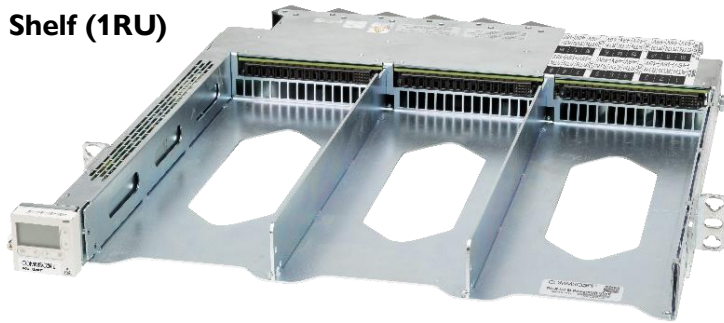


**TYPE: PS-R-V4-M PowerShift® Shelf (1RU)**  
**Product Series: V4**



## 1. Product Description

PowerShift® Macro V4 Main Shelf delivers the optimal voltage to your RRUs in real-time, automatically—regardless of power supply, distance, conductor size, or RRU power requirements. It optimizes backup power delivery by solving the voltage-drop problem. Inserted between the battery and trunk cable, PowerShift automatically senses and adjusts the battery's voltage output to the power cable to compensate for the voltage drop. As the battery discharges, PowerShift continues to boost output to maintain the optimal input voltage to the RRU and increase battery backup time. PowerShift® V4 Main Shelf accommodates up to 3 boost modules (PS-2000-73) per 1RU shelf. There are 3 separate circuits per boost module for a total capacity of 9 circuits (RRU's) per 1 RU shelf. Each circuit provides a maximum output of 2,708 Watts at 73Vdc and has an integrated bypass function that automatically passes the input power through to the load connections in case of a circuit failure. After the controller (PS-CNTRL-V4) calculates the voltage drop in the power cable due to line resistance, each circuit delivers about 2,000W at 54Vdc to the RRH input. The V4 Main Shelf can be expanded by adding an extension shelve (PS-R-V4-S) to power up to 18 circuits (RRU's) in 2 Rus.

- Benefits of PowerShift®
  - Reduced capital/operating expenditures
  - Dynamic voltage regulation to the RRUs
  - Service continuity with improved battery backup run time
  - Significantly reduce installation time & wiring errors
  - Future-ready design for higher-powered radios

## 2. Key Features

- 2,708W (73V) max power output per circuit at the module output
- 2,000W (54V) max power output to the Radio per circuit
- 24,372W total power capacity via 9 independent circuit outputs per shelf
- 18,000W (54V) total power to the Radio per 9 circuit output
- 1RU form factor per shelf
- Expandable to 2RU shelf with total 48,744W via 18 independent circuit
- 19-inch standard rack mounting
- Adjustable mounting ears with setbacks at Flush to front and 3 and 5" back from the front.
- Controller, with Capability to manage ALR and manual configuration for 18 circuits
- Module, Built-in Bypass & Selectable (32A/38A) Overcurrent Protection

### 3. Controller

Controller Model: PS-CNTRL-V4 Controller (Sold Separately)  
 Controller Display: LCD user interface with menu navigation buttons



### 4. Module

Module Model: PS-2000-73 Module (Sold Separately)



### 5. Physical Specs

Dimension: Height: 44.45 mm (1 RU)  
 Wide: 482.6 mm (19")  
 Depth: Shelf, Connector with cable bend radius not to surpass 24"

Number of Supported RRU: 9 RRU (incl. RS485/Controller).  
 Number of Supported Expansion Shelf: 1 Maximum

Input Connection: Rear access, 6 pairs input landings (2 pairs per module), suggested 2\*2 AWG

Output Connection: Rear access, 9 pairs outputs landings (3 pairs per module), suggested 6 AWG,

Maximum Output Power: 24.372KW  
 Weight: 12.7lbs(5.8kg)

