ARTESYN
OPEN RACK V3
5.5 kW 50 V HPR PSU

For 33 kW 1OU ORv3 HPR Power Shelves

Advanced Energy's Artesyn introduces the ORv3 5.5 kW PSU for use in the Open Rack V3 HPR Power System. The PSU is a single-phase AC to DC power supply that operates from an input voltage range of 180 to 305 VAC and produces 50 V, 110A (5.5 kW) DC output. The ORV3 HPR PSU utilizes droop plus active current sharing, enabling six PSUs to operate in current sharing mode within the ORv3 1OU HPR Power Shelf, producing 27.5 kW of N + 1 redundant power, or up to 33 kW per shelf in applications requiring multiple shelves in parallel, enabling 100 kW IT racks. In addition to an efficiency exceeding 97.5%, the PSU offers very high pulse load capability and a near unity power factor in response to dynamic loading, reducing the burden on the AC power infrastructure of the data center.

AT A GLANCE

Total Output Power

5.5 kW

Input Voltage

180 to 305 VAC

Output Voltage

50 to 49 VDC (0 to 100% load)

Mechanical Dimensions

640 x 73.5x 40 mm (L x W x H)

Operating Temperature

-5 to 45°C

KEY FEATURES

- Peak efficiency 97.5%
- Efficiency 96.5% from 30 to 100% load for 277 VAC
- 220 VAC to 277 VAC @ 5.5 kW
  200 VAC @ 4.5 kW
- Active + Droop current sharing
- Hot swappable
- Cooling via internal fan with speed control
- Modbus communications
- Interface for monitoring and control
- Black box fault logging

EMC / SAFETY COMPLIANCE

- IEC EN 61000-4-5 CAT A surges
- EN 61000-3-2 Class A harmonics
- CISPR and FCC Part A EMC
- IEC/EN/UL 62368-1

ELECTRICAL SPECIFICATIONS

Absolute Maximum Ratings					
	Conditions	Min	Typ	Max	Unit
Input Voltage AC continuous operation		180	-	305	VAC
Maximum Output Power	Vin >=198Vac Vin <=195Vac	- -	- -	5.5 4.5	kW kW
Input AC Frequency		47	-	63	Hz
Isolation Voltage Input to outputs Input to safety ground		 - -	 - -	 2,200 2,200	 VDC VDC
Ambient Operating Temperature		-5	-	45	°C
Storage Temperature		-40	-	85	°C
Humidity (non-condensing) Operating Non-operating		 10 5	 - -	 90 93	 % %
Altitude Operating Non-operating		 0 0	 - -	 3050 12000	 m m
Input Specifications					
	Conditions	Min	Typ	Max	Unit
Input Voltage		180	200 to 277	305	VAC
Input AC Frequency		47	50/60	63	Hz
Input AC Start-up Voltage		-	177	-	VAC
Input AC Undervoltage Lockout Voltage		-	172	-	VAC
Fuse	Phase and return lines UL approved	25	-	-	kA
TON_noBBU		1	-	5	Sec
TON_BBU		1	-	8.5	Sec
T-Max_ON_noBBU		6	-	8	Sec
T-Max_ON_BBU		9.5	-	11.5	Sec
Inrush Current		-	-	42	A
Hold Up Time	220 to 277 VAC input 100% load	20	-	-	ms
iTHD	5% to 10% load 277V<Vin<230V 10% to 30% load 30% to 100% load	- - -	- - -	15 10 5	% % %
Power Factor	10% to 20% load Vin < 250V 10% to 20% load 250V<Vin<305V 20% to 100% load	0.95 0.90 0.98	- - -	- - -	% % %
Efficiency	277 VAC input	-	-	97.5	%

