



**OPERATING MANUAL
GR SERIES
BULK FRONT-ENDS**

www.unipowerco.com

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Contents

1.0	INTRODUCTION	4
2.0	STANDARD FEATURES	5
3.0	SUMMARY OF PRODUCT LINE	5
4.0	SAFETY WARNINGS.....	6
5.0	WARRANTY (summary)	6
6.0	UNPACKING AND INSPECTION.....	6
7.0	MODULE SPECIFICATIONS	7
8.0	FRONT PANEL DESCRIPTION	7
9.0	DESCRIPTION OF OPERATION	8
10.0	MECHANICAL SPECIFICATIONS.....	10
11.0	SAFETY AND INDUSTRY STANDARDS.....	11
13.0	PARALLEL OPERATION	14
14.0	MODULE INSTALLATION	14
16.0	SETUP AND TESTING	15
17.0	TROUBLESHOOTING GUIDE	16

FIGURES

Figure 1 - Module	4
Figure 2 - Front Panel View	7
Figure 3 - Dimensions.....	10
Figure 4 - Connector Detail	12
Figure 5 - Connection Diagram for Parallel Operation (3 modules)	14

OPERATING MANUAL

GR SERIES FRONT-ENDS & RECTIFIERS

1.0 INTRODUCTION

GR Series is a family of industrial grade bulk power supplies / front ends.

There are 10 standard models providing outputs at 12V, 24V, 28V and 48V with output powers are 1250W, 2000W and 2500W. Input voltage for the 1250W units is a wide range 85-264VAC while the 2000W and 2500W units operate at Hi-Line 170-264VAC.

Standard features include remote ON/OFF control, remote sense & output voltage trim and incorporate input under voltage protection, over temperature protection and output OVP, over current & short circuit protection.

GR Series are designed for industrial, communications, data transmission and distributed power and many other applications.



Figure 1 - GR Series Module

2.0 STANDARD FEATURES

- ◆ Unique Thermal Architecture
- ◆ Up to 87% Efficiency
- ◆ Active Power Factor Correction
- ◆ Class B Input EMI Filter
- ◆ No Minimum Load
- ◆ Single-Wire Current Share
- ◆ Remote Inhibit
- ◆ 5V, 50mA Supervisory Output
- ◆ Overvoltage Protection
- ◆ Thermal Protection
- ◆ Overload & Short Circuit Protection
- ◆ AC Power Good & DC Power Good
- ◆ Active Inrush Current Limiting
- ◆ Integral ORing Diodes

3.0 SUMMARY OF PRODUCT LINE

STANDARD MODELS

MAX. POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT VOLTAGE	INPUT CURRENT ²	MODEL NO.
1250W	12VDC	104.2A ¹	85-264VAC	12.7A / 6.4A	GRPI3000
	24VDC	52.1A ¹		12.0A / 5.6A	GRPI5000
	28VDC	44.6A ¹		12.0A / 5.6A	GRPI6000
	48VDC	26.0A ¹		12.3A / 6.3A	GRPI7000
2000W	24VDC	83.3A	170-264VAC	9.6A	GRII5000
	28VDC	71.4A		9.6A	GRII6000
	48VDC	41.7A		9.8A	GRII7000
2500W	24VDC	104.2A	170-264VAC	12.0A	GRSI5000
	28VDC	89.3A		12.0A	GRSI6000
	48VDC	52.1A		12.3A	GRSI7000

Notes:

1. Below 90V, derate output by 10%. Full rated output power at 90-264 VAC input.
2. Input currents shown are nominal at 120/240VAC as appropriate.

4.0 SAFETY WARNINGS

- 4.1 These power supplies have hazardous external and internal voltages. They should be handled, tested and installed only by qualified technical persons who are trained in the use of power systems and are well aware of the hazards involved.
- 4.2 The input terminals are at hazardous voltage potentials. Do not touch this area when power is applied.
- 4.3 When operating this power supply, the chassis ground terminal must be connected to safety ground by means of a three-wire AC power line to minimize electrical shock hazard and to ensure low EMI (electromagnetic interference).
- 4.4 The internal voltages are at hazardous potentials. The power supply cover should not be removed. There are no user-serviceable components in these units. Removing the cover of the power supply will void the warranty.

5.0 WARRANTY (summary)

GR Series are warranted for three (3) years from date of shipment against defects in material and workmanship. This warranty does not extend to products which have been opened, altered or repaired by persons other than persons authorized by the manufacturer or to products which become defective due to acts of God, negligence or the failure of customer to fully follow instructions with respect to installation, application or maintenance.

For a complete text of UNIPOWER's warranty conditions please request a copy from your local Sales Office.