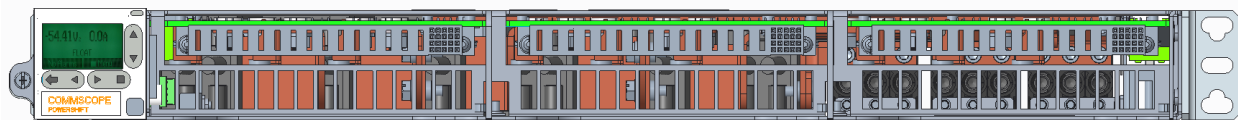
Environmental per GR-3108 Class 2, EN 300 019

|                       |  |
|-----------------------|--|
| Operating temperature | -40 to 65C (NEBS Class 2) with no derating.                    |
| Storage temperature   | -40 to 85C   |
| Humidity/Temp cycling | per GR-3108 section 4.6, non-condensing                        |
| Vibration, transport  | GR-3108 section 6.3.3  |
| Packaged drop         | GR-3108 section 4.4  |
| Vibration, product    | GR-3108 section 6.1 and 6.3.3                                  |
| Shock, operating      | IEC 60068-2-27 (1)   |
| Salt fog              | Utilizes a clear Zinc per ASTM B633-07 TYPE 5, SC 2 post plate |
| Seismic resistance    | GR-3108 section 6.1 + 6.3.3                                    |
| Cold start            | GR-3108 section 4.5.1  |
| Hot start             | GR-3108 section 4.5.2  |
| Acoustics             | GR-3108 section 6.6  |
| Fire resistance       | GR-3108 section 6.5  |

|                         |  |
|-------------------------|--|
| MTBF:                   | 300,000 hours @ 25C per Telcordia SR-332 |
| Design Life Expectancy: | 5 year                                   |
| EMC:                    | EN55022 Class A                          |
| Surge Protection :      | Telcordia GR-1089                        |
| Safety:                 | UL 62368 - UR/cUR with CB Report         |
| RoHS:                   | Compliant                                |
| Terminals:              | Compliant w/NEBS                         |
| Labeling:               | Dual Company Labeled                     |

## 6. Product Layout

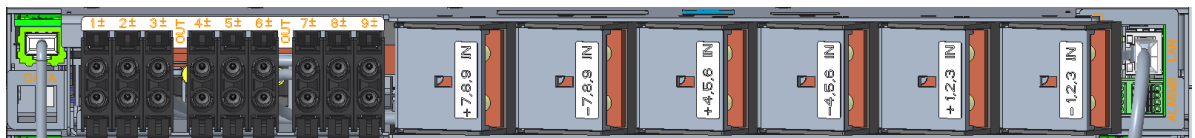
### 6.1. Main Shelf PS-R-V4-M



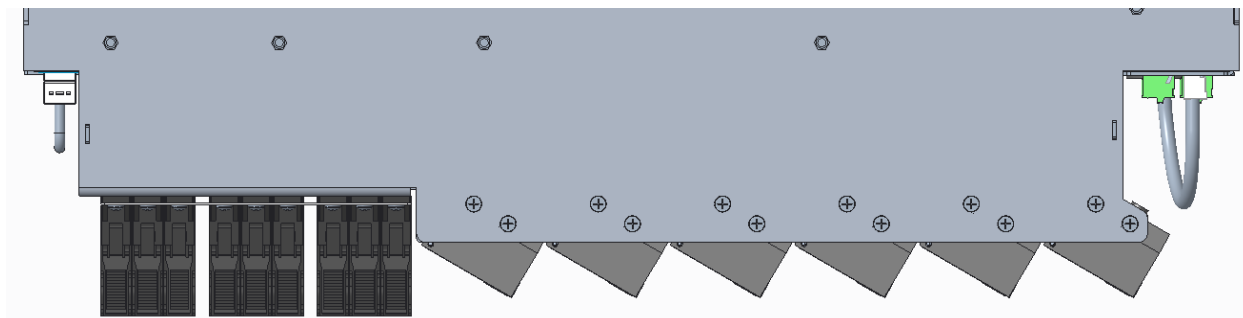
Front View – Main Shelf (No Modules)