ELECTRICAL SPECIFICATIONS

Output Specifications					
	Conditions	Min	Nom	Max	Unit
Set Point	100% Load	48.875	49.000	49.125	VDC
Output Current[1]		-	-	113	A
Ripple & Noise[2]	20MHz bandwidth	-	-	500	mVpp
V_O Dynamic Response Peak Deviation	10% min load 0 to 10 mF output cap. Dynamic load @ 20Hz Slew rate 1A/usec 50% step load 90% step load 140% step load	 - - -	 - - -	 0.5 1.0 1.5	 V V V
V_O Dynamic Response Settling Time		-	3	-	ms
Regulation and Droop Characteristics[3]		49	-	50	V
Current Sharing Accuracy	20 to 50% load 50 to 100% load	-5 -2	- -	+5 +2	% %
Output Rise Time		-	60	-	ms
Short Circuit Protection (SCP)	The rectifier employ short-circuit protection to protect the rectifier and attached load in the case of an output short-circuit or other output overload condition. the rectifier shuts off immediately. PSU will only retry once to sync start after 5s if detecting 50V bus voltage is still alive. Otherwise, PSU shall latch off. No AC_loss_L signal will be asserted during output short-circuit condition to trigger BBU backup. The latch off can be cleared by AC cycling, reseating or a Modbus command. The SCP retry counter shall be cleared 30 minutes after normal operation.				
Over Power / Current Protection (OCP)	Average power is more than 115% for 10s. Average power is more than 120% for 100ms.				
Overvoltage Protection (OVP)	The rectifier will shut down for DC output voltage exceeding 52.5 V and the reacting time will not exceed 200 ms. For DC output voltage will never exceed 54 V (fast OVP).				
Overtemperature Protection (OTP)	The rectifier employ over temperature protection for both ambient over temperature and internal thermal temperature to protect the rectifier. The rectifier will shut down under over temperature condition and recover after certain period after the over temperature condition is removed. The OTP circuit incorporate built in hysteresis such that the power supply does not oscillate on and off due to temperature recovering condition. The OTP event shall be reported as a fault condition.				

Note 1 - For surge current capabilities, see Pulse Load Operation.

Note 2 - Measured using a 0.1uF capacitor connected locally to the oscilloscope probe tips with a 100 MHz bandwidth limit enabled.

Note 3 - The rectifier droop voltage (0% to 100%) is 1 V by default (with the tolerance of ±0.125 V). That means output voltage is 49 V at 100% load and 50 V at no-load. The droop extends linearly to 150% (it means at 150%, the droop is 1.5 V, and voltage is 48.5 V).

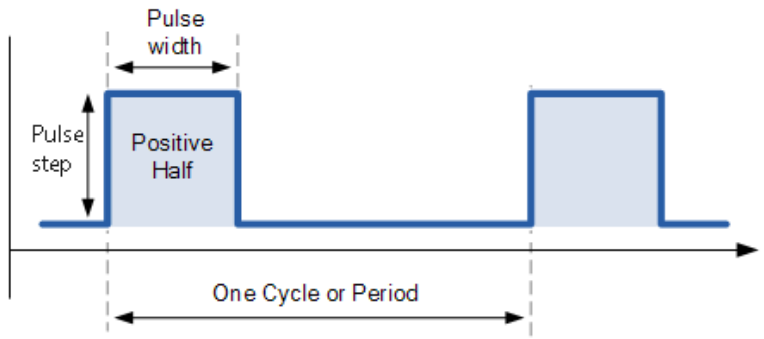
PULSE LOAD OPERATION

PSU The power supply unit (PSU) is capable of supporting the following peak load while maintaining output within regulation and without triggering the battery backup unit (BBU) to discharge.

≤136%, ≤50ms moving average,

≤160%, 400us moving average,

≤100%, ≥1s moving average.



PSU-BBU TRANSITION WITH AC_LOSS_L SIGNAL

AC_LOSS_L signals have been added to the 5.5 kW PSU (Power Supply Unit) and BBU (Battery Backup Unit) to enable control during AC loss events. Each PSU now has an output AC_Loss_L signal, while each BBU has two input AC_Loss_L signals.
The following is the diagram of AC_loss_L signal connection.

AC_LOSS_L Signal Operation

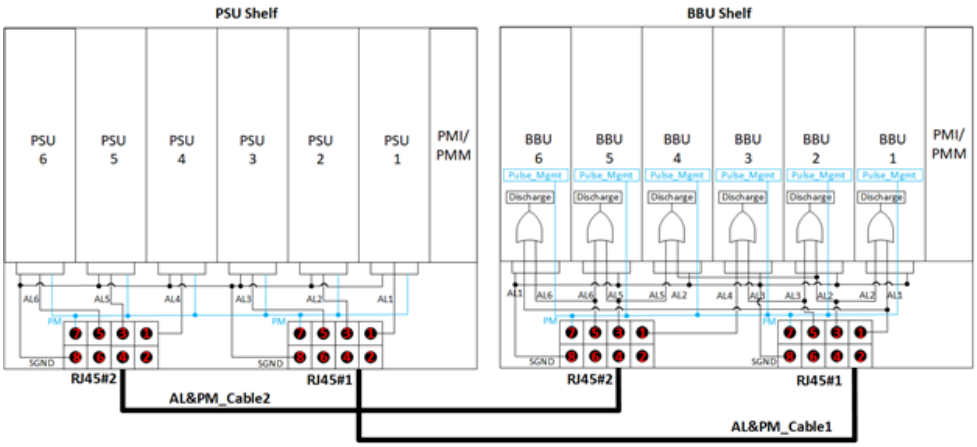
AC_LOSS_L signal assertion will be triggered by the following conditions using a logic "OR" operation to ensure proper backup operation under all conditions.
1) Upon detection of AC loss, the PSUs should assert the AC_LOSS_L signal after a validation delay of 4-5 ms.
2) The second condition for AC_LOSS_L assertion will be based on the threshold of the remaining bulk capacitor energy, which should be kept at a minimum of > 5ms to allow sufficient time for the BBU to ramp up.
3) When other AC faults happen (input UVP/OVP/UFP/OFP), the PSUs should assert the AC_LOSS_L signal after certain validation delays.

