

**GPP80 series 19"/23" Global Power Plant, -48V Output, 80A Maximum**



**80A Switchmode Rectifier System features high power in a small size**

The GPP80, -48V Global Power Rectifier System is a 3U high modular power system designed for 19"/23" rack applications, where remote performance is critical. The system supports -48V loads up to 80A (60A with n+1 redundancy) in a single shelf. -48V GPP80 hot swappable rectifier modules operate at wide AC input voltage range from as low as 85Vac and up to 264Vac at 50Hz / 60 Hz. Advanced intelligent control and monitoring unit provides system monitoring and control functions. Complete system monitoring can be achieved through standard RS232C connection and LAN interface, web browser.

**Applications**

- Central Office
- Wireless Sites
- Customer Premise Equipment
- Digital Loop Carrier (DLC)
- Controlled Environment Vault (CEV)
- Microwave Transmission Sites
- Utilities
- Industrial

**Features**

- Flexible, Modular, Cost Effective and N+1 Architecture
- Operates from 85Vac to 264Vac
- Four plug-in lightweight 20A rectifier modules in a 19" shelf (23" mounting optional)
- Continuous operation incorporates hot-swappable, plug and play rectifier modules for convenient system maintenance without interruption of service
- Complete system monitoring available through Browser and SNMP interface
- Individual DC Circuit breakers
- Reliable LED status indicators
- UL 60950 CSA C22.2 60950 Recognized

**GPR20 -48V, 20ADC RECTIFIER SPECIFICATIONS**

<b>Electrical Input</b>	
Nominal Voltage, 1 Phase	100Vac - 120Vac, 200Vac - 240Vac 2 Connector Pins and Ground.
Voltage Range	85Vac-132Vac/ 180Vac-264Vac
Nominal AC current per rectifier	5.3A at 120Vac, 10A dc output. 5.1A at 240Vac, 20A dc output.
Inrush or input surge current	25A Peak max.
Operating Frequency	50 Hz / 60Hz nominal (47Hz-63Hz)
Power Factor	?0.98 (at >50% load)
<b>Electrical Output</b>	
Output Voltage	54.6V Factory set. (Note.1)
Output Current	20Adc max. at 200-240Vac input.      10Adc max.at 100-120Vac input.
Output Voltage Regulation	< ±1.0%
Output Ripple Voltage	< 250 mV peak-peak
Psophometric Noise	< 2.0 mV
Over Current Protection	>101% of rated output current
Over Voltage Protection	64V Max.

Note.1 Factory adjustable, 46.5V to 54.6V. Please contact your Shindengen representative

Tentative Spec 4/22/02

**GPR20 -48V, 20ADC RECTIFIER SPECIFICATIONS (Continued)**

<b>Environmental</b>	
Operating Temperature	-5°C to 50°C
Operating Relative Humidity	20%-85% (non-condensing)
Storage & Transportation Temperature	-10°C to +60°C
Storage & Transportation Relative Humidity	10%-90%
Operating Altitude	<10,000 feet
<b>General</b>	
Efficiency (Typical)	> 90% (Full load at 208Vac)
Cooling	Front to Rear Dual Fan Cooling
<b>Physical</b>	
Height	5.08 in. (129mm, 3U)
Width	2.98 in. (75.6mm)
Depth	10.63 in. (270mm)
Weight	5.5 lbs. (2.5 kg)
<b>Safety / EMC</b>	
Safety	UL 60950, CSA C22.2 No.60950
EMC	EN55022, CISPR22, Class A, FCC Part 15 Class A, Radiated / Conducted Emissions
<b>Visual Indicators</b>	
LEDs	ON (Green), ALM (Red)

