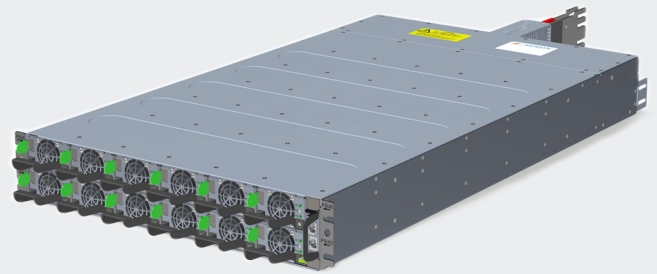


# ARTESYN 48 V 30 KW EIA 19" POWER SHELVES

30 kW (10 + 2) Redundancy



Advanced Energy's Artesyn introduces the 30 kW stand-alone Power Shelf, single voltage 48 VDC output, powered from three-phase AC line. The Power Shelf sits in a 2RU high slot in a EIA 19" rack, which hosts twelve power modules with the outputs connected in parallel. Each module is an AC/DC power converter rated at 3000 W, 48 VDC of nominal output power, hot-swappable, accurate current sharing and is self-cooled. The shelf will power the IT system through the OCP compatible busbar.

## KEY FEATURES

- 30 kW at 48 V with 10 + 2 redundancy
- Highly accurate droop + active current sharing
- Houses 12 x 3000 W (10 + 2) power modules and a removable shelf controller
- Very high efficiency

## EMC / SAFETY COMPLIANCE

- EN61000 / IEC61000 applicable standards for Emissions & Immunity requirements
- UL/CSA 62368-1
- UL94/V-0

## AT A GLANCE

### Total Output Power

30 kW

### Input Voltage

360 to 456 VAC (3 phase, L-L)

### Output Voltage

48 VDC

### Mechanical Dimensions

987 x 448 x 86 mm (L x W x H)

### Operating Temperature

0°C to 40°C

**ELECTRICAL SPECIFICATIONS**

Input Specifications					
	Conditions	Min	Typ	Max	Unit
Input Voltage (3 Phase, L-L)	All	360	400/415	456	VAC
Input Current	100% load (Max current for each AC input connector)	-	-	30	A
Input AC Frequency	All	45	50/60	65	Hz

Output Specifications						
	Conditions	Min	Typ	Max	Unit	
Output Current	All	-	-	618	A	
Ripple & Noise	20 MHz bandwidth	-	-	500	mVpp	
Set Point	20% Load	49.55	49.60	49.65	VDC	
V <sub>O</sub> Dynamic Response	Peak Deviation	Dynamic load: 50 to 10 kHz				
		Duty cycle: 10% to 90%				
		Slew rate: 1A/us				
		10% to 60% load step	-	-	2	Vpp
		50% to 100% load step	-	-	2	Vpp
Power Distribution Loss	100% Load	-	-	50	W	