When a BBU receives the active AC_LOSS_L signals, it will pull the Sync_Start_L signal low, allowing the BBU shelf to initiate immediate discharge.

After AC restores to normal condition, the PSU shall deassert the AC_LOSS_L signal after a minimum of 500ms validation delay upon detecting the PSU main output is powered up. This ensures the safe transition from PSU to BBU and keeps the 50V bus voltage high.

The PSU AC_LOSS_L signal can be toggled through Modbus for testing purposes, including cable connections, to ensure the proper battery backup operation.

Diagram of ORV3 PSU/BBU AC_LOSS & PULSE_MGMT Signals for AC to BBU Transition



FORCED DISCHARGE MODE

The rack monitor has the capability to send Modbus commands to Power Supply Units (PSUs) in order to toggle the AC_LOSS_L signal. This action ensures that the Battery Backup Unit (BBU) will discharge even when AC power is present.

PULSE LOAD MANAGEMENT MODE

The PSU have the function of pulse load management, especially for GPU-based load possibly with repetitive peak pulse load. A PSU maximum input power limit will be adjustable and defined based on specific system requirements.

PSU high-voltage bus capacitance will be maximized and utilized for higher buffer energy of supporting the pulse power. In the case of depleting the bus capacitor energy, a dedicated Pulse_Mgmt_L signal could be toggled to request the BBU to share the pulse load.
Physical connections of the Pulse_Mgmt_L signals are illustrated in the figure in 3.18. Each PSU now has an output Pulse_Mgmt_L signal and all the Pulse_Mgmt_L signals in one PSU shelf are connected together and sent to a BBU shelf via two RJ45 connectors. The Pulse_Mgmt_L signal on the BBU shelf will be rerouted to BBUs and each BBU has an input Pulse_Mgmt_L signal. Upon detection of the pulse load and PSU has depleted the available bulk capacitor's energy, PSU would assert the Pulse_Mgmt_L signal to request load sharing from BBU. When detecting BBU's refusal of the load sharing, PSU will release or increase the maximum input power limit to carry the load.
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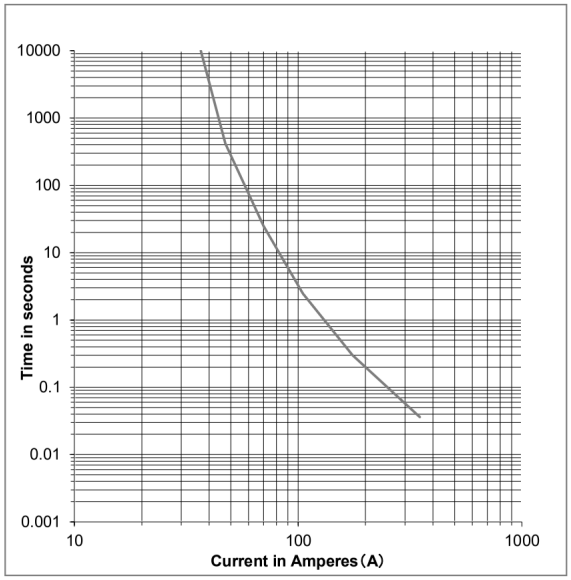
PROTECTION

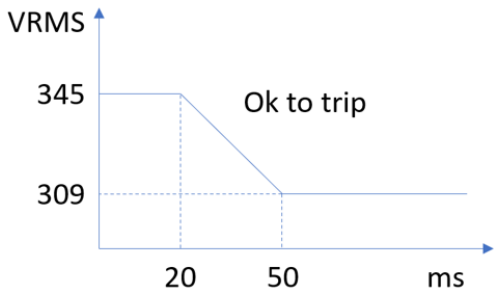
Input Over Current Protection

The rectifier incorporates primary fusing on both phase and return lines for input over-current protection to meet product safety requirements. Appropriate fuses will need to be selected to prevent nuisance trips. Fuses are internal to unit and not user serviceable. AC inrush current will not cause the fuse to blow under any conditions. No rectifier operating condition will cause the fuse to blow unless a component in the rectifier has failed. This includes DC output overload and short-circuit conditions. Fuse is approved by UL for an interrupt rating of 25 kA.