**GPP80 -48V, 80ADC SYSTEM SPECIFICATIONS**

<b>General</b>	
Rectifiers	Maximum of (4) rectifiers per shelf in a plant
Controller / Monitoring	Intelligent Controller with RS232C connection and LAN interfaces available.
Architecture	Maximum output capacity of 80A per plant at 200-240Vac (60A, with N+1 redundancy), 40A per plant at 100-120Vac (30A, with N+1 redundancy)
Output DC distribution	4pcs 25A Breakers, standard. Option available.
Battery Disconnect	Manual Battery Disconnect Switch.
<b>Electrical Input (Current rating is 4 modules mounted case.)</b>	
Nominal Voltage, 1 Phase	100Vac - 120Vac, 200Vac - 240Vac 2 wires plus Ground.
Voltage Range	85Vac-132Vac/ 180Vac-264Vac
Nominal AC current per rectifier	22A at 120Vac, 40A dc output. 21A at 240Vac, 80A dc output.
Inrush or input surge current	100A Peak max.
Operating Frequency	50 Hz / 60Hz nominal (47Hz-63Hz)
Power Factor	?0.98 (at >50% load)
<b>Electrical Output</b>	
Output Voltage	54.6V Factory set (Note.1)
System output current (maximum)	80A. Qty.(4) GPR20 rectifiers 200-240Vac 40A Qty.(4) GPR20 rectifiers 100-120Vac
Output Voltage Regulation	< ±1.0%
System Efficiency	> 90% (Full load at 208Vac)
Psophometric Noise	< 2.0 mV
Output Ripple Voltage	250 mV p-p

Tentative Spec 4/22/02

**GPP80 -48V, 80ADC SYSTEM SPECIFICATIONS (Continued)**

<b>Environmental</b>			
Operating Ambient Temperature	-5°C to 50°C		
Operating Relative Humidity	20%-85% (non-condensing)		
Storage Ambient Temperature	-10°C to +60°C		
Storage Relative Humidity	10%-90%		
Operating Altitude	< 10,000 feet		
<b>Hi-Pot, Insulation</b>			
Hi-Pot	Pri.-Sec.	Pri.-FG	Sec.-FG
Insulation Resistance	3kV AC	2kV AC	0.5kV DC
	500VDC at 10M OHM or more		
<b>Physical</b>			
Height	5.22 in. (132.5 mm, 3U)		
Width	17.0 in. (431.8 mm)		
Depth	12.6 in. (320mm)		
Weight (with four rectifiers, controller, system chassis)	39.6lbs. (18kg)		
<b>Safety / EMC</b>			
Safety	UL 60950, CSA C22.2 No.60950		
EMC	EN55022, CISPR22, Class A, FCC Part 15 Class A Radiated / Conducted Emissions		

**Note.2 Naming of GPP80 Series**

**GPP80 - (\*1) (\*2) (\*3) (\*4)**

- (\*1) = 1 to 4 Numbers of Modules in the Shelf.
- (\*2) = A,B,---- Module Option A=GPR20, B=GPR20A (Note3)
- (\*3) = A,B,C,---- Monitor Interface Option
  - A = Mi-Con with LAN Card.
  - B = Mi-Con without LAN Card
  - C = ALM Board
- (\*4) = 1 to 4 Numbers of DC Distribution CBs.

**Note 3. GPR20A module**

- Input 110Vac to 120Vac (Input Voltage range, 99Vac to 132Vac) Output 13.5A dc
- Input 200Vac to 240Vac (Input Voltage range, 180Vac to 264Vac) Output 20A dc
- Input Current at 120Vac input, 13.5A dc Output is 7.2A
- Input Current at 240Vac input, 20A dc Output is 5.1A
- Output Voltage 53.8V Factory set
- Operating Ambient Temperature is -5? to +40? .

**Example.1 GPP80 - 4AA4**

4pcs, GPR20 modules in shelf, Mi-con with LAN Card,  
4CBs mounted for DC distribution.