6.0 UNPACKING AND INSPECTION

- 6.1 This unit was carefully tested, inspected and packaged for shipment from our factory. Upon receipt the unit should be carefully unpacked and inspected for any damage in shipment.
- 6.2 If there is evidence of damage, do not attempt to install the unit. The freight carrier should be notified immediately and a claim for the cost of the unit should be filed with the carrier for direct reimbursement. Be sure to include the model and serial number of the damaged unit in all correspondence with the freight carrier. Also save the shipping carton and packing material as evidence of damage for the freight carrier's inspection.
- 6.3 UNIPOWER LLC will cooperate fully in case of any shipping damage investigation.
- 6.4 Always save the packing materials for later use in shipping the unit. Never ship this unit without proper packing.

7.0 MODULE SPECIFICATIONS

The following specifications are typical at 25°C unless otherwise noted.

OUTPUT

Voltage, Current & Power	see model table
Voltage Adjustment	±10%
Total Regulation ¹	1.0%
Ripple & Noise, pk-pk ²	
12V models	125mV
24V & 28V models	250mV
48V models	500mV
Holdup Time	20ms
Dynamic Response ³	1ms
Temperature Coefficient	0.05%/°C
Minimum Load	0A
Overload Protection	Constant Current Limiting
Overvoltage Protection	Latched Shutdown / Reset
Over Temperature	Shutdown with Auto-Recovery
Active Current Share ⁴	10% Differential from Rated Current
Remote Sense	Up to 0.5V per Wire
Turn-on Time, max.	2s
Efficiency	82-87% at Full Load

INPUT

Voltage Range	see model table
Power Factor	0.98
Frequency	47-63Hz
Inrush Limiting	25A
Protection	20A Internal Fuse
Conducted Emissions	EN55022 class B
	FCC20780 pt. 15J Curve B
Harmonic Distortion	EN61000-3-2
Conducted Immunity	
Fast Transients, Line-Line	±2kV (EN61000-4-4 Level 3)
Surges, Line-Line	±1kV (EN61000-4-5 Level 2)
Surges, Line-Ground	±2kV (EN61000-4-5 Level 3)

SAFETY

Standards	UL60950-1 2 nd Ed., CSA22.2 No. 60950-1 2 nd Ed., EN60950-1 2 nd Ed.
Isolation, class ⁵	
Input-Output	3000VAC
Input-Ground	1500VAC
Output-Ground	500VDC

GENERAL & ENVIRONMENTAL

Switching Frequency	70kHz
Operating Temperature	0°C to 70°C
Derating	2.5%/°C, 50°C to 70°C
Storage Temperature	-40°C to 85°C
Operating RH, max. non condensing	95%
Cooling	Internal Ball Bearing Fan

PHYSICAL

Case Material	Aluminum
Case Dimensions, inches (mm)	3.3H x 4.9W x 13.1D (83.8 x 124.0 x 333.0)
Weight	10.15lbs (4.6kg)

Notes:

1. At remote sense point over full line range and 0-100% load change.
2. 20MHz bandwidth. Measured with 0.1µF ceramic and 10µF tantalum capacitors in parallel across the output.
3. 5% deviation recovering to within 1% for 50% load change.
4. Using single wire current share with remote sense connected.
5. Input - output isolation figure is for isolation components only.
100% production Hipot tested.

8.0 FRONT PANEL DESCRIPTION

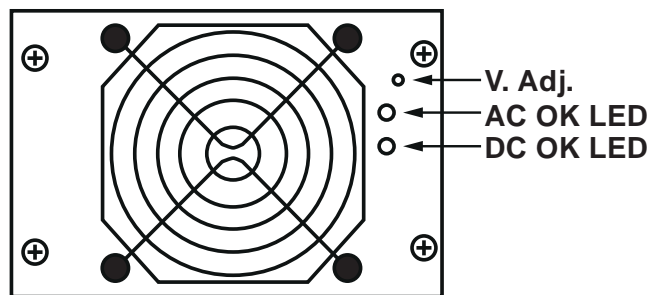


Figure 2 - Front Panel View

8.1 FRONT PANEL INDICATORS

The two green front panel indicators together indicate the status of the power module.

The top hand LED represents the ACOK signal and will mimic the state of this signal.

The bottom hand LED represents the DCOK signal and will mimic the state of this signal.

For normal operation both LEDs should be illuminated.

9.0 DESCRIPTION OF OPERATION

9.1 Power Outputs

The power output terminals provide the main output power of the unit. The output voltage is adjustable by means of a potentiometer accessible through the front panel of the module or by using the analogue remote adjust pin. Note that all of the power pins must be used for correct operation and to avoid overheating of the connector. The power output terminals are isolated from chassis ground to a maximum voltage of 2000Vdc.

