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Avid Extreme Inverter - Auxiliary Power Unit Data Sheet

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1. Overview and Applicable Models

- Avid Extreme Inverter modules (*AEI's*) require a 24V auxiliary supply – the rating of which varies according to model and details are provided in the appropriate data sheets.
- Avid *Auxiliary Power Units (AEI-APU's)* provide this supply from a 100V-240Vac control supply, by packaging high quality off-the-shelf components in an assembly that is compatible with mechanical mounting directly to the inverter module and is pre-fitted with the necessary connector to the AEI's.
- This Data Sheet does not duplicate information regarding the components (Power Supply and Buffer Unit) – instead we provide links to manufacturer's data for these components.
- The following table lists the specific models of APU described in this Data Sheet:

Model Number	Where Used	Attributes
AEI-APU-D-00	Used to power a single AEI550A, AEI900L, AEI1000L, AEI1250L or AEI1400L	<ul style="list-style-type: none"> • High rating power supply unit • Buffer unit
AEI-APU-E-00	Used as a Master APU to power up to four AEI550A, AEI900L or AEI1000L modules when combined with AEI-APU-F Slave APU's. May also be used where -D version is used.	<ul style="list-style-type: none"> • High rating power supply unit • Buffer unit • Auxiliary 24V outputs connect to Slave APU's
AEI-APU-F-00	Used as a Slave APU to buffer the supply for each AEI module connected to a Master APU unit.	<ul style="list-style-type: none"> • Buffer unit only • Input is 24VDC from Master APU

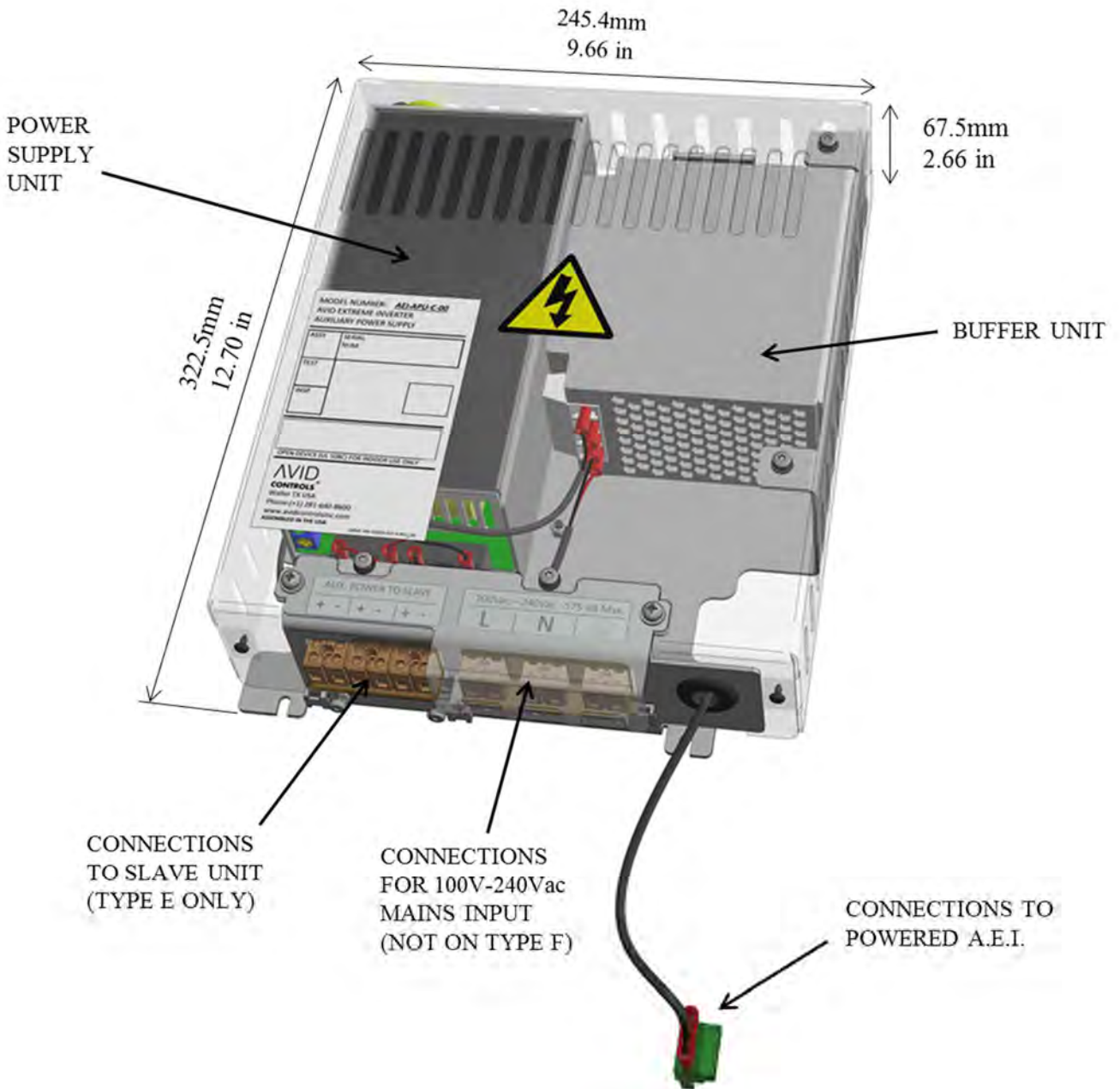
*: The “-00” at the end of the APU Model Number indicates the compatibility of the APU designs. The 00 value indicates that the APU's have no design revisions that create compatibility issues between revisions.