**ENVIRONMENTAL SPECIFICATIONS**

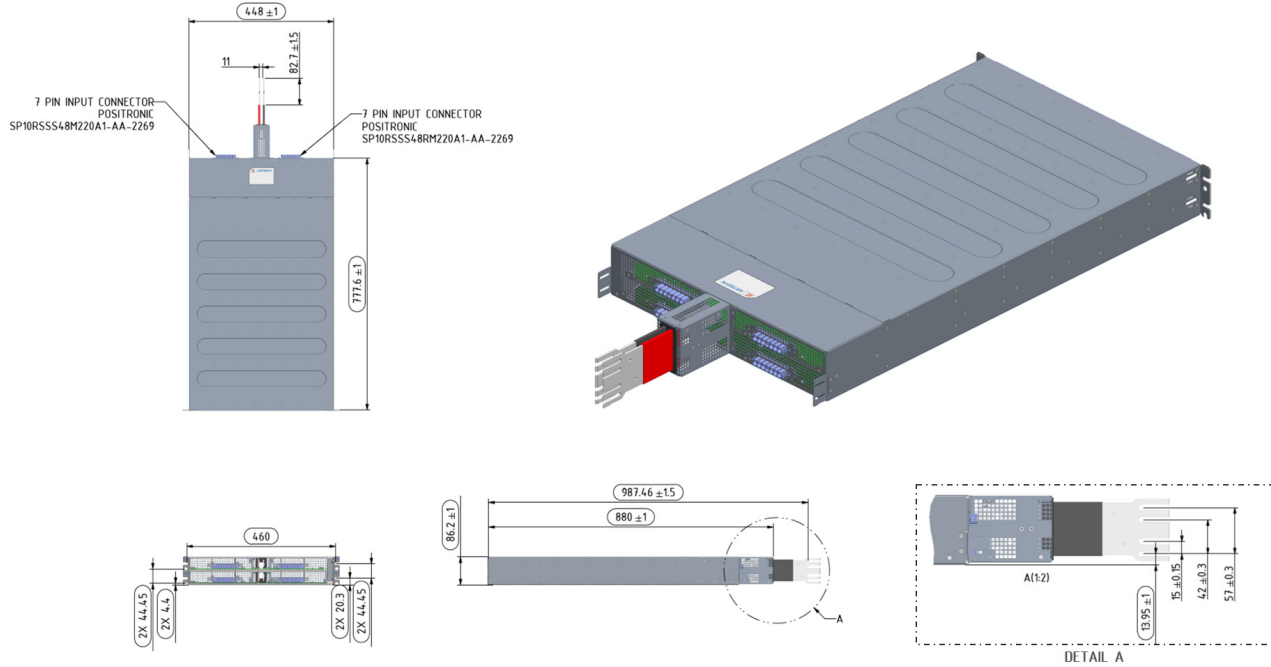
Temperature Range	Operational: 0 to +40 °C; Non-operational: -40 to +70 °C. PSU is able to start at -10°C of ambient temperature.
Humidity	Operational: 10% to 85% non-condensing; Non-operational: 10% to 95% non-condensing
Altitude	Operational: 2000 m; Non-operational: 15200 m
Shock	Operating: 5 G, 11 ms half sine pulses. 3 pulses in each sense Non-operating: 12 G, 11 ms half sine pulses. 3 pulses in each sense
Vibration	Operating vibration: 0.25 G zero to peak. Frequency is 5 to 500 Hz, 0.25 oct/min in each of three mutually perpendicular axes. 3 sweeps from 5 to 500 to 5 Hz in each axis. Non-operating sine sweep vibrations: 5 to 500 Hz @ 0.5 G at 0.5 octave/min; dwell 15 min at each of 3 resonant points. Non-operating random vibration: 5 Hz @ 0.01 g/Hz to 20 Hz @ 0.02 g/Hz (slope up); 20 to 500 Hz @ 0.02 g/Hz (flat); Input acceleration = 3.13 gRMS; 10 minutes per axis for 3 axis.

**RELIABILITY**

Calculated MTBF	The PSU meet a calculated MTBF of at least 100K hours at 90% confidence level, 40°C ambient temperature, 230 Vac input voltage, and 75% load per Belicore RPP. The fan is not included in the calculation.
Demonstrated MTBF	The PSU meet a demonstrated MTBF of minimum 250K hours at 90% confidence level, 40°C of ambient temperature and 75% load.
Life	The PSU have a minimum service life of 5 years (24 hours/day, full load, 230 Vac, 40°C of ambient temperature).

