

Commander Power System



Incredible Functionality, Flexibility, and Scalability in a 5 RU, 1.0 to 14.0 Kw DC Power System

- 19", 5U rackmount shelf with integrated power distribution
- 90-250 VAC input, Power Factor Corrected
- 7 power bays accept 1000 or 2000 watt modular rectifiers
- 259 amp, 14,000 watt total max. output capacity, (222 Amp, 2,000 Watt, N+1) @ - 54 VDC
- Output temperature compensated for precise battery charging
- 18 DC circuit breaker distribution capacity, with tripped breaker alarm, 63 amp max. circuit breaker rating
- Master disconnect breakers for four battery banks, with tripped breaker alarm
- Controller with digital display of system parameters with TCP/IP interface and SNMP monitoring/logging
- Alarm contacts monitor major system functions
- Low voltage disconnect built in
- Easily configures to meet site power requirements

Complete system design and integration by Newmar to your application parameters: Rectifier configuration, installation of distribution circuit breakers, and configuration of alarms and monitors. Assembly in a relay rack with batteries and wiring also available. Let us submit a proposal on your next project.

System Power Configurations @ 48V*

Watts Per Rectifier	# of Rectifiers Installed						
	1	2	3	4	5	6	7
2000	37A (2,000W)	74A (4,000W)	111A (6,000W)	148A (8,000W)	185A (10,000W)	222A (12,000W)	259A (14,000W)

* @ 230 VAC input, 2Kw: derate 41% @ 110 VAC input; 1Kw: derate 33% @ 110 VAC input

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AC Input

Nominal:	230V
Voltage Range:	90-300V (derate @ 115 input)
Wiring Options:	1) Single 208-240VAC, 3 phase, 4 wire WYE ('Y') input or 2) 3 x separate 208-240VAC, 2 wire inputs
Frequency Range:	45-65 Hz
Power Factor:	>0.99
Efficiency:	>94% (from 30-95% output power)

DC Output

Voltage	-48 volt
Output Ratings:	Constant power output from 48V to 58V
Nominal Voltage:	48V
Rated Voltage:	58V

Power:

Rated maximum System Output Power:	14,000W @ -48V,
Polarity:	Positive Earth (or specify)
Individual Rectifier Power: (48 volt)	<u>2000 watt</u>
Amperage @ 230 vac in	37
Amperage @ 115 vac in	21

DC Distribution:

Load:	18 breaker position capacity, available amperages (specify) 6A, 10A, 15A, 20A, 30A, and 63A with tripped breaker alarm
Battery:	4 x 100A battery circuit breakers.
Breaker Fail Detection:	Electronic fail detection on both load and battery breakers
Low Voltage Battery Disconnect:	300A battery LVD installed standard, with disconnect alarm

Monitoring & Control:

Monitors all power system conditions including DC voltage, rectifier current, battery current, battery temperature, and distribution failure. Visual notification of alarm conditions by LED's and a 4 line x 16 character alpha numeric display mounted on the front panel, with remote notification being enabled by relay contacts, TCP/IP, SNMP. It has a built-in web based configurator allowing setup of system parameters using a web browser and utilizes a USB communications port which allows for local monitoring of system operations as well as easy downloading of configuration files for multiple site installations.

General System

Protection:

Current Limit:	Adjustable to 50-100% of maximum rated current.
Over Temperature:	Automatic current reduction, backup shutdown protection.
Polarity Reversal:	Output fuse with crowbar diode.
Over Voltage:	Adjustable limit.
Input Voltage:	Auto shutdown, auto restart when correct voltage restored.
Input Inrush:	<2x maximum input current.
Input Fuses:	In phase and neutral.

Technical Characteristics:

Noise:	Ripple <100Hz: <1mV rms unweighted
Voice band 100Hz-5KHz:	<1mV rms psophometric
Wide band 5kHz-1MHz:	<5mV rms unweighted
Peak to Peak 0-20MHz:	<100mV peak to peak
Isolation:	Input to Output: 4000V DC.
Input to Chassis:	3500V DC (VDR to chassis removed)
Output to Chassis:	2100V DC
Regulation:	Line = ±0.1%, Load = ±0.5% (no load to full load)

Mechanical

Shelf: Dimensions / Weight:	19" W x 8.75" H x 15.35" D / 35.15 Lbs. (excluding rectifier modules)
Rectifiers: Dimensions / Weight:	4.25" W x 2.75" W x 11.1" D / 3.15 Lbs
Cooling:	Forced cooled.

Environmental

Ambient Temperature: Range:	Nominal: 25+/-5° C -10° C to +70° C (maximum output power is derated above +50° C)
Humidity:	5-95% RH (non-condensing)
Altitude:	<8,202 ft., De-rate maximum ambient temperature by 4° C per 3,280 ft. above sea level.

Compliances

Safety:	EN60950
Electrostatic Discharge:	CISPR24
Radiated Radio Freq:	CISPR22
AC Harmonics:	EN61000-3-2
AC Flicker & Fluctuation:	EN61000-3-3
Other:	CE & RoHS compliant



Powering the Network