**Example.2 GPP80 - 4BA4**

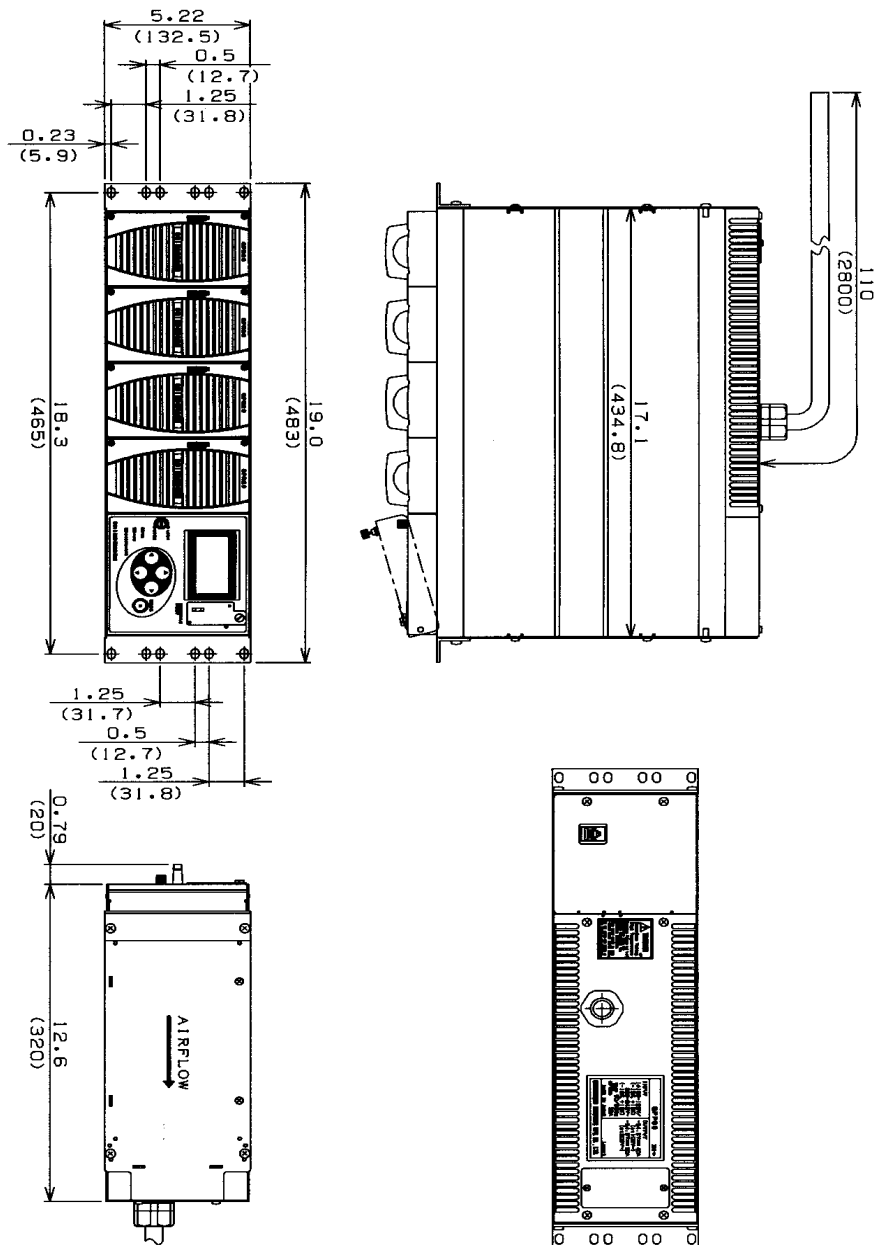
4pcs, GPR20A modules in shelf, Mi-con with LAN Card,  
4CBs mounted for DC distribution.

System Spec. of example. 2 (System Spec. using 4 pcs GPR20A modules.)

- Input 110Vac to 120Vac (Input Voltage range, 99Vac to 132Vac) Output 54A dc
- Input 200Vac to 240Vac (Input Voltage range, 180Vac to 264Vac) Output 80A dc
- Input Current at 120Vac input, 54A dc output is 29A
- Input Current at 240Vac input, 80A dc output is 21A
- Output Voltage 53.8V Factory set
- Operating Ambient Temperature is -5? to +40? .

**GPP80 series 19"/23" Global Power  
Plant, -48V Output, 80A Maximum**

GPP80 System Mechanical Drawing (4 modules mounted drawing.)  
 Unit = inch ( mm)  
 Note 4. This is a drawing for 19" standard rack mounting frame. Optional  
 tooling for 23" standard rack mounting is available. Please contact with sales.



**GPP80 series 19"/23" Global Power  
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GPR20, GPR20A Rectifier Module Mechanical Drawing  
Unit =inch ( mm)