MECHANICAL

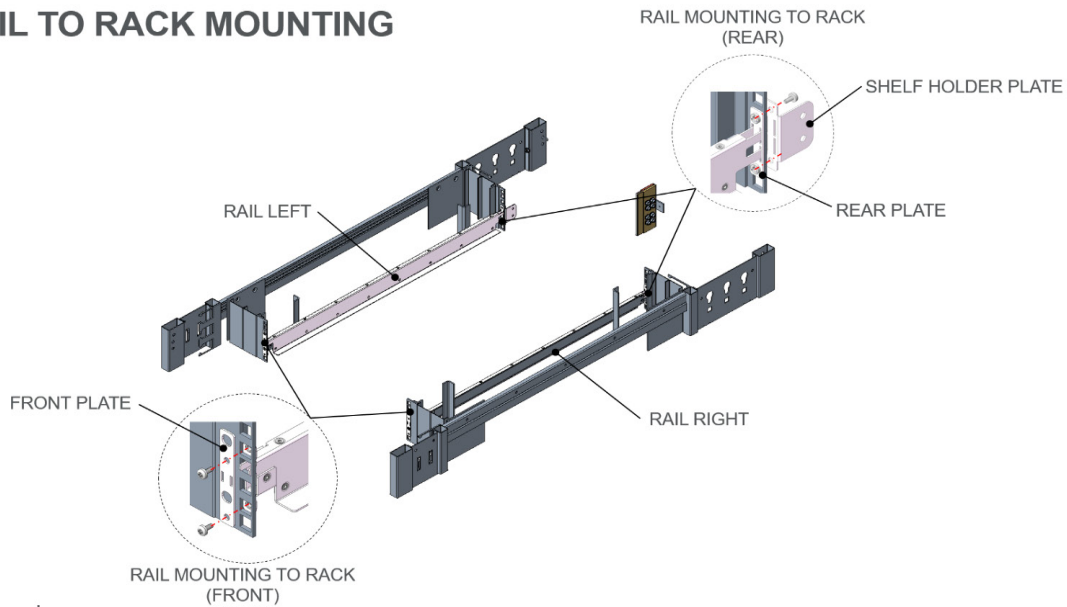
Shelf Mechanical Drawing



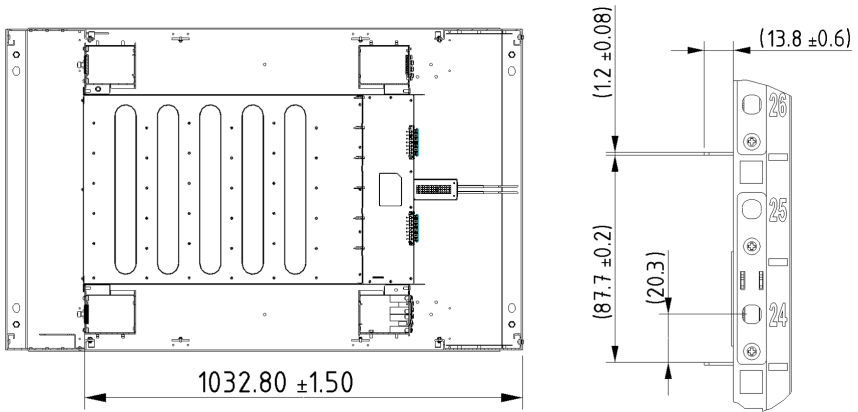
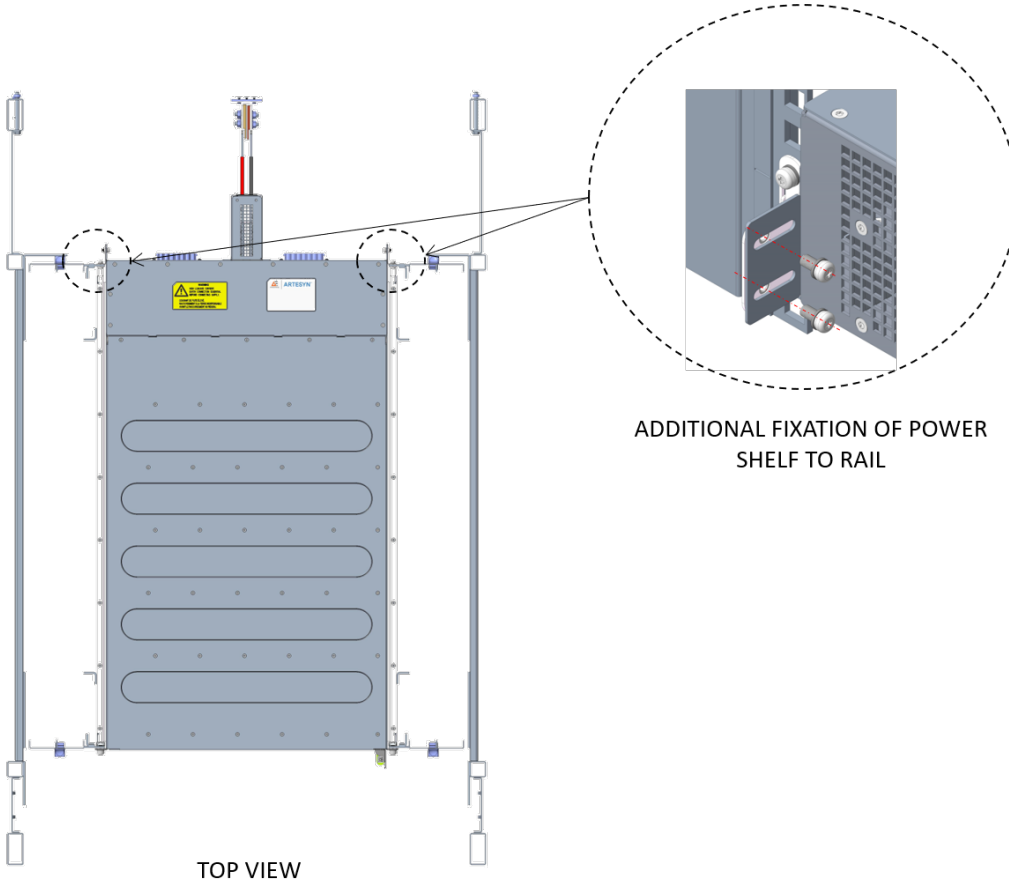
Mounting Interfaces