9.2 I/O Signals

The # symbol in the following text is used to denote an active low signal.

9.2.1 Sense +Ve, Sense -Ve

The sense signals are intended to be connected to the point of load so that voltage drop in the load cables can be compensated for. The amount of compensation is limited to 0.5V per wire. Care must be taken when using the sense signals as if the power connections to the load are interrupted by disconnection or circuit breaker with the senses still connected then damage may occur to the power supply and sense wiring. Sense +Ve and Sense -Ve are internally connected to the module output power terminals using 10 Ohm resistors so that if the senses are not connected the output will still be regulated.

9.2.2 Current Share

This is an analog control signal, made up of the current share signals of all modules connected together. Output currents between modules are shared within an accuracy of 10% of full load current over a 50% to 100% load range. The return path for this signal is -Ve Sense which should also be connected between all modules for correct sharing operation.

9.2.3 Current Monitor

This analogue signal provides a voltage proportional to the output load current of the module. The return path for this signal is -Ve Sense. The full scale voltage for nominal full load current is 5.0V. The return path for this signal is -Ve Sense.

9.2.4 Remote Adjust

This signal can be used to adjust the output voltage. The return path for this signal is -Ve Sense.

A zero to +5V input represents approximately 45 to 58V output for a 48V/54.4V module, 22.5 to 29V for a 24V/27.2V module or 11.5 to 14.5 for a 12V/13.6V module. This input should be driven from a source impedance less than 100 ohms.

If remote adjust is not required, the pin can be left open circuit.

9.2.5 +5V Standby

This is the standby supply. The 5V supply is always present when the AC is within the operating range of the module. The maximum current available from is 100mA. The return for this power rails is Sense -Ve. This standby supply has an internal ORing diode so that it may be connected together with other 5V standby rails directly on the backplane.

9.2.6 #AC Good

A logic LO (sinks 2mA) indicates the AC input is present and the PFC converter stage has output. A logic HI indicates AC input or PFC converter failure. The return path for this signal is -Ve Sense. The AC Good signal will give typically 2ms of warning at full load before the output loses regulation. This signal is internally pulled up to +5V via a 10k resistor. To ensure correct functioning it should be pulled up externally to +5V Standby via a 2k2 resistor.

9.2.7 #DC Good

This signal provides an output that indicates that the DC output voltage is below a defined threshold. This level is nominally 90% of the nominal output voltage. A logic LO (sinks 2mA) indicates that the unit is operating properly with output voltage in its controllable range. The return path for this signal is Sense -Ve. This signal is internally pulled up to +5V via a 10k resistor. To ensure correct functioning it should be pulled up externally to +5V Standby via a 2k2 resistor.

9.2.8 #Thermal Alarm/Warning

A logic HI is normal. A logic LO (sinks 2mA) indicates thermal shutdown and occurs 100 msec. before the module shuts down. The return path for this signal is Sense -Ve. This signal is internally pulled up to +5V via a 10k resistor. To ensure correct functioning it should be pulled up externally to +5V Standby via a 2k2 resistor.

9.2.9 #Inhibit

A logic LO (sinking 5mA) or a short to -Sense signal on this pin will turn the main output off.

10.0 MECHANICAL SPECIFICATIONS

The mechanical dimensions of the GR module are shown below.

