INTEGRATED POWER DESIGNS

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GRN-200 SERIES OPERATING INSTRUCTIONS

INPUT RATING: 100-240VAC, 5A, 50-60 Hz.

OUTPUT RATING: 200 Watts Maximum Total Continuous Output Power with 300 LFM Forced Air.
135 Watts Maximum Total Continuous Output Power Convection Cooled.
Refer to Product Data Sheet for additional derating requirements.

MODEL LISTING:

MODEL	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4
GRN-200-4001	+3.3V/30A	+5V/8A	+12V/2A	-12V/2A
GRN-200-4002	+5V/30A	+3.3V/8A	+12V/2A	-12V/2A
GRN-200-4003	+5V/30A	+24V/3A	+12V/2A	-12V/2A
GRN-200-4004	+5V/30A	+24V/3A	+15V/2A	-15V/2A
GRN-200-4005	+24V/6A	+5V/8A	+12V/2A	-12V/2A
GRN-200-3001	+5V/30A	+12V/6A	-	-12V/2A
GRN-200-3002	+5V/30A	+15V/5A	-	-15V/2A
GRN-200-3003	+5V/30A	-	+24V/1.5A	-24V/1.5A
GRN-200-2001	+5V/30A	+24V/3A	-	-
GRN-200-2002	+5V/30A	+12V/6A	-	-
GRN-200-2003	+12V/12A	-12V/6A	-	-
GRN-200-2004	+15V/10A	-15V/5A	-	-

NOTES: 1. A suffix may be added to the model number to indicate the following optional configurations:
(CH-Chassis, CO-Cover, IO-Isolated Outputs, PF-Power Fail Warning, BF-Type BF, WT-Low Temperature Turn On).

DECLARATION OF CONFORMITY

Manufacturer: Integrated Power Designs, Inc.
Manufacturer's Address: 300 Stewart Road, Wilkes-Barre, PA 18706 USA
Product Type: Switchmode AC-DC Power Supply

Declares all models listed above including all options are in compliance with the following European Community Directives:

Low Voltage Directive 2014/35/EU of 26 February 2014
RoHS Directive 2015/863/EU of 31 March 2015

As well as with the requirements set out in the Laws of the United Kingdom relating to and applying the following standards:

Electrical Equipment (Safety) Regulations 2016 SI No. 1101
BS EN 62368-1:2014/A11:2017
Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 SI No. 3032 + 2019 SI No.492

In addition, all models are Certified to be in compliance with applicable requirements of UL 62368-1:2014, ANSI/AAMI ES60601-1:2005/AMD2 :2021, IEC 62368-1:2014 and IEC 60601-1:2005/A2:2020 including all EU national deviations, CAN/CSA-C22.2 No. 62368-1-14, CAN/CSA-C22.2 No. 60601-1:14 , AM1:2014, AM2:2022, EN 62368-1:2014 and EN 60601-1:2006/A2:2021.

BY: John Thompson - President
John Thompson
PLACE: Integrated Power Designs
300 Stewart Road, Wilkes-Barre, PA 18706 USA
DATE: March 24, 2025

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CLASSIFICATION:
1. Protection against electric shock – Class I.
2. Protection against harmful ingress of water – IPX0 (Non-protected), ordinary.
3. Methods of sterilization- None.
4. Suitability for use in an oxygen rich environment – End user responsibility, not evaluated.
5. Mode of operation – Continuous

WARNING!
RISK OF FIRE! An open internal fuse indicates a catastrophic failure of circuit component(s). Repair must be by authorized IPD personnel only. Refer to fuse rating on power supply circuit board for rating.

WARNING!
SHOCK HAZARD! Dangerous voltages are present on some components, printed circuit board traces and heatsinks. Product may continue running for up to one minute and components may remain energized after AC power is removed.

SEPARATION: Primary to Secondary creepage distance is 8mm minimum, clearance 5mm minimum (2MOPP). Primary to Ground creepage distance is 4mm minimum, clearance 2.5mm minimum (1MOPP). Secondary to Ground creepage distance is 3.0mm minimum, clearance 1.6mm minimum (Operational Insulation).

BF Suffix models Primary to Secondary creepage distance is 8mm minimum, clearance 5mm minimum (2MOPP). Primary to Ground creepage distance is 4mm minimum, clearance 2.5mm minimum (1MOPP). Secondary to Ground creepage distance is 3.2mm minimum, clearance 2.0 mm minimum (1MOPP). Required separation must be maintained in the end product to preserve the established means of protection.