2. Warnings

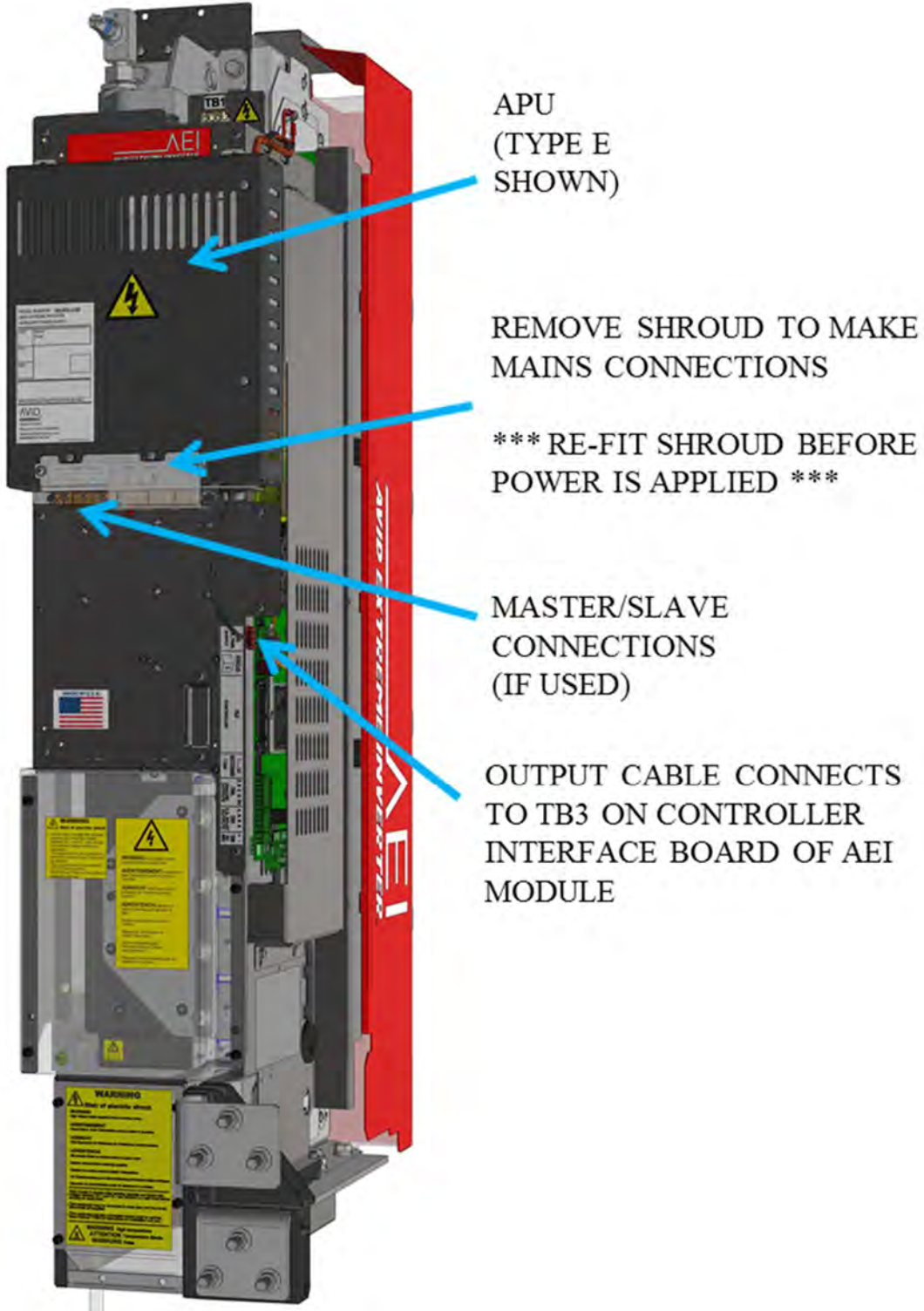
- The AEI-APUs are used to power Avid Extreme Inverters, which may be connected to more than one live circuit. APU types D and E are fed from a transformer whose supply may remain live after other supplies have been turned off. The supply to this transformer (CPT) has its own circuit breaker.
- Wait at least **EIGHT** minutes after isolating all supplies and check that the voltage on the AEI between DC+ and DC- has reduced to a safe level before working on the equipment.
- Surfaces on the coolant pipes of the AEI system can reach high temperatures and remain hot for some time after power is removed.
- Ensure that all coolant has reached safe temperature and the equipment is suitably drained and isolated before the external pipework is disconnected from the equipment.