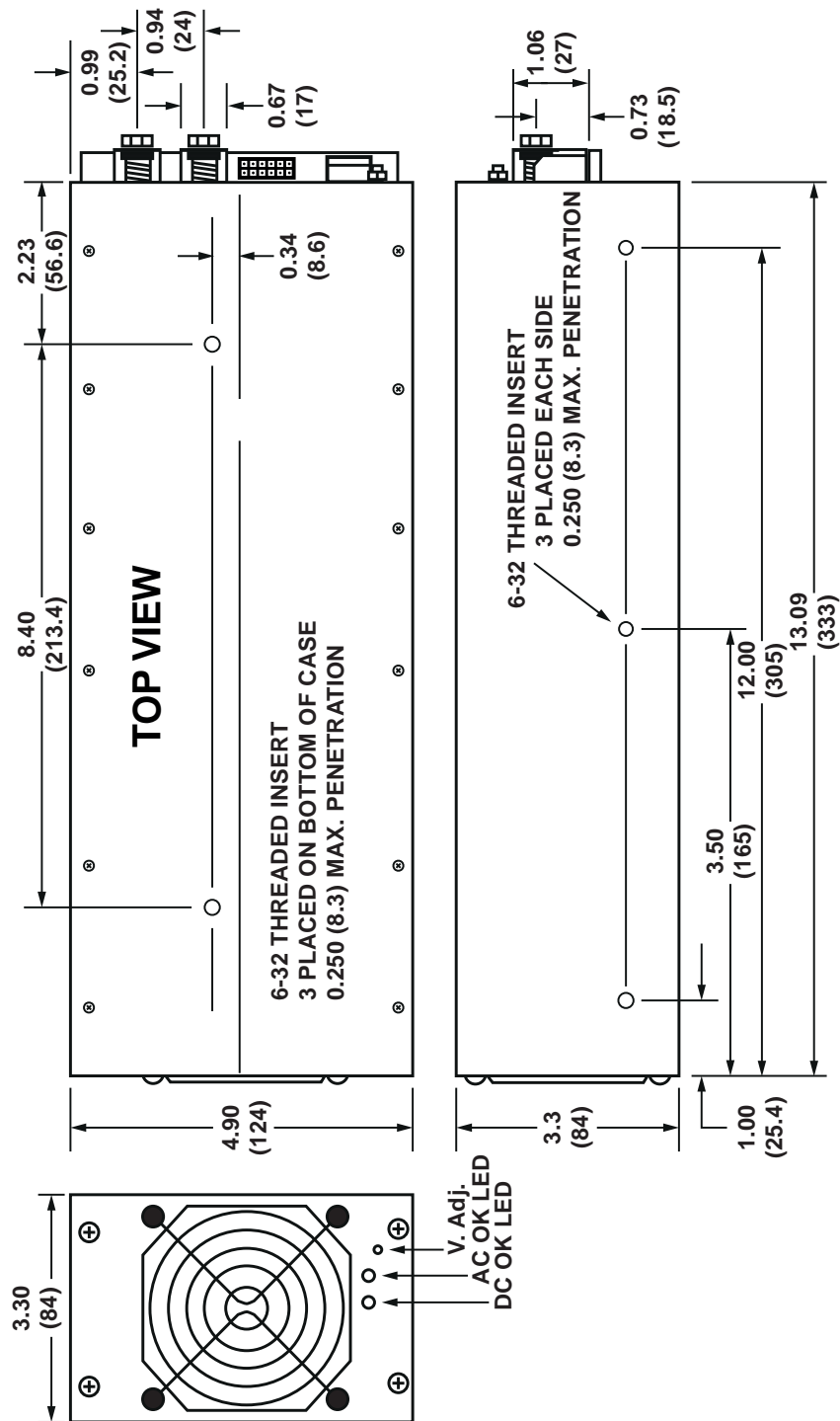


Figure 3 - GR Module Dimensions

11.0 SAFETY AND INDUSTRY STANDARDS

11.1 GR modules and power shelves meet the following safety standards:

UL60950-1, 2nd Edition
CSA22.2 No. 60950-1, 2nd Edition
EN60950-1, 2nd Edition

11.2 GR modules and power shelves are CE Marked to indicate conformance with the European Union's Low Voltage Directive.

11.3 Input conducted EMI meets FCC20780 part 15J Curve B and EN55022 Curve B.

11.4 Input harmonics, meets EN61000-3-2 Class D

11.5 Immunity, meets the following:

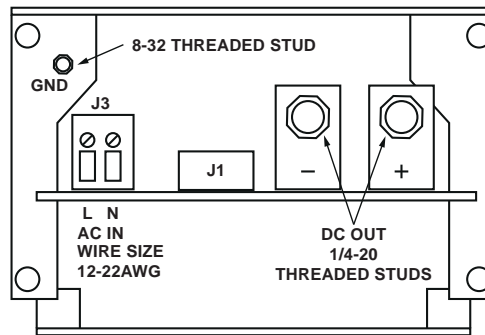
Input fast transients, line to line – EN61000-4-4, level 3, criteria A
Input surges, line to line – EN61000-4-5, level 3, criteria A
Input surges, line to ground – EN61000-4-5, level 4, criteria A
ESD – EN61000-4-2, level 4, criteria A
Radiated – EN61000-4-3, criteria A (10V/m)
Dips, Interruptions & Variations – EN61000-4-11, criteria B/C

12.0 OPERATING INFORMATION

12.1 Input Voltage and Connection - The GR Series operates from worldwide AC input voltages in the range of 85 to 264 VAC (1200/1360W units) or 180-264VAC depending on model at 47 to 63 Hz. The LINE and NEUTRAL AC connection is made to pins L & N on J3 shown in figure 4 below. The GROUND connection is made to the 8-32 threaded stud marked GND.