Input Over Voltage and Under Voltage Protection

The rectifier contain protection circuitry such that application of an input voltage below the minimum specified in section "Input Specification" on page 2 will not cause any damage to the rectifier and “softly shuts down” while operating. The rectifier will “softly shut down” if the input voltage is over 345 V for 20 ms or 309 V for 50 ms as shown in the graph below.



PROTECTION

Output Power / Current Protection

If a PSU is overloaded higher than the values listed below, it will shut down. 5s after an overload shut down,PSUs will retry once to sync together and turn on, if overload is still present, PSU will latch off. Latch can only be cleared through AC cycling, resetting or a MODbus command. OCP retry counter will be cleared 30mins. after normal operation.

- Average power more than 115% for 10 Sec.
- Average power more than 120% for 100 ms.

Output Short Protection

The rectifier employ short-circuit protection to protect the rectifier and attached load in the case of an output short-circuit or other output overload condition. the rectifier shuts off immediately.
PSU will only retry once to sync start after 5s if detecting 50V bus voltage is still alive. Otherwise, PSU shall latch off. No AC_loss_L signal will be asserted during output short-circuit condition to trigger BBU backup. The latch off can be cleared by AC cycling, reseating or a Modbus command. The SCP retry counter shall be cleared 30 minutes after normal operation.

Over Temperature Protection

The rectifier employ over temperature protection for both ambient over temperature and internal thermal temperature to protect the rectifier. The rectifier will “softly shut down” under over temperature condition and recover after certain period after the over temperature condition is removed. The OTP circuit incorporate built in hysteresis such that the power supply does not oscillate on and off due to temperature recovering condition. The OTP event will be reported as a fault condition.

TIMING

Random Timer and Synchronization

Under any conditions of dissipative load, capacitive load, temperature, with or without backup voltage connected to the PSU,

Max time for PSU to be “power-up ready” after AC voltage starts is 3 Sec. It will exceed 3 Sec at -5degC.

After “power-up ready”:

When there is no DC voltage on the bus (first AC turn on) the power shelf will be randomized with 0 to 2 s window to give each power shelf a random turn-on time (six PSUs turn-on is synchronized).

When there is DC voltage on the bus higher than 44 V for 0.1 second (BBU is discharging), the power shelf will be randomized with 0 to 5.5 seconds window to give each power shelf a random turn-on time (six PSU turn-on is synchronized).

The power shelf will trun on with only 1 PSU inserted into any slot.

Note: The random numbers above will be dynamically generated immediately after each AC recycle, and not generated one time and then stored in the EEPROM for future usages.

Item	Description	Min	Max	Unit
T_power-up_ready	Time for PSU to be power-up ready	1	3	Sec
T_random_noBBU	0 to 2 seconds initial turn on random delay without BBU discharging	0	2	Sec
Ton_noBBU	Time 50 VDC turns on after shelf receives AC input without BBU discharging.	1	5	Sec
T_random_BBU	0 to 5.7 seconds turn on random delay after BBU discharging	0	5.5	Sec
Ton_BBU	Time 50 VDC turns on after shelf receives AC input with BBU discharging.	1	8.5	Sec
Tsync	After all PSUs in the shelf are ready to start till when 50 VDC will start	2	5	Sec
Tmax_ON_noBBU	Max PSU turn-on time without BBU in case of sync failure	6	8	Sec
Tmax_ON_BBU	Max PSU turn-on time with BBU in case of sync failure	9.5	11.5	Sec

TRANSITION AND SYNCHRONIZATION REQUIREMENTS

Start-up (0 V to 50 V) Transition Procedure

Each PSU has a small circuit to output a SYNC_START signal and all PSUs' SYNC_START signals are connected together on the power shelf backplane.

1) Each PSU sets its SYNC_START signal to high when the PSU is ready to turn on the output.

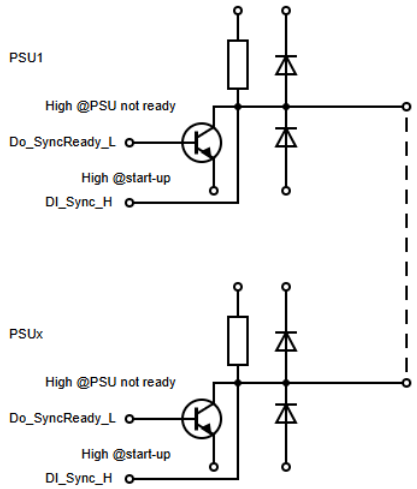
2) Only PSU in SLOT #1 generates a random timer and set SYNC_START to high when ready and the random timer is finished.

3) The PSUs will turn on the output when the SYNC_START signal is high.