3. Mechanical

- The following figure shows the general mechanical layout and overall dimensions of the unit (cover is shown as clear for clarity):



4. Fitting to Inverter Unit



5. Specifications

5.1 Mechanical

Specification	Value	Notes & Applicable Conditions
Dimensions	322.5mm L x 245.4mm W x 67.5 mm H (12.70-in x 9.66-in x 2.66-in)	
Weight	3.2 kg (7.1 lb.) (APU-D & E) 2.5 kg (5.5 lb.) (APU-F)	
Enclosure	IP00 (IEC 60529:1989; BS EN 60529:1992) NEMA 1	Must be installed within suitable enclosure with restricted access

5.2 Environmental

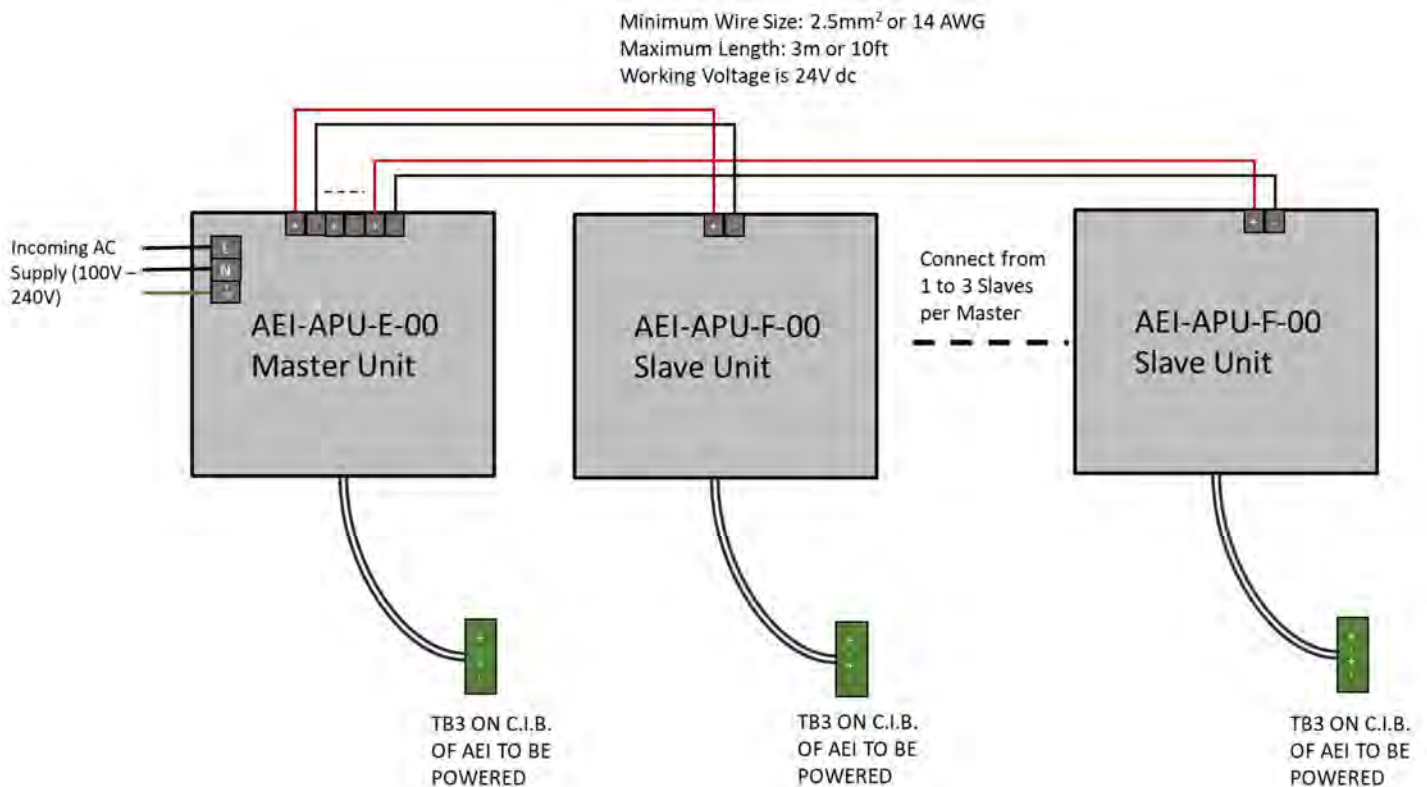
Specification	Value	Notes & Applicable Conditions
Ambient Temperature (Internal cabinet temperature) - Operating"	0 to 50°C	
Temperature – Storage or Transport	-13°F to 131°F (-25 to +55°C)	
Altitude – Operating	Up to 3280ft. (1000m) ASL. Between 3280ft. (1000m) and 6551ft. (2000m) apply derating of 7.5% per 3280ft. (1000m).	
Altitude – Storage	Up to 9842ft. (3000m) ASL	
Altitude - Transport	Will withstand air transport	
Vibration – Transport	IEC 60721-3-2:1997 Class 2M1, in transport packaging.	
Cabinet air – operating	Pollution Degree 2 as per IEC60664-1, UL 840 & CSA C22.2 No. 0.2-93 Maximum chemicals 15ppm H ₂ S, 25ppm NO ₂ , 25ppm SO ₂	Air must be clean, free from dust, condensation and conductive or corrosive gases.
Humidity – operating, storage or transport	5% to 95% RH Non-condensing	Unit must not be operated in the presence of condensation.