1200/1360W units will also operate from 100-420VDC while the remainder will operate from 200-420VDC.

12.2 Output Connections - The main output is provided on the two bus bars with 1/4-20 threaded bolts marked - and + in figure 4 below. The output is fully floating and may be configured for positive or negative operation. Signal connections are made to the Molex connector designated J1. The pinout of this connector is shown below in figure 4.



PIN	FUNCTION	PIN	FUNCTION
1	AC Power Fail	7	+5V Auxiliary
2	Current Share	8	Sense -Ve
3	Sense -Ve	9	Sense +Ve
4	Remote Adjust	10	Sense -Ve
5	Inhibit	11	DC Power Good
6	Current Monitor	12	Thermal Alarm

Figure 4 – GR Module Connector Detail

All signal and control lines are referenced to Sense -Ve.

12.3 Output Voltage - The output voltage is factory set to its nominal value to an accuracy of $\pm 1\%$. The voltage can be adjusted to any value within the range $\pm 10\%$ of nominal using the trim potentiometer or the remote adjust input (section 9.2.4).

12.5 Output Power & Current - The table on page 5 shows the maximum output power and current ratings for the various models.

When the output voltage is adjusted below the nominal voltage shown in the table the maximum current indicated will apply. Conversely, when the output voltage is adjusted above the nominal voltage shown the maximum power indicated will apply.

The maximum output power may be drawn up to +50°C air inlet temperature. Above +50°C the total output power must be derated by 2.5%/°C, up to an absolute maximum air inlet temperature of +70°C. Note that dependent on actual airflow through the unit output power may be further limited or a temperature alarm indicated at lower temperatures.

- 12.6 Overvoltage Protection** - The power supply has a fixed internal O.V.P. protection circuit. The O.V.P. level is approximately 130% of the nominal output voltage.
- 12.7 Overcurrent and short circuit protection** - The power supply will provide a constant current limit in the event of an overload on the output.
- 12.8 Remote Sensing** - Remote sensing connections are made to pins 3, 8, 9 and 10 on the connector. Remote sensing is not available on the +5V Auxiliary output. Remote sensing is used to regulate the output voltage at the point of load by compensating for the voltage drop in the wires to the load. The +Sense lead (pin 9) must be connected to the +Ve side of the load and the - Sense lead (pin 3, 8 or 10) to the -Ve side of the load. The sense leads should be a color-coded, twisted pair of AWG no. 22 or 24 copper wire.

Remote sensing can compensate for a total voltage drop of 1V, or 0.5V per load wire. The sense leads should not exceed 10 feet (3 meters) in length. If remote sensing is not required, the sense leads may be left open for local sensing at the output terminals. Be careful not to reverse the sense lead connections, as this could damage the unit.

- 12.9 Alarm, Control & Supervisory Signals** – All alarm, control and supervisory signals are available on the connector at the rear of the unit. See section 9.2 for a complete description.

All logic signals are TTL level compatible are referenced to -Ve Sense.

13.0 PARALLEL OPERATION

- 13.1 Parallel Connection** - Two or more GR modules can be operated in parallel by connecting their outputs in parallel and connecting their current share terminals together (pin 2 on J1).
- 13.2 Redundant Operation** - Connecting two GR modules in parallel so that the full output load current can be carried by one unit results in 1+1 redundant operation. While operating normally, the load current is shared approximately equally between the two units. Should one GR module fail, the full load is then maintained by the other unit. This operation is facilitated by an ORing diode built into the module. 2+1 redundancy works the same way except that the full load is carried by two out of three units respectively.
- 13.3 Non-Redundant Operation** - Higher output load currents can be realized by operating two or more modules in the non-redundant mode to achieve up to 5000 watts for two modules, 7500 watts for three modules or 10000 watts for four modules and so on. The units are connected in parallel the same as before. In this case if one unit fails, the load will lose power since only part of the load current can now be supplied by the remaining module(s), which will go into current limit. The failed unit can be quickly replaced, however, without turning the power off (hot-swap) to restore load current.

The number of GR modules that can be operated in parallel is 16.

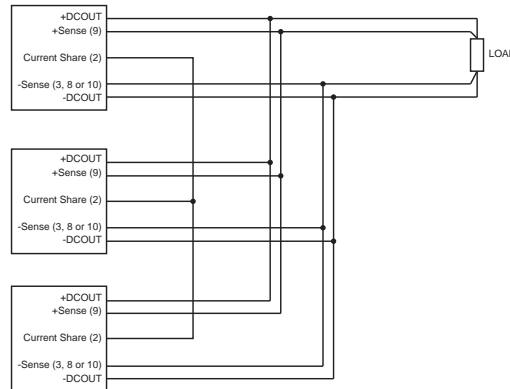


Figure 5 – Connection Diagram for Parallel Operation (3 modules)

14.0 MODULE INSTALLATION

GR Series modules are designed for chassis mounting. Fixings are available on 3 surfaces for maximum flexibility. See figure 3 on page 10 for mounting dimensions.

