



PS-23^o TwinPack^o Power System

Total Front-Access DC Power



GENERAL. The PS-23™ TwinPack™ Modular Power System is designed to provide -48 volts DC to power a variety of telecommunications loads. Mounting in a 23"/58 cm wide relay rack, the PS-23 is comprised of a 7"/18 cm high (4 rack spaces) x 12"/31 cm deep mounting shelf with single or dual 1300 watt rectifier modules installed. The rectifier modules mount from the front and interface with the shelf through plug-in connectors for AC input, DC output and alarms. **The PS-23 Rectifiers are the most efficient (>91%) rectifiers made by PCP.**

Ambient Temperature (operational). -40°C to +65°C (-40°F to 149°F).

AC Inputs. Each rectifier will accept 176 to 264 VAC, 45 to 65 Hz, single phase inputs.

Input Protection. A UL Listed fuse is placed in both AC input lines to provide overcurrent protection. The fuses are located inside the mounting shelf wiring compartment and are replaceable from the front.

Parallel Operation. Rectifiers are equipped with a forced paralleling circuit that has a maximum output voltage "pull in" differential of 0.7 V and a minimum pull in differential of 0.4 V. The maximum difference in output current levels is 10% of the full rated load. This circuit can be disabled from the front of the rectifier module.

Alarms and Indicators. Each rectifier module has built-in alarms. LEDs on the front of each module provide local alarms for these failure modes. Red LEDs indicate rectifier failure, high voltage shutdown, high temperature shutdown, and open DC breaker. Yellow LEDs indicate open remote sense. Form "C" contacts for each

alarm are internally connected to the mounting shelf's alarm terminal blocks for connection to a remote alarm system. Other indicators include a green LED that denotes RECTIFIER OK, a yellow LED for EQUALIZE, a green LED for FLOAT, and an OUTPUT CURRENT meter comprised of 10 green LEDs.

Filtering. Output ripple (without batteries connected) measured at all line and load conditions is: Wide band: less than 100 mV peak to peak from 0 to 20 MHz; less than 200 mV peak to peak from 0 to 100 MHz; less than 15 mV rms from 0 to 10 MHz; less than 5 mV rms from 0 to 100 kHz. Voice band: less than 23 dBnC.

EMI. The rectifier meets FCC regulation Part 15, Subpart B, Class A.

Immunity. The rectifier meets immunity requirements stated in Telcordia Technologies GR-1089-CORE.

Output Protection Temperature Compensated Current Limiting. Rectifiers are equipped with a temperature compensated current limit point. When the ambient temperature measured at the bottom of the rectifier exceeds the normal operating design environment, output current is automatically reduced to a limit preset for each specific rectifier model. This includes both standard and temperature hardened models.

Adjustable High Voltage Shutdown (HVS) with Auto Restart. The rectifier module will shut down and then attempt to restart if the DC output voltage exceeds a preset level. This level is adjustable in .5 volt increments (e.g. 53.5 to 61 VDC).

SPECIFICATIONS.

RECTIFIER MODULES	STANDARD MODELS (-40°C TO +65°C)
Model Number	MOD4825T
Part Number	9154100200
Input Voltage Range	176 to 264 VAC 45 to 65 Hz Single Phase
Output Voltage Range	
Float	-47 to -56 VDC
Nominal	-52 VDC
Equalize	-51 to -60 VDC
Nominal	-56 VDC
Output Current (At input voltage and ambient operating temperature**)	176 to 264 VAC 25 A (-40°C to +50°C / -40°F to 122°F) 20 A (+51°C to +65°C / 124°F to 149°F)
Efficiency (At 1300 watts output and 240 VAC input)	>91%
Power Factor (At 240 VAC Input, 50% to 100% load)	.95
Static Voltage Regulation (At all line, load and environmental conditions)	±0.5%
Input Current @ 1300 W output	176 VAC - 8.2 A 208 VAC - 7.0 A 240 VAC - 6.2 A
Maximum Output Power	1500 W
Heat Dissipation @ 240 VAC and 1300 W output	440 BTU/Hr.
For use in Mounting Shelf (Part Number)	7002300101

FEATURES.

- Front access plug-in power modules.
- 2600 Watts of power in 7"/18 cm high x 23"/58 cm wide mounting shelf having an installed weight of less than 50 lbs. with two rectifiers.
- Conducted and radiated noise conforms to FCC Part 15, Subpart B, Class A.
- Complies with applicable portions of Telcordia Technologies GR-947-CORE.
- Passed seismic testing in accordance with Telcordia Technologies GR-63-CORE (Zone 4).
- UL Listing under Underwriters Laboratories Inc. Standard UL 1012.
- Bears the UL mark for Canada (CAN/CSA C22.2 No. 107.1-M91).
- All models are temperature hardened with a range of -40°C to +65°C (-40°F to 149°F).
- Operating altitude is 200 feet (61m) below Mean Sea Level (MSL) to 5000 feet (1524m) above MSL. ***Between 5000 feet (1524m) and 15,000 feet (4570m) above MSL the ambient operating temperature is derated by 2°C (3.6°F) per each 1000 feet (302m) increase in altitude.*
- Vertical airflow, convection cooling (no fans).
- Rectifier modules accept AC inputs from 176 to 264 volts, 45 to 65 Hz, single phase.
- Terminal block connections for AC inputs. Bus bar for DC output connections.
- Front-mounted LEDs indicate operational status and alarm conditions.
- Form "C" contacts for remote alarm activation.
- Separate terminal block for remote alarm connections.
- Adjustable high DC output voltage shutdown with auto restart.
- Front-mounted test and adjustment points.

