER & UP TO 15 (150A/250A) OR UP TO 4 (400A/600A) FEEDERS (AC COMBINER)

400-1200A Rackmount Combiner

- Main breaker, LSIG, AERMS option
(up to 50kAIC @480 / 50kAIC @600)
- No nuisance tripping, electronic trip breakers on main & all feeders
- Reduce cable sizing, 100% rated MCCBs
- Compact, 60" x 36" x 18" (rackmount)
- Cable connection to MV transformer
- NEMA 3R
- UL891 construction / UL508A certified



MAIN BREAKER & UP TO 10 (150A/250A) (AC COMBINER)



epecsolutionsinc.com
Contact: Drew Vermillion
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drewvermillion@rebossinc.com

AC Combiner – 400A to 1200A, 480-600VAC



Free Standing UL 891 Switchboard for BESS / PV Applications

Main breaker free standing platform for 480-600VAC PV & BESS applications. Supporting up to (15) feeders as a UL 891 AC combiner. Multiple feeder breaker size options and combinations available, with bus ampacity sized at 1500A. MVT connection via cable.

Product Details

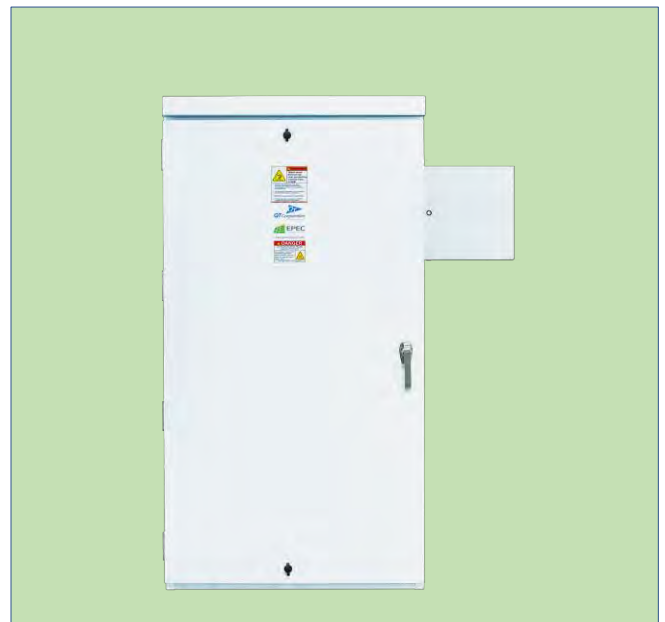
- UL 891 construction & certification
- 480 to 600VAC, 3PH, 4W (80" x 42" x 24")
- 400A to 1200A main breaker / 1500A bus rating
- 100% rated main & feeder (option)
- Main breaker LI or LSIG (ETU), LSIG with AERMS
- Feeder ranges: 100AF, 150AF, 250AF, 400AF, 600AF
- Feeder trip type: Thermal Mag or Electronic Trip
- Interrupt Ratings:
 - 65kAIC @ 480VAC
 - 65kAIC @ 600VAC
- Surge suppressor option
- Bottom entry / exit
- Optional output CTs
- Thermally engineered NEMA 3R enclosure



Pictured above: UL / NEMA 3R 480-600VAC, 1500A bus, with 1200A main dead front view, 600A & 250A feeders



Pictured above: 1200A main dead front view, 600A & 250A feeders.
Pictured right: 1200A SWBD with optional power meter attachment.





480-600VAC AC Collection Switchboard

1200A Free-Standing

Specifications: UL 891 Construction / Certification

Quantity: 1

Alignment: Front Access

Service: 600VAC, 3Ph, 4W Minimum Interrupt Rating: (65kAIC @ 480VAC / 65kAIC @ 600VAC)

Bus Specifications

Bus Amps: 1500A

Neutral Amps: N/A

Bus Material: Copper, tin plated

Gnd Bus Mat: Copper .25 x 2" (qty 2)

Incoming Information

Incoming Entry: Bottom

**Incoming Qty / Sz: 150A / 250A Up to 350MCM, 1x Phase, landing onto MCCBs directly
400A / 600A Up to 600MCM, 2x Phase, landing onto MCCBs directly**

Outgoing Information

Outgoing Entry: Bottom

**Outgoing Qty / Sz: 3x 750MCM landing onto main , or up to 4x 500MCM landing onto main
For MLO conductors land onto bus**