15.0 MAINTENANCE

No routine maintenance is required on the GR series except for periodic cleaning of dust and dirt around the front ventilation grill. A small vacuum nozzle should be used for this purpose.

16.0 SETUP AND TESTING

- 16.1** With the input power source turned off, connect input power wires Live and Neutral to the input connector J3. Make sure that the safety ground wire is also connected. Do not touch the output terminals when input power is present.
- 16.2** Connect a resistive power load across the proper output pins, terminals or bus bars. The load should be 20% to 50% of the full load value and can be either a power resistor or electronic load set to the resistive mode. Make sure that the power resistor has adequate heat sinking and cooling.
- 16.3** Connect a color-coded, twisted pair (22 or 24AWG) from the remote sense pins to the load. The +Ve Sense must go to the positive side of the load and the -Ve Sense to the negative side of the load.
- 16.4** **Checking Front Panel LEDs** - With the GR module on the bench or in the power shelf, turn on (or plug in) the power source. Both LEDs should be on.
- 16.5** **Checking the Output Voltage** - Measure the output voltage at its load with a digital voltmeter. The voltage should be within $\pm 1\%$ of its nominal value.
- 16.6** **Checking the Inhibit Input** - Unplug the input power source. Connect a wire from the Inhibit input to -Ve Sense. Turn the input power source back on. The left ACOK LED should be on and the right DCOK LED should remain off. Check the output voltage with a digital voltmeter. It should read zero volts.
- 16.7** **Checking the AC OK and DC OK Signals** - Next check the voltage on the AC OK pin with respect to -Ve Sense. The voltage should be a logic LO, +0.5V or less. Finally, check the voltage on the DC OK pin with respect to -Ve Sense. The voltage should be a logic HI, approximately +5V. These signals need pull-up resistors to 5V Standby using 10K Ohm resistors.
- Disconnect the wire between the Inhibit and -Ve Sense pins. The bottom DCOK LED should turn on. Check the output voltage on the DC OK pin as described above. The voltage should be a logic LO, +0.5V or less.
- 16.8** **Testing the Modules in Parallel** - With the input power source off or disconnected, connect two modules in parallel as shown in Figure 5 on page 14. Connect a resistive power load of approximately 80% of full load value for a single GR across the output. Connect a color-coded, twisted pair of remote sense leads to the load, being careful to connect the correct polarity.
- 16.9** Turn on or plug in the input power source. Check the voltage across the load with a digital voltmeter. The voltage should be within about $\pm 1\%$ of its nominal value. Both LEDs should be on for all units.

16.10 Repeat steps 16.8 and 16.9 adding one module at a time until all units to be operated in parallel have been tested. Disconnect the input power source.

17.0 TROUBLESHOOTING GUIDE

If you encounter difficulties in getting the rectifier modules or shelf to operate properly, go through the following troubleshooting guide.

SYMPTOM	POSSIBLE CAUSE	ACTION TO TAKE
No output, AC Good and DC Good LEDs off.	No input power.	Check connection to AC source. Check AC source circuit breakers.
No output, DC Good LED off, AC Good LED on.	Inhibit in OFF mode.	Make sure J1 Pin 5 (Inhibit) is open and not connected to -Ve Sense or output ground.
No output, DC Good LED off, AC Good LED on.	Shorted output.	Check for short and remove.
No output, DC Good LED off, AC Good LED on.	Oversvoltage protection (OVP) has latched.	Reset output by cycling the AC input OFF for 20 seconds, and then back ON.
No output, DC Good LED off, AC Good LED on.	Overtemperature protection is activated on one or more rectifier modules.	Check the Thermal Alarm output of each module for a logic LO, indicating activated thermal protection. Allow module to cool down for about 10 minutes. Check to see if the cooling fans are operating.
No output, DC Good LED off, AC Good LED on.	Output load is too great for the number of rectifier modules.	Reduce load to proper level.

If none of the above actions solves the problem, call UNIPOWER for help and try to resolve the problem over the telephone:

US: + 1 954-346-2442

UK: +44 1903 768200

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GR SERIES

1250-2500W INDUSTRIAL GRADE BULK POWER SUPPLIES/FRONT END

DESCRIPTION

UNIPower's GR Series is a family of industrial grade bulk power supplies / front ends.