4) If the SYNC_START signal is kept stuck low for 3s more than the max random timer limit (which is 2s without BBU and 5.5s with BBU), the PSU shall turn on immediately.

5) if PSU1 is not installed or its SYNC_START signal is stuck low, the other PSUs shall turn on within 10s. In this case a random timer doesn't exist.

Please refer to section "Pulse Load Operation" on page 4 for the timing and constant current value requirements during the cold startup.



AC_Fault_CLR / Sync_Stop

Each PSU has a small circuit to output a dual-use AC_Fault_CLR / Sync_Stop signal and all PSUs AC_Fault_CLR / Sync_Stop signals are connected together on the power shelf backplane.

1) The "AC_Fault_CLR / Sync_Stop" signal is normally high with an internal pull-up resistor and diode to 3.3V aux power.

2) Function to clear overload faults after ac fault events

   PSU asserts AC_Fault_CLR / Sync_Stop signal in the form of a short-period negative pulse (high->low->high) when detecting the AC cycling after AC fault events. All other PSUs on the sync bus will clear the overload faults once detecting the AC_Fault_CLR / Sync_Stop pulse signal and restart.

3) Function to synchronize the main output turn-off among PSUs

   PSU sets AC_Fault_CLR / Sync_Stop sync bus to steady low in the following conditions:

   a. PSU detects shelf output barclip OTP (Bus_Clip_OTP =1)

   b. PSU receives emergency off command (Power_Off_Unix_Time is set)

All other PSUs on the sync bus will latch-off shutdown synchronously once detecting the AC_Fault_CLR / Sync_Stop steady low signal. The latch-off shutdown will be cleared with AC cycle or module reseating.

COMMUNICATIONS

The rectifiers can communicate on ModBus (up to 115 kbps).

At default, Modbus is active.

The software interface is operational when the AC is present or when the DC output bus is powered up by other power sources. The software provide below functions:

Fault conditions

- Last power failure event
- Rectifier failure

Read:

- Voltage in
- Current in
- Voltage out
- Current out
- Temperatures
- Fan speeds
- Power out
- Power in
- Position
- Serial Number
- Manufacturer part number
- Hardware revision
- Firmware revision

Write:

- Clear faults

Upgrades:

- Upgrade firmware image (s)

Firmware Upgrade

The interface will allow the user to re-flash firmware on the device. Firmware upgrade will result in no power interruption on the shelf level (the unit being upgrade can go offline.) Upgrades can be done 1 rectifier at a time.

The PSU FW will maintain regulation on the output during send, Install and verification of the new FW, and only require a soft reset (that may reset the output for a short period in a few seconds).

PSU output voltage interruption due to FW upgrade will be less than 11.5 Sec.

COMMUNICATIONS

Reporting Accuracy

Accurate reporting of input power (power factor, input current, input current harmonics and voltage) and output power (output current and voltage) readings shall be reported via communication system at all rated voltage.

The accuracy will be maintained across the operating temperature range and between 200 VAC and 277 VAC.

Parameter	Load	Accuracy
AC Input Power	<10%	±25W
	10% to 20%	±5%
	20% to 100%	±3%
AC Input Current	<15%	±0.5A
	15% to 30%	±2%
	30% to 100%	±1%
AC Input Current THD (Error difference not %)	<10%	±10%
	10% to 30%	±2%
	30% to 100%	±1.5%
Power Factor (Error difference not %)	<10%	±0.1
	10 to 30%	±0.05
	30 to 100%	±0.01
AC Input Voltage	0 to 100%	±1%
Output Voltage	0 to 100%	±0.5%
Output Current	10 to 20%	±10%
	20 to 50%	±5%
	50 to 100%	±1%
Output Power	<10%	±25W
	10 to 20%	±3%
	20 to 100%	±2%

BLACKBOX FUNCTION

For the following section please refer to the latest Communication Specification for detailed information.

The black box function store key important data to be used when a fault occurs.

- Store data in memory and can withstand several read/write cycles
- PSU can store failure data before the PSU turns off/fails even in catastrophic failure events both on primary and secondary side. Hold up time of the blackbox microcontroller can store all the information and then shutdown.
- Last 4 events stored in memory.
- AC input current, AC input voltage, Input Power, Power factor, iTHD, DC output voltage, DC output current,
- Temperature readings, fan Speed, input voltage, output voltage, bulk voltage, various error codes from all the different converters (OTP, OVP, OCP, UVP), and warnings.
- BBU signals at time of failure (fail, charge_enable, BBU voltage, etc)
- Total run time of PSU
- Run time since last turn on
- Real time stamping
- Number of AC power cycles
- Number of AC outages (can be determined by going into backup without counting the battery test conditions)

Power supply event data is saved to the Black Box for the following events that : ·

