PowerShift® PS-R-V4-M

Rev C 07/2025

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. S485/Controller).
Number of Supported Expansion Shelf:	1 Maximum
Input Connection:	6 input landings (1 pair per module), 2/0 AWG wire
Output Connection:	9 pair output landings (3 pairs per module), suggested 6 AWG wire
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

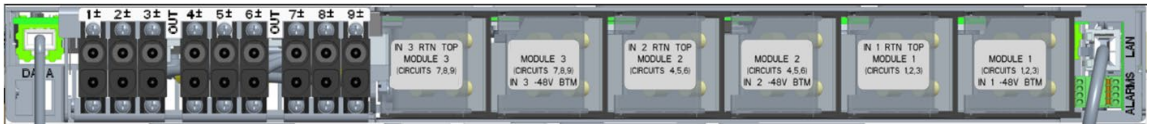
MTBF:	PS-2000-73: 1,000,000 hours @ 25C per Telcordia SR-332 PS-CNTRL-V4: 2,265,000 hours @ 25C per Telcordia SR-332
Design Life Expectancy:	5 year
EMC:	EN55022 Class A
Surge Protection:	Telcordia GR-1089
Safety:	UL 62368 - UR/cUR with CB Report
RoHS:	Compliant
Terminals:	Compliant w/NEBS
Labeling:	Dual Company Labeled

6. Product Layout

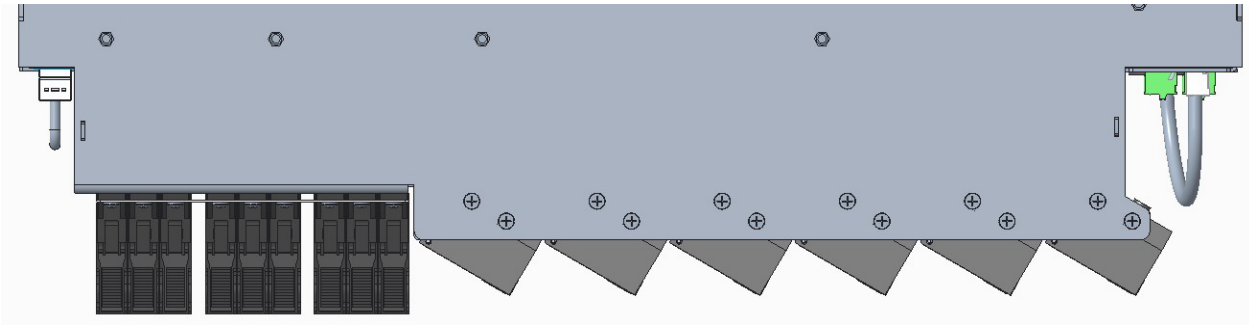
6.1. Main Shelf PS-R-V4-M

Front View – Main Shelf (No Modules)

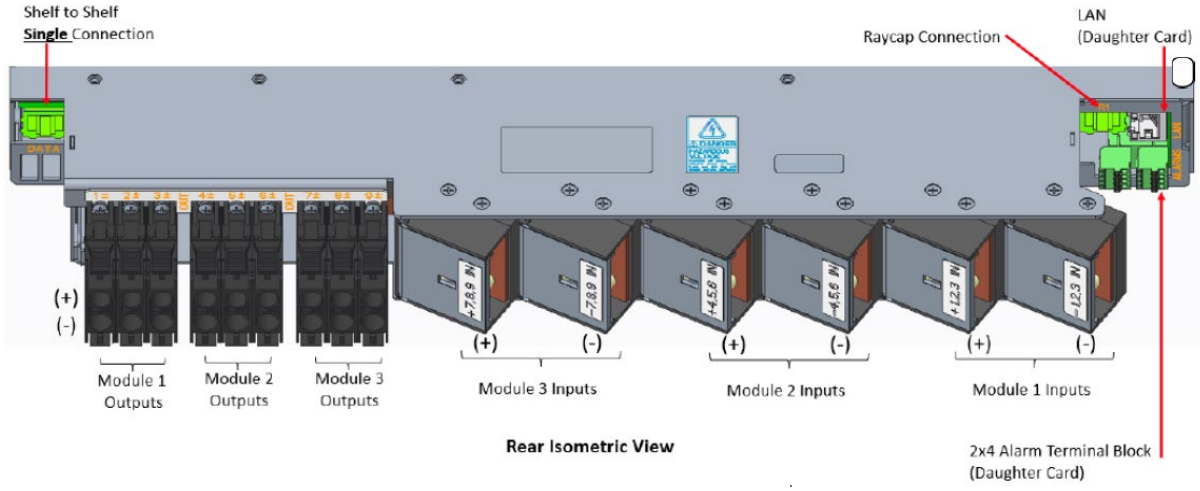
Front View – Main Shelf (with Modules)