Structure Specifications

Enclosure Type: Type 3R (free standing) Flat Roof

Special Notes:

Enclosure Properties

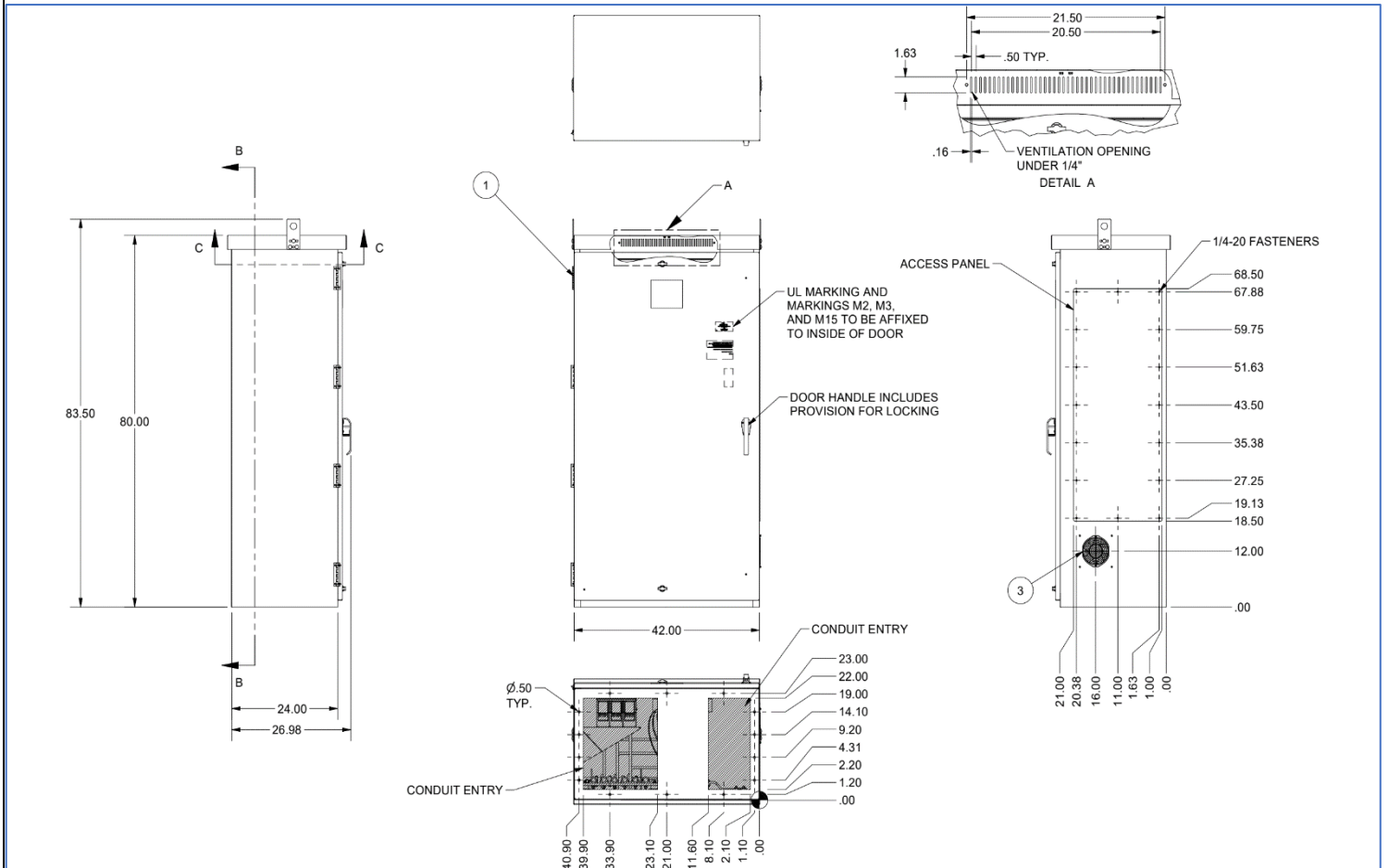
Structure #

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**Up to 15 feeders, (100AF,150AF,250AF,400AF,600AF) ETU or
TM trip, 80% or 100% rated**

**Main MCCB (400A to 1200A) w/ TM, LI or LSIG - 80% or
100% Rated, LSIG with AERMS**

Dimensional Details, 1200A Free Standing



H = 83"

W = 42"

D = 27"

Weight = 1200lbs



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AC Aux Distribution Panel - 400-600A, 480/277VAC

Custom Panels UL Certified for BESS AC Distribution

UL certified AC auxiliary distribution panels designed & manufactured for distributing power to HVAC & lighting loads in BESS applications. UL 891, design and construction, UL 508A certification. These panels are thermally engineered for demanding applications, utilize electronic trip and / or TM MCCBs, and are physically oversized for installation / cable flexibility.