The power shelf enclosure is mounted to the front rack mount ears using standard EIA-310 19" rack mounting screw patterns. It sits upon supplied 1.2 mm thick shelf flanges which are pre-mounted into the rack.

RAIL TO RACK MOUNTING



MECHANICAL

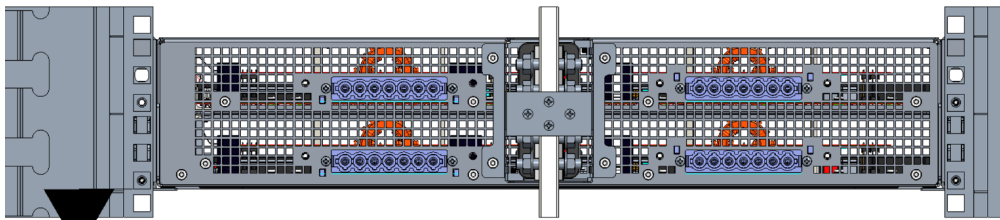


MECHANICAL

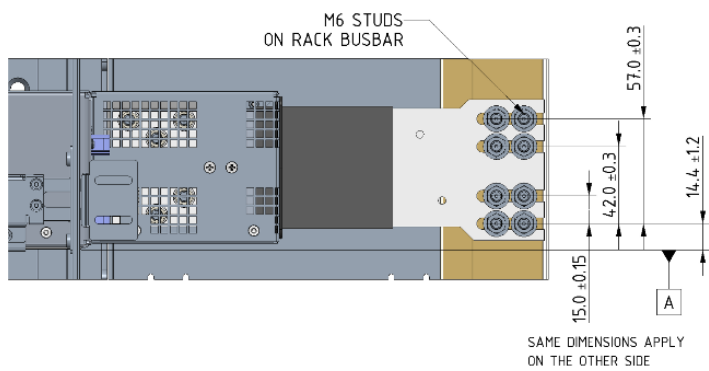
Output / Bus Bar Interface

The power shelf mates with the 48 V bus bars which are mounted to the rack. The output bus bars use slots to slide into the clinch studs that are mounted to the vertical bus bars.

The busbars and power shelf to busbar interface are defined by using the lower surface of the lowest square mount hole as DATUM A. Also, the front surface of the rack mount posts (where the server "ears" contact) are DATUM B.



**A** BOTTOM SURFACE OF SQUARE MOUNT HOLE



ORDERING INFORMATION

Model	Input	Output	Description
700-015485-0000	1 Phase AC, 180 to 305 VAC, 50 to 60 Hz	48 V  62 A	48 V, 3 kW, ATS PSU
700-015496-0000	3 Phase AC, 200/480 V, 50 to 60 Hz	48 V  618 A	48 V, 30 kW, EIA 19 Inch Power Shelf
700-015499-0000			SMC

Note 1 - PSUS are related products (not covered by this data sheet). Refer to PSU data sheet.



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three 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.

**PRECISION | POWER | PERFORMANCE | TRUST**

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