6. Connection of Incoming Supply

- The incoming single-phase AC supply voltage must be in the range 100V to 240V and be able to supply a maximum of 575 VA of power.
- Two connections are provided for each of L, N and Earth/Ground to allow for easy chaining of multiple APU's – either terminal may be used for “in” and “out” in each case.

7. Connecting Master (Model -E) and Slave (Model -F) Units

- For systems using multiple of the smaller AEI modules (AEI550A to AEI1000L), the high-power power supply used in model -D and -E APU's has ample rating to supply up to four AEI modules.
- In this case, only a buffer unit (APU model -F) is needed on each of the additional units.
- These units are connected like this:



- Do not use MASTER/SLAVE arrangement for AEI1250L or higher rated unit – use an AEI-APU-D unit for each inverter.

8. Servicing and Maintenance

- The AEI-APU modules contain no user-serviceable parts.
- Always replace the terminal shroud after wiring installation.
- Periodically remove any dust build-up from the ventilation slots using clean, dry compressed air.
- For support, please contact your Avid Controls Authorized Distributor, or Avid Controls directly (contact details are on the front page of this Data Sheet).

9. Main Component List

Item	Manufacturer	Manufacturer Part Number	Complete Manufacturer's Data
Power Supply Unit	Mean Well	HRP-600-24CC	www.meanwell.com and search for HRP-600 or go directly to https://www.meanwell.com/productPdf.aspx?i=471
Buffer Option 1	Phoenix Contact	2866213	www.phoenixcontact.com and search for 2866213
Buffer Option 2	PULS Power	UF20.241	www.pulsepower.com and search for UF20.241 or go directly to https://www.pulspower.com/products/show/product/detail/uf20241/
Buffer Option 3	Phoenix Contact	2907913	www.phoenixcontact.com and search for 2907913

10. Document Revision History

Rev.	Date	Author	Changes
00	July 2 2019	G. Pace	Document created
01	Sept 2 2020	G. Pace	Format changed
02	April 9 2024	M. Woods	Environmental and additional warning information added