Rear View – Main Shelf

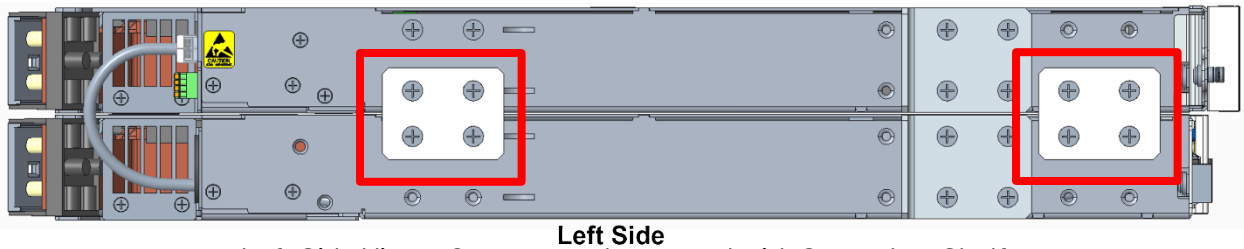


Rear Top View – Main Shelf



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

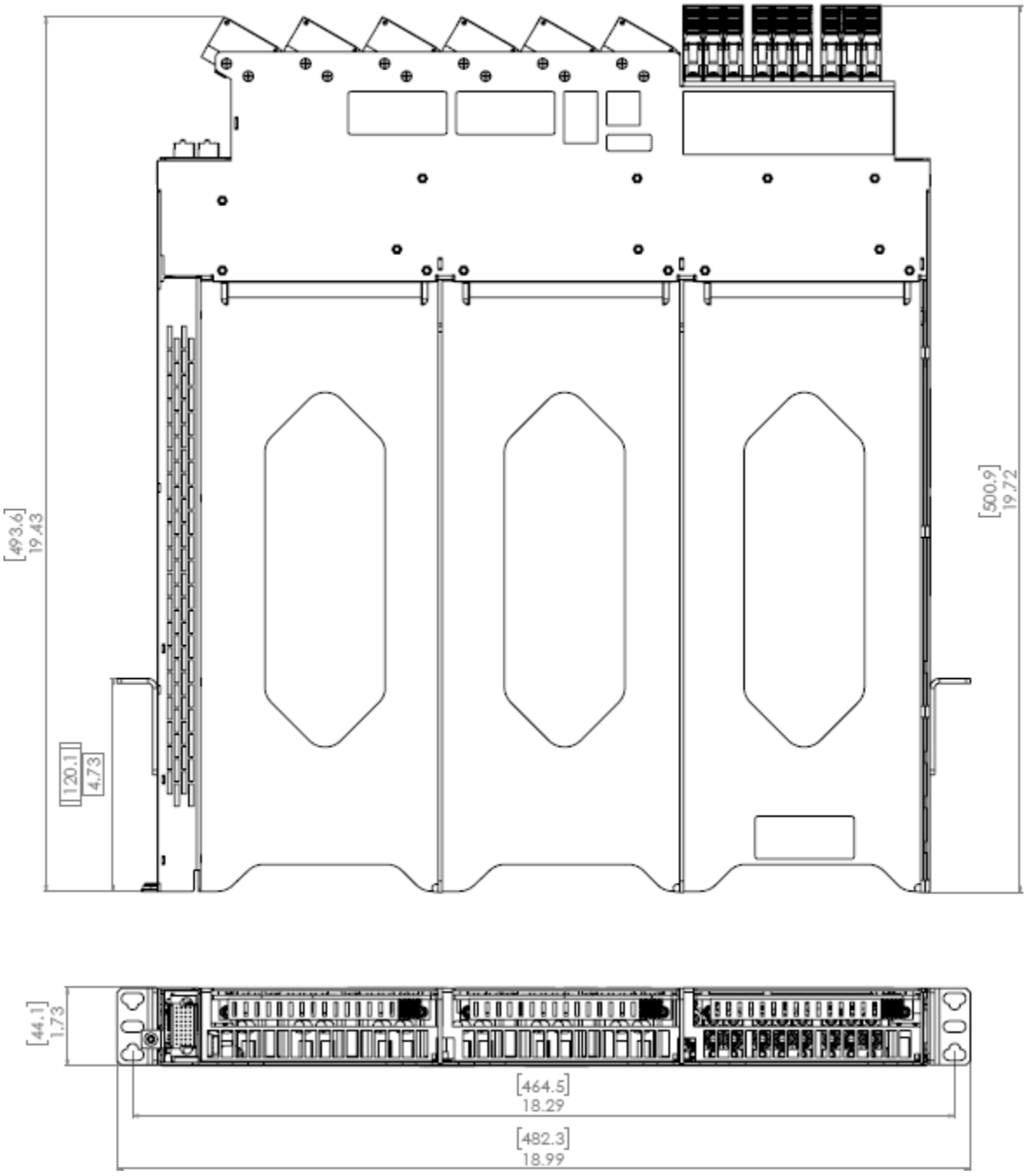
Rear Isometric View – LAN Connection when used with Secondary Shelf
(PS-R-V4-S Sold Separately)



Left Side

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

7. Dimensional Specifications



Dimensional Specifications