Any events that caused the Main Output to shut down:

- Main Output over voltage fault
- Main Output under voltage fault
- Main Output over current fault
- Main Output short circuit fault
- Fan failure
- Over temperature fault

Any events that caused the AC input to be bad:

- AC Input under voltage fault
- AC Input over voltage fault
- AC Input out of range frequency fault ·

ENVIRONMENTAL SPECIFICATIONS

Temperature Range	Operational: -5 to +45°C; Non-operational: -40 to +85°C
Humidity	Operational: 10% to 90% non-condensing; Non-operational: 5% to 93% non-condensing
Altitude	Operational: 3050 m; Non-operational: 12000 m
Shock	EN 60068-2-6 and 60068-2-27 12g Non-Operating / 6g Operating
Vibration	EN 60068-2-6 and 60068-2-27 1g Non-Operating / 0.5g Operating
Fan noise	< 85 dBA, 100% load

THERMAL

Airflow Direction

Front-to-back

Fan Speed Control

The fan speed varies depending on ambient temperature and load and is optimized to maintain a temperature difference of 22°F nominally across 30 to 85% load range and up to 35°C inlet/ambient and 3050 m (10,000 ft) above sea-level. The benefit is reduced fan power usage.

System Back-pressure

Front-to-back airflow maintain for system backpressure up to minimum 0.3 inches of water.

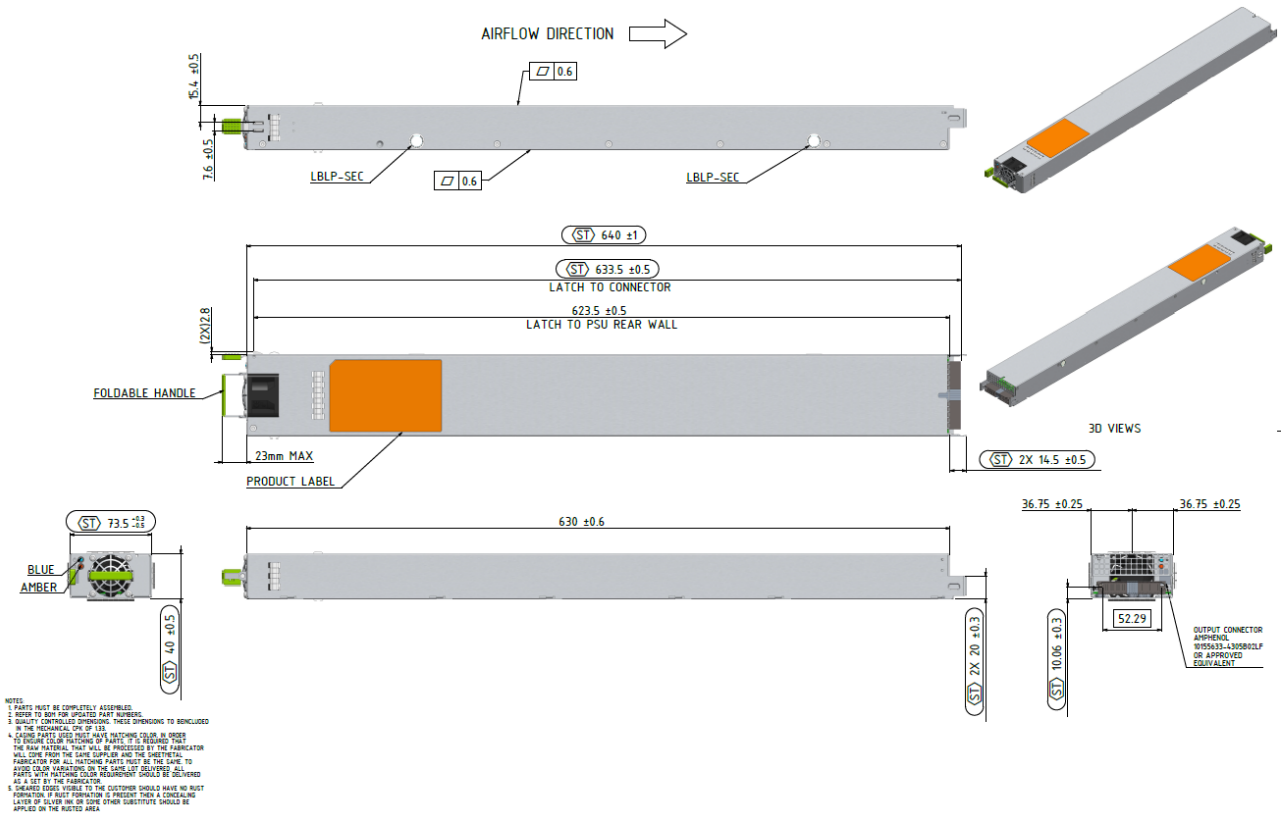
Fan Failure

If a fan fails, the rectifier will indicate the failure with a signal that will be reported via software as well as an LED indicator on the front panel. The rectifier will not shut down because of a failed fan and will only shut down if there is a fault, ie. over-temperature fault.