There are 10 standard models providing outputs at 12V, 24V, 28V and 48V with output powers are 1250W, 2000W and 2500W. Input voltage for the 1250W units is a wide range 85-264VAC while the 2000W and 2500W units operate at Hi-Line 170-264VAC.

Standard features include remote ON/OFF control, remote sense & output voltage trim and incorporate input under voltage protection, over temperature protection and output OVP, over current & short circuit protection.

GR Series are designed for industrial, communications, data transmission and distributed power and many other applications.

FEATURES

- ◆ Unique Thermal Architecture
- ◆ Up to 87% Efficiency
- ◆ Active Power Factor Correction
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- ◆ 5V, 50mA Supervisory Output
- ◆ Overvoltage Protection
- ◆ Thermal Protection
- ◆ Overload & Short Circuit Protection
- ◆ AC Power Good & DC Power Good
- ◆ Active Inrush Current Limiting
- ◆ Integral ORing Diodes

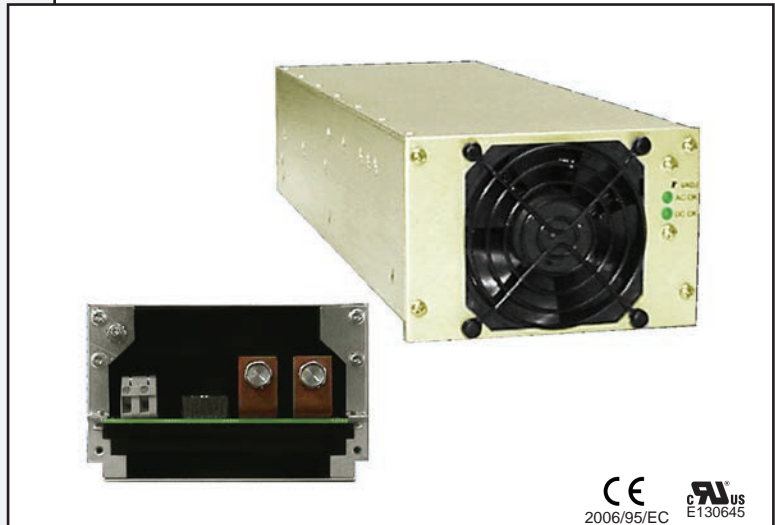
TWO YEAR WARRANTY

SAFETY STANDARDS

UL60950-1 2nd Edition
CSA22.2, No. 60950-1 2nd Edition
EN60950-1 2nd Edition

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STANDARD MODELS

MAX. POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT VOLTAGE	INPUT CURRENT ²	MODEL NO.
1250W	12VDC	104.2A ¹	85-264VAC	12.7A / 6.4A	GRPI3000 GRPI5000 GRPI6000 GRPI7000
	24VDC	52.1A ¹		12.0A / 5.6A	
	28VDC	44.6A ¹		12.0A / 5.6A	
	48VDC	26.0A ¹		12.3A / 6.3A	
2000W	24VDC	83.3A	170-264VAC	9.6A	GRR15000 GRR16000 GRR17000
	28VDC	71.4A		9.6A	
	48VDC	41.7A		9.8A	
2500W	24VDC	104.2A	170-264VAC	12.0A	GRSI5000 GRSI6000 GRSI7000
	28VDC	89.3A		12.0A	
	48VDC	52.1A		12.3A	

Notes:

1. Below 90V, derate output by 10%. Full rated output power at 90-264 VAC input.
2. Input currents shown are nominal at 120/240VAC as appropriate.

PARALLEL / REDUNDANT OPERATING

GR Series units have built-in ORing diodes to allow operation in parallel or parallel-redundant modes without the need for any additional external circuitry.

For Hot-Swap Redundant requirements see the web site for our comprehensive range of Hot-Swap Front Ends

SPECIFICATIONS

Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

OUTPUT

Voltage, Current & Power.....	see model table
Voltage Adjustment	±10%
Total Regulation ¹	1.0%
Ripple & Noise, pk-pk ²	
12V models.....	125mV
24V & 28V models.....	250mV
48V models.....	500mV
Holdup Time	20ms
Dynamic Response ³	1ms
Temperature Coefficient.....	0.05%/°C
Minimum Load.....	0A
Overload Protection.....	Constant Current Limiting
Overvoltage Protection.....	Latched Shutdown / Reset
Over Temperature.....	Shutdown with Auto-Recovery
Active Current Share ⁴	10% Differential from Rated Current
Remote Sense.....	Up to 0.5V per Wire
Turn-on Time, max.....	2s
Efficiency	82-87% at Full Load