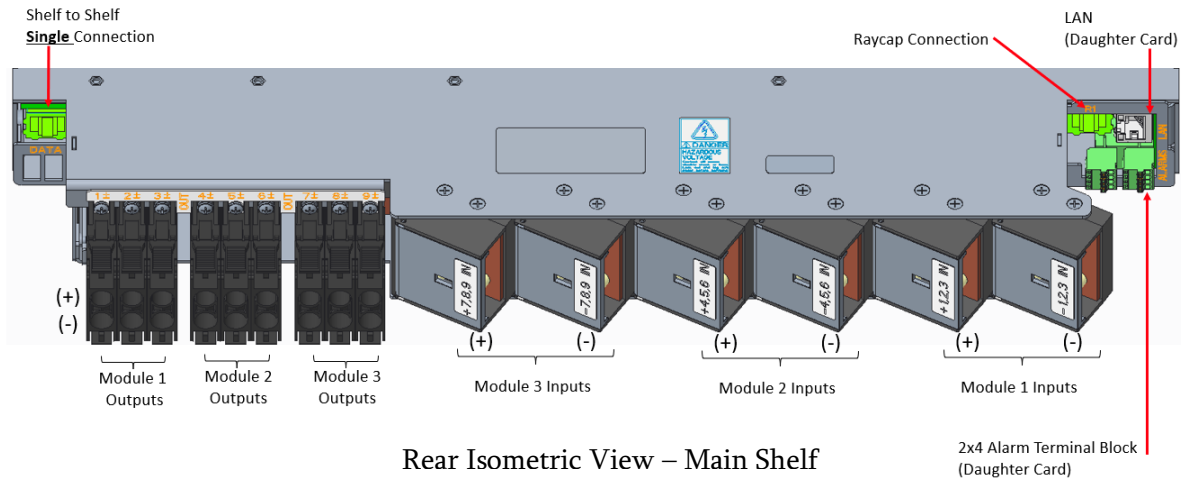
Front View – Main Shelf (with Modules)



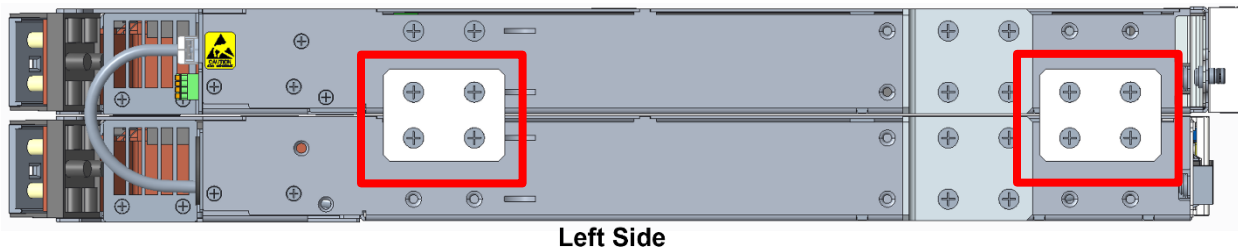
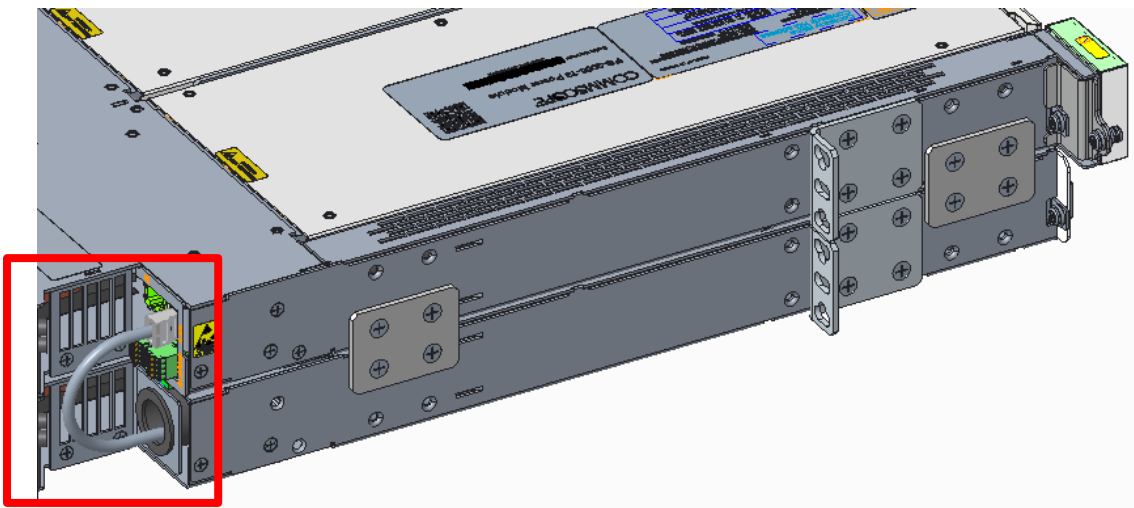
Rear View – Main Shelf