Rectifier Thermal Monitoring

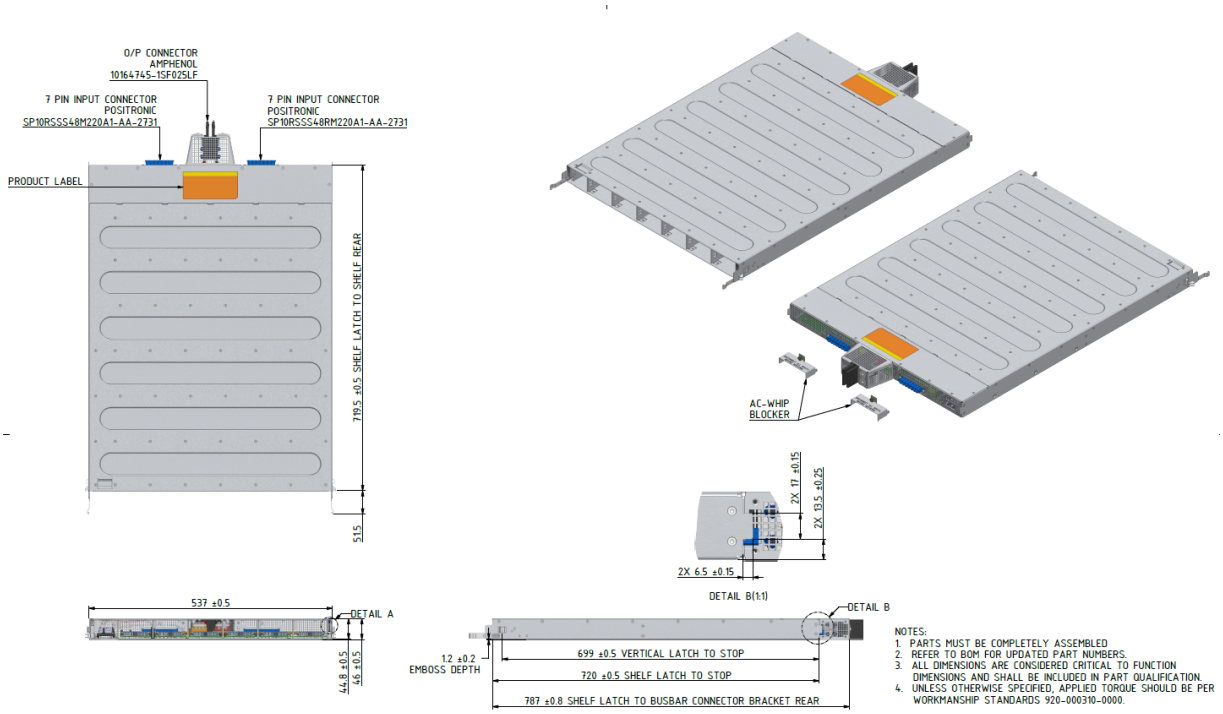
Inlet temperature, exhaust temperature, fan speed and fan fail signals are reported via communications. See Communications Section for details.

MECHANICAL - PSU

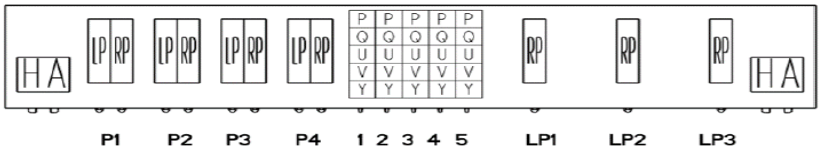


NOTES:
1. PARTS MUST BE COMPLETELY ASSEMBLED.
2. REFER TO BOM FOR UPDATED PART NUMBERS.
3. BODY TO CONTROLLED DIMENSIONS. THESE DIMENSIONS TO BEINCLUDED IN THE MECHANICAL CPK OF 1.33
4. PARTS WITH MATCHING COLOR IN ORDER TO ENSURE COLOR CONSISTENCY OF PARTS, IT IS REQUIRED THAT THE RAW MATERIAL THAT WILL BE PROCESSED BY THE FABRICATOR WILL COME FROM THE SAME SUPPLIER AND THE SHEETMETAL FABRICATOR FOR ALL MATCHING PARTS MUST BE THE SAME. TO AVOID COLOR VARIATIONS ON THE SAME LOT DELIVERED. ALL PARTS WITH MATCHING COLOR REQUIREMENT SHOULD BE DELIVERED AS A SET BY THE FABRICATOR.
5. SHEARED EDGES VISIBLE TO THE CUSTOMER SHOULD HAVE NO RUST FORMATION. IF RUST FORMATION IS PRESENT THEN A CONCEALING LAYER OF SILVER INK OR SOME OTHER SUBSTITUTE SHOULD BE APPLIED ON THE RUSTED AREA