INPUT

Voltage Range.....	see model table
Power Factor	0.98
Frequency.....	47-63Hz
Inrush Limiting	25A
Protection	20A Internal Fuse
Conducted Emissions.....	EN55022 class B FCC20780 pt. 15J Curve B
Harmonic Distortion	EN61000-3-2
Conducted Immunity	
Fast Transients, Line-Line.....	±2kV (EN61000-4-4 Level 3)
Surges, Line-Line	±1kV (EN61000-4-5 Level 2)
Surges, Line-Ground	±2kV (EN61000-4-5 Level 3)

SAFETY

Standards	UL60950-1 2 nd Ed., CSA22.2 No. 60950-1 2 nd Ed., EN60950-1 2 nd Ed.
Isolation, class 1 ⁵	
Input-Output.....	3000VAC
Input-Ground.....	1500VAC
Output-Ground.....	500VDC

GENERAL & ENVIRONMENTAL

Switching Frequency	70kHz
Operating Temperature	0°C to 70°C
Derating.....	2.5%/°C, 50°C to 70°C
Storage Temperature	-40°C to 85°C
Operating RH, max. non condensing	95%
Cooling	Internal Ball Bearing Fan

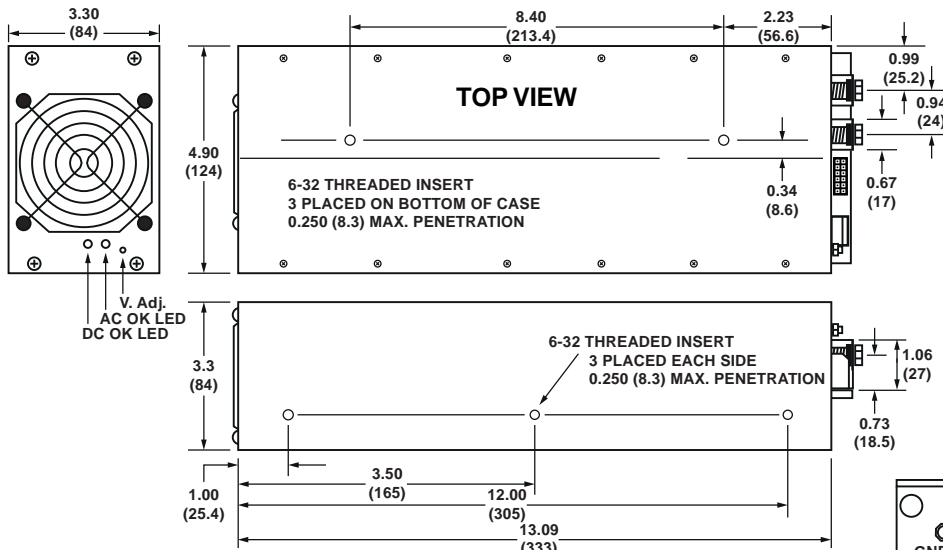
PHYSICAL

Case Material	Aluminum
Case Dimensions, inches (mm).....	3.3H x 4.9W x 13.1D (83.8 x 124.0 x 333.0)
Weight	10.15lbs (4.6kg)

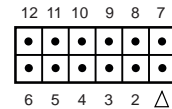
Notes:

1. At remote sense point over full line range and 0-100% load change.
2. 20MHz bandwidth. Measured with 0.1µF ceramic and 10µF tantalum capacitors in parallel across the output.
3. 5% deviation recovering to within 1% for 50% load change.
4. Using single wire current share with remote sense connected.
5. Input - output isolation figure is for isolation components only. 100% production Hipot tested.

CASE OUTLINE



J1 TOP VIEW

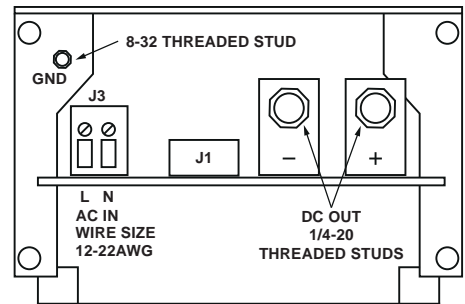


J1 PIN CONNECTIONS

PIN	FUNCTION	PIN	FUNCTION
1	AC Power Fail	7	+5V Auxiliary
2	Current Share	8	Sense -Ve
3	Sense -Ve	9	Sense +Ve
4	Remote Adjust	10	Sense -Ve
5	Inhibit	11	DC Power Good
6	Current Monitor	12	Thermal Alarm

All signal & control lines are referenced to Sense -Ve.

BACK VIEW



J1 MATING CONNECTOR

Housing:	Molex 43025-1200
Crimp:	Molex 43030-0001
Kit Number:	775-1475-0000