Product Details

- 480/277 3P4W; 400/600A bus
- Main Breaker: 150A, 250A, 400A, 600A
- Feeder Range: 15A 1P to 250A 3P
- Interrupt Rating: 50kAIC @ 480VAC
- Incoming Cable Size: up to 2x 600MCM
- Outgoing Cable Size:
- NEMA 3R, thermally engineered design
- UL 891 const/UL 508 cert. (N3R)
- 60"x 48"x 16, oversized for ease of cabling



Pictured above: UL / NEMA 3R, 600A AC BESS distribution panel, external view



Pictured above: UL / NEMA 3R, 600A AC BESS MLO distribution panel, Internal view, No deadfront.



Pictured above: UL / NEMA 3R, 600A AC BESS MLO distribution panel, external view

Contact: Drew Vermillion 919.641.0941
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Line Reactor For UPS/BESS

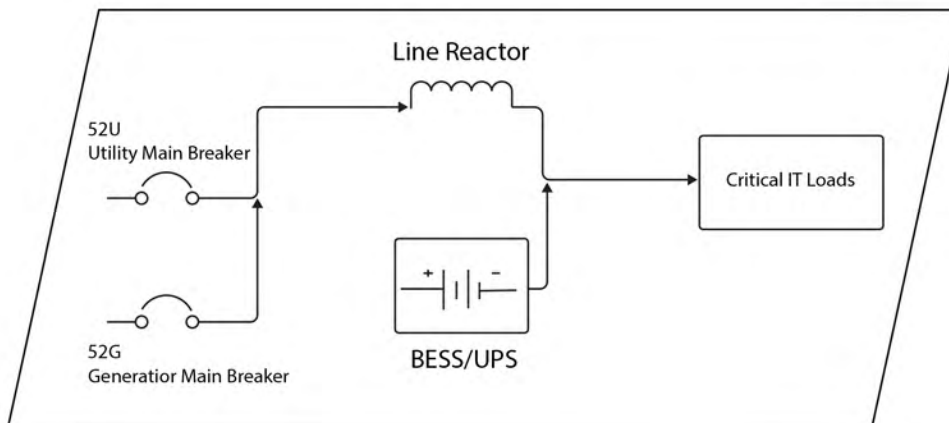
Critical Power Applications

Example Low Voltage Line Reactor Specs

- 480V 3-Phase Dry Type Reactor
- 1.4 MVAR
- .260 mHy @ 2,270 ARMS
- ISaturation: 3,000A
- 80 Degree Rise
- Cu Windings
- With CT's and RTD
- 7000 Lbs

Key Features

- 100% Made In USA
- Quietest reactors on the market
- Custom engineered based on your specifications
- Up to 45 kV System
- Can be Customized with CT's, PT's, and Temperature monitoring



Custom Integrated Skids for Solar, BESS, and EV

Fully-Engineered Power Solutions



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- Fully factory integrated: medium voltage transformer, switchboard, inverters, aux power, SCADA
- Customer specific or standard designs

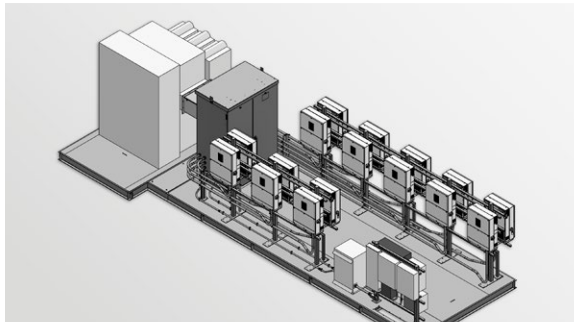
- Full 3D design
- Structural calculations (wind, snow, reaction loads) PE stamp available



PV UNIT SUBSTATION



CENTRAL INVERTER STATION



VIRTUAL CENTRAL 3D MODEL



VIRTUAL CENTRAL CONSTRUCTION PHASE



epecsolutionsinc.com