-48VDC: 1200 Amp Single-Bay, 9600 Amp Multi-Bay 163 Power System

- **1,200 Amps Per Bay**
  Up to 12, 100 Amp switchmode rectifiers can be installed
- **9,600 Amp Power System**
  Up to eight bays can be connected in parallel
- **Single and 3 Phase Configurations**
- **Self-Contained Power, Distribution, and Monitoring**
  Operates as an all-inclusive power solution
- **Customized Distribution**
  Each bay can be equipped with up to four panels. Nine different fuse and circuit breaker panel options are available
- **Simple Controller**
  Easy to navigate, pushbutton controller has two lines of text to allow plant monitoring and control
- **Remote Monitoring**
  The plant is accessible via the Internet, LAN, or WAN connection when equipped with an optional Gateway® card and GUI screens
- **SNMP Compliant**
- **Small Footprint**
  23.62" by 23.62" (600mm by 600mm)

Product Description

The 163 is a self-contained, expandable, power and distribution solution. Each plant is equipped with our 100 Amp digital switchmode rectifier modules, which have one of the highest power density ratings available in the industry. To meet the specific needs of a site, customized distribution is available by combining up to four of the nine available circuit breaker and fuse panels.

The controller on the front of the 163 allows the user to easily navigate plant menus to view status information, change setpoints, or monitor alarms. The system passes active status information via a CAN bus, ensuring that real-time information is available. Each system can be connected to a LAN, WAN, or the Internet, allowing staff to view plant status or make adjustments remotely. In addition, up to 24 alarms can be extended to office monitoring equipment via relay contacts.

Up to eight 163 bays can be connected in parallel, providing up to 9,600 Amps @ -48VDC. An optional battery-monitoring panel (BAP) is available for enhanced battery monitoring.

A Legacy Plant Interface is available as an option with the 163 that allows the bay(s) to be used with an existing ferroresonant rectifier system. This allows older ferro systems to gradually be updated into a modern switchmode configuration, while minimizing the expense of purchasing a new power system.

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Specifications

Input

	220VAC	480VAC
Voltage Range	176 - 265VAC, single or 3-phase	320 - 530VAC, single or 3-phase
Frequency	47 - 63Hz	
Current		
Single Phase	80A typical, 100A max @ 100% load per rectifier shelf	40A typical, 66A max @ 100% load per rectifier shelf
3-Phase	46A per phase typical, 58A max @ 100% load per rectifier shelf	23A per phase typical, 38A max @ 100% load per rectifier shelf

Output

Float Voltage Range	50 - 60VDC. Factory Set @ 54.0VDC
Regulation	± - 0.5% Line, ± 1.0% Load, at 10 - 100% load
Current	100 Amps per rectifier, 1200 Amps per bay

Environmental

Storage Ambient	-40°F to +158°F (-40°C to +70°C), from sea level to 5905' (1153m)
Operating Ambient	
Nominal	23°F to 122°F (-5°C to +50°C), from sea level to 5905' (1153m)
Hardened*	-40°F to +149°F (-40°C to +65°C), from sea level to 5905' (1153m)
Humidity	< 95% non-condensing (maximum)
Heat Dissipation	31,200 BTU/bay @ 100% load

Mechanical

Height	84.0" (2133.6 mm)
Width	23.62" (600 mm)
Depth	23.62" (600 mm)
Weight	Up to 950 lbs. (430.9kg) Exact weight is dependent on the distribution configuration
Mounting	Floor
Cooling	Front-to-rear variable speed fan on rectifier modules

Documentation

Product Manual	4380192PD
J Drawing	J438163P

*Hardened refers top the worst-case temperature operation and the system is de-rated to 80%

Contact Closures

Power Major	Rectifier Major	AC Fail	Battery on Discharge
Power Minor	Rectifier Minor	Alarm Cut Off	Battery Temperature Compensation
Distribution Fuse	Monitor Fail	High Temperature	Low Voltage Load Disconnect
Total Current	Low Voltage	Low Low Voltage	Distribution Current
Limited Recharge	High Voltage	Battery	Battery Disconnect
Battery Fuse			

Visual Indicators

	LED Description	Color
Rectifier Module:	Fail	Red
	Standby	Amber
	Go	Green

	LED Description	Color	LED Description	Color
MMC Front Panel:	Power Major	Red	Battery Fuse *	Red
	Power Minor	Amber	Battery Distribution *	Red
	Rectifier Major	Red	Battery Discharge	Red
	Rectifier Minor	Amber	Load Disconnect	Red
	Battery Monitor *	Amber	Total Current	Amber
	Distribution Fuse	Red	AC Fail	Amber
	Distribution Current	Amber	Temp High/Low	Amber
	MMC OK	Green	Float Mode	Green
	Low Low Voltage	Red	Equalize Mode	Amber
	Low Voltage	Amber	BTC Active	Amber
	High Voltage	Red	Limited Recharge	Amber