Rear Top View – Main Shelf

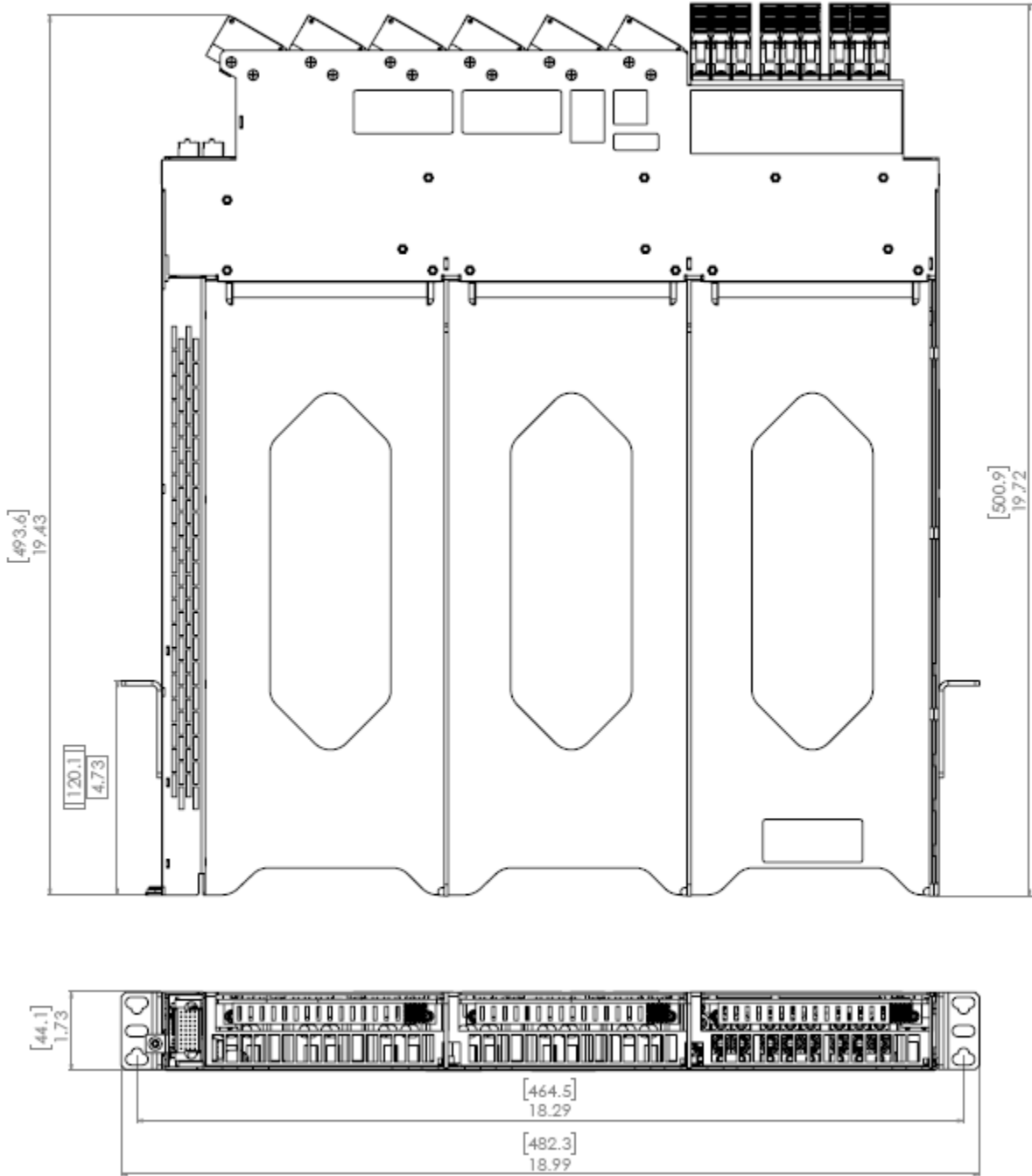


## 6.2. Main Shelf w/ Secondary Shelf (PS-R-V4-S)



Left Side View – Connector plates used with Secondary Shelf (PS-R-V4-S Sold Separately)

7. Dimensional Specifications



Dimensional Specifications