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INPUT FUSE: In consideration of clause 8.11.5 of IEC 60601-1:2005, this product includes a fuse in both the phase and neutral lead.

OUTPUTS: Outputs are not intended for patient connection. All outputs are ES1 under normal and single fault conditions unless otherwise indicated.

TEMPERATURES: The maximum operating temperatures of safety components as defined in the applicable safety standards must not be exceeded after installation in the end use equipment.

HIPOT: In consideration of IEC 60601-1:2005 Clause 8.8.3, care must be taken to insure the voltage applied to a reinforced insulation does not overstress different types and levels of insulation. Breakdown of basic insulation and catastrophic failure of the power supply may result if a test voltage of greater than 1800 VAC is applied between primary and secondary circuits. Each isolating component is factory tested at 4000 VAC minimum prior to installation. Secondary to ground capacitors may need to be disconnected prior to performing a dielectric strength test on the power supply or the end product.

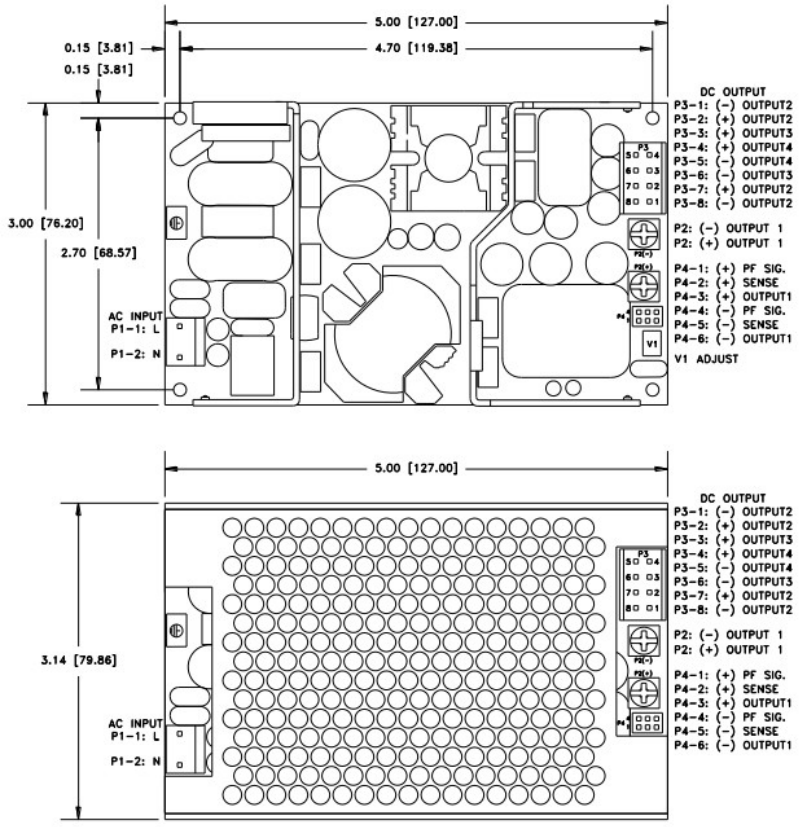
INSTALLATION: These power supplies are considered components intended for professional installation into end use equipment. The protective earth (ground) terminal must be bonded to protective earth in the end use equipment.

EMISSIONS: This product was tested for compliance with EN 55022 and EN 55011 Class B conducted and radiated emissions using the techniques listed below and non-inductive load resistors to simulate operation in a typical installation. All or a combination of the following requirements may be necessary to insure compliance in the end use equipment.

1. Use of optional chassis and cover.
2. Twisted pair I/O cables.
3. Use of ferrite beads on I/O cables at power supply end.
4. Load shielded or mounted on grounded plane.
5. Grounded output returns.

BF Suffix models have not been evaluated for EMC requirements per 60601-1-2. Compliance must be determined in end product application.

CONNECTIONS / DIMENSIONS:



CONNECTORS:

P1 (AC Input)	0.156 friction lock header mates with Molex 09-50-3031 or equivalent crimp terminal housing with Molex 08-50-0189 or equivalent crimp terminal.
P2 (DC Output 1)	6-32 screw-down terminal mates with #6 ring-tongue terminal. (10 IN-LB max.)
P3 (DC Outputs 2-4)	5566 Mini-Fit jr. header mates with 5557 Mini-Fit jr. or equivalent housing with 5556 Mini-Fit or equivalent crimp terminal.
P4 (Sense)	0.100 friction lock header mates with Molex 22-55-2061 or equivalent housing with Molex 71851 or equivalent crimp terminal.
GND (Ground)	0.187 quick disconnect terminal.