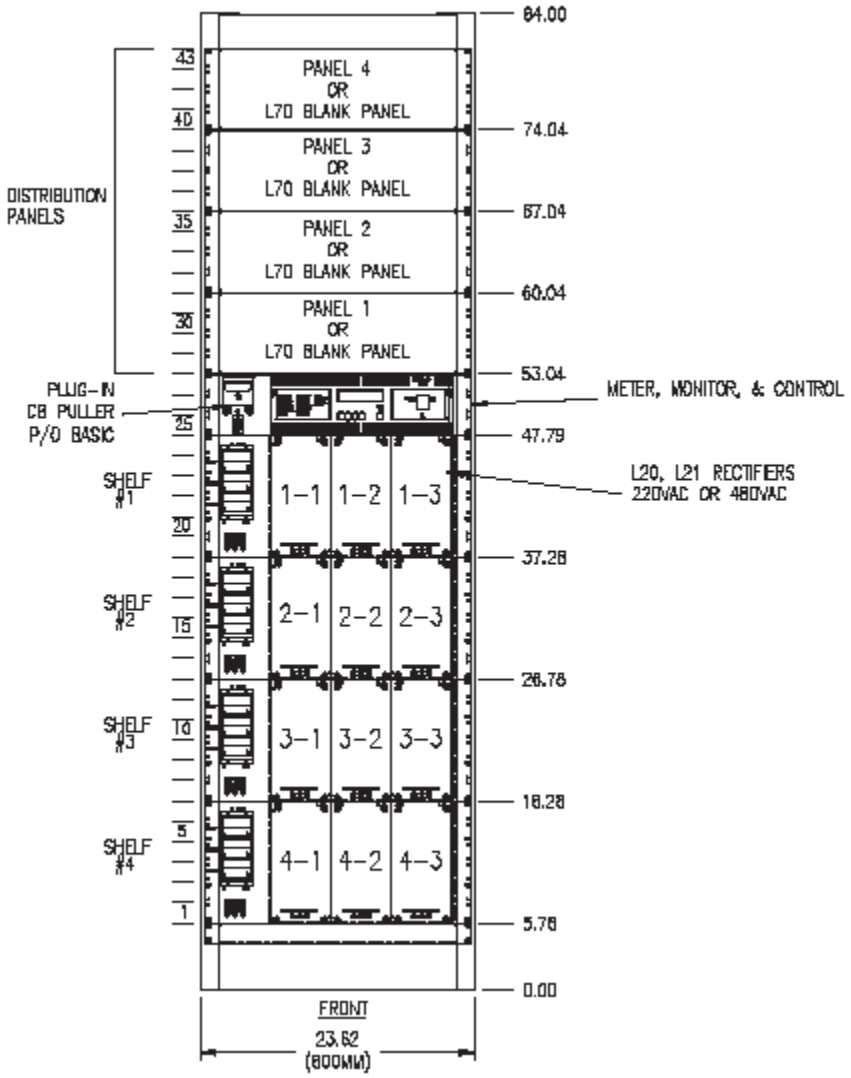
* BAP Option (optional equipment required)

Equipment Listing

List #	Description
L1	BASIC: -48VDC @ 1200 AMPS (208VAC input) CONSISTING OF: System status LED's, meter, monitor, control panel (MMC); (4) rectifier shelves; rear & side covers; monitoring for (12) shunts, basic copper bus bars; 2000AMP main discharge shunt, rear access; assembled, wired, tested, mounted in a welded box frame 84" (7'-0") x 600mm x 600mm (23.62" x 23.62")
L2	BASIC: -48VDC @ 1200 AMPS (480VAC input) CONSISTING OF: System status LED's, meter, monitor, control panel (MMC); (4) rectifier shelves; rear & side covers; monitoring for (12) shunts, basic copper bus bars; 2000AMP main discharge shunt, rear access; assembled, wired, tested, mounted in a welded box frame 84" (7'-0") x 600mm x 600mm (23.62" x 23.62")
L3	BASIC: -48VDC @ 1200 AMPS (208VAC input) CONSISTING OF: Same bay as described above in L1 with exception to the rectifier modules, which require individual AC Input. No AC breakers are provided.
L15	Cable Enclosure 15W X 84H X 24D
L20	Rectifier 100 Amp @ 48VDC, 220VAC
L21	Rectifier 100 Amp @ 48VDC, 480VAC
L22	Rectifier, blank panel
L30	Initial bay kit (required to convert a basic bay into an initial bay)
L31	Gateway communications kit
L32	Modem communications kit (requires L31)
L33	Shunt monitoring kit
L37	Low voltage load disconnect contactor 1200A for single bus
L41	Supplemental Distribution Ground Bus Assembly for (22) 1/4 X 5/8 Lugs
L43	Inner bay connection kit for battery and ground bus bars
L44	Internal Supplemental Ground Bus
L45	2600 Amp external ground window
L46	6000 Amp external ground window
L47	10,000 Amp external ground window
L50	Fuse panel (15) 3-70 Amp TPS fuse
L51	Fuse panel (6) 70-250 Amp TPL fuse
L52	Fuse panel (2) 300-600 Amp TPL fuse
L60	Circuit breaker panel (18) 2-50 Amp plug-in 1 pole
L61	Circuit breaker panel (15) 2-100 Amp plug-in 1 pole
L62	Circuit breaker panel (6) 125-150 Amp plug-in 2 pole
L63	Circuit breaker panel (4) 100-250 Amp bolt-in 1 pole
L64	Circuit breaker panel (2) 300-400 Amp bolt-in 2 pole
L65	Circuit breaker panel (1) 450-700 Amp bolt-in 3 pole
L70	Blank panel, 4 position (used where distribution panels are not equipped)
L80	Battery monitor panel (wall mount)
L90	Battery monitor panel (rack mount)
L100	Output load distribution assembly for L63
L101	Output load distribution assembly for L51 & L62
L110	Label Kit, AC Caution (Red Ink)
L115	AC Convenience Outlet
L120	Cable, Alarm & Control – 25 Feet (Requires List 31)
L121	Cable, Alarm & Control – 50 Feet (Requires List 31)
L122	Cable, Alarm & Control – 100 Feet (Requires List 31)

Line Drawing

163 Power System (single bay) is shown



Certifications

ETL Listed to UL 60950