MECHANICAL - POWER SHELF



PIN ASSIGNMENT



Pin	Name	Description
P1 & P2	Main Output+	
P3 & P4	Main Output Returen	
LP1	Earth	
LP2	AC phase	
LP3	AC phase	
P1	PSU_A0	Address 0 - PSU ID A0, Internal pull up 10k to 3.3V
P2	PSU_A1	Address 1 - PSU ID A1, Internal pull up 10k to 3.3V
P3	PSU_A2	Address 2 - PSU ID A2, Internal pull up 10k to 3.3V
P4	Busbar_Clip+_Temp	Busbar clip + contact temperature Sensor
P5	Busbar_Clip+_Temp	Busbar clip return contact temperature Sensor
Q1	Ground	
Q2	Alert	Logic “low”= Fault or Warning, Logic “High”=OK, Internal pull up 10 k ohm to 3.3 V PSU Alert
Q3	Reset_Latch_Fault	Logic "high" for 1 to 2s = clear faults and start PSU to operate if not working due to a fault. Should be enabled by SW. Internal pull down 10 k ohm resistor.
Q4	Shelf_addr0	Internal pull up 100k ohm to 3.3V
Q5	Shelf_addr1	Internal pull up 100k ohm to 3.3V
U1	Shelf_addr2	Internal pull up 100k ohm to 3.3V
U2	AC_Loss_L	Open-collector/drain output, internal pull up 100k and a diode to 3.3V.
U3	PSKILL (Short Pin)	Logic “Low”= Output Turn on, Logic “High”= Output Turn off Quick shut down Output, mitigate hot unplug arcing. Internal pull up 10k to 3.3V
U4	RS485A	
U5	RS485B	
V1	Present_L	1. 10Ω pull-down inside PSU/BBU module. 2. 4.7k pull-up inside PMM. 3. Connecting to PMM edge connector pin A27/B27/A28/B28/A29/B29 respectively.
V2	I2C_SDA	I2C Data
V3	I2C_SCL	I2C Clock
V4	Ground	I2C ground
V5	Reserved	
Y1	ISHARE	Main output current share bus
Y2	AC_Fault_CLR/ Sync_Stop	Open-collector/drain output; Internal pull up 100k and a diode to 3.3V. 1. AC_Fault_CLR: clear overload latch off flags after ac fault events 2. Sync_Stop: Synchronizing turn-off main output
Y3	SYNC_START	Synchronizing turn-on main output, open-collector/drain output, Internal pull up 100k and a diode to 3.3V
Y4	Pulse_Mgmt_L	Logic “High”= no request for BBU support of pulse load Logic “Low”= request BBU support for pulse load. Open-collector/drain output, internal pull up 100k and a diode to 3.3V
Y5	Ground	

MATING CONNECTOR INFORMATION

Device	Connector	Mating Connector	Description
PSU	AMPHENOL 10155633-4305B02LF or Approved Equivalent	FCI 10127400-01U1520LF	I/O Connector

LED

The PSU has a single blue and single amber LED mounted near the PSU handle for accessibility. Following are power supply LED states:

LED	Status	Description
Blue LED	Blinking Blue @ 4 Hz frequency	Sync Start State, PSU is ready to turn on its output and awaiting the sync Start signal
	Solid Blue	50 V is ON and available
	Off	50 V output off
Amber LED	Blinking Amber @ 4 Hz frequency:	Bootloading
	Solid Amber	Primary/Secondary/Fan/bootloading Failure and/or loss of DC output
	Off	fault NOT present/condition 1 and 2 are false

Note 1 - Toggling AC input power will reset the solid/blinking amber fault light but will come up again if faults re-occur.
Note 2 - Only one of the 3 conditions per LED will be applied at all time.

ORDERING INFORMATION

Model	Input	Output	Description
700-037147-0100	1 Phase AC, 180 to 305 VAC, 50 to 60 Hz	50 V ⎓ 110 A	ACDC-ORv3 HPR - 5500W, ORv3 HPR PSU
700-037148-0100	3 Phase AC, 200/480 V, 50 to 60 Hz	50 V ⎓ 550 A	ACDC-ORv3 HPR - 1OU - 33 kW, ORv3 Power Shelf - Dual Whip std

Note 1 - TLA can only be ordered with previous LOA.

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

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