INTEGRATED POWER DESIGNS

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CE-150 SERIES OPERATING INSTRUCTIONS

INPUT RATING: 100-240VAC, 3.5 A, 50-60 Hz.

OUTPUT RATING: ▫150 Watts maximum output power forced air cooled. ▫125 Watts maximum output power base plate cooled.
▫100 Watts maximum output power free air convection cooled.

MODEL LISTING:

Model	Output 1	Output 2	Output 3	Output 4
CE-150-4001	+3.0-3.3VDC/15A	+5VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-4002	+5VDC/15A	+3.0-3.3VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-4003	+5VDC/15A	+3.0-3.3VDC/5A	+15VDC/2A	-15VDC/2A
CE-150-4004	+5VDC/15A	-5.2VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-4005	+5VDC/15A	-5.2VDC/5A	+15VDC/2A	-15VDC/2A
CE-150-4006	+5VDC/15A	+12VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-4007	+5VDC/15A	+12VDC/5A	+15VDC/2A	-15VDC/2A
CE-150-4008	+15VDC/5A	+15VDC/5A	24VDC/1A	24VDC/1A
CE-150-4009	+5VDC/15A	+12VDC/5A	+15VDC/2A	-12VDC/2A
CE-150-4011	+5VDC/15A	+12VDC/5A	-5VDC/1A	-12VDC/1A
CE-150-4101	+5VDC/15A	+24VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-4102	+5VDC/15A	+24VDC/5A	+15VDC/2A	-15VDC/2A
CE-150-4103-IT(2)	+5VDC/15A	+24VDC/5A	+12VDC/2A	-12VDC/2A
CE-150-3001	+5VDC/15A	+12VDC/5A	-----	-12VDC/2A
CE-150-3002	+5VDC/15A	+15VDC/5A	-----	-15VDC/2A
CE-150-3003	+15VDC/1A	-15VDC/5A	+5VDC/2A	-----
CE-150-3004	+5VDC/15A	+15VDC/5A	+36VDC/2.5A(3)	-----
CE-150-2001	+12VDC/7.5A	-12VDC/5A	-----	-----
CE-150-2002	+15VDC/5A	-15VDC/5A	-----	-----
CE-150-2003	+5VDC/15A	+12VDC/6A	-----	-----
CE-150-2101	+5VDC/15A	+24VDC/5A	-----	-----
CE-150-1001	3.0-3.3VDC/30A(1)	-----	-----	-----
CE-150-1002	5VDC/30A(1)	-----	-----	-----
CE-150-1003	12VDC/12.5A	-----	-----	-----
CE-150-1004	15VDC/10A	-----	-----	-----
CE-150-1005	24VDC/6.25A	-----	-----	-----
CE-150-1006	28VDC/5.4A	-----	-----	-----
CE-150-1007	48VDC/3.1A	-----	-----	-----

NOTES:
1. Rated 20 Amps maximum when convection cooled only.
2. Certified to 62368-1 standards only.
3. ES3 only.
4. A suffix may be added to the model number to indicate the following optional configurations:
   (CO-cover, IO-isolated outputs, RE-remote inhibit, TS-terminal strip, PF-power fail, OVP-over voltage protection, 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
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/A1:2012 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/A1:2013.

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 – IPXO (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.

INPUT FUSE:

This product includes a single fuse in the phase lead only. In consideration of IEC 60601-1:2005 Clause 8.11.5, a second fuse may be required in the neutral lead of the end use equipment

SEPERATION:

Primry 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 is 2.3mm minimum, clearance 1.4mm minimum (Operational Insulation). The required creepage distances from primary to secondary and primary to ground must be maintained in the end use equipment to preserve the established means of protection.

OUTPUTS:

The outputs are not acceptable for patient connection without additional isolation. 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. Output power, ambient air temperature and convection or forced air cooling availability should be considered 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. Primary and 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:

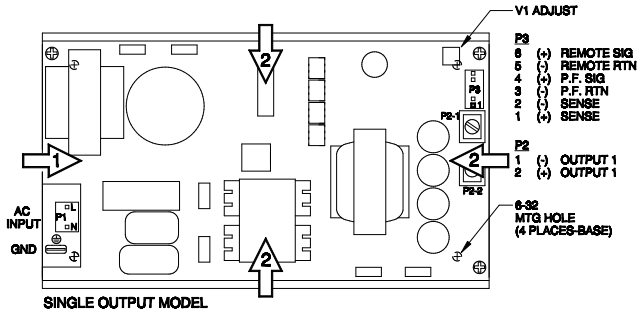
The power supplies included in model listing on reverse side are considered components intended for professional installation into end use equipment. These components have been evaluated for the output power ratings specified, convection cooled open-frame, at a 25°C ambient. Also, convection cooled with Metal Cover option, at a 25°C ambient. If the power supply is to be incorporated in equipment where the internal ambient operating temperature exceeds 25°C then the output power must be de-rated accordingly, in any case the temperature tests of Clause 11 of IEC 60601-1:2005 must be repeated in the end product. The protective earth (ground) terminal must be bonded to protective earth in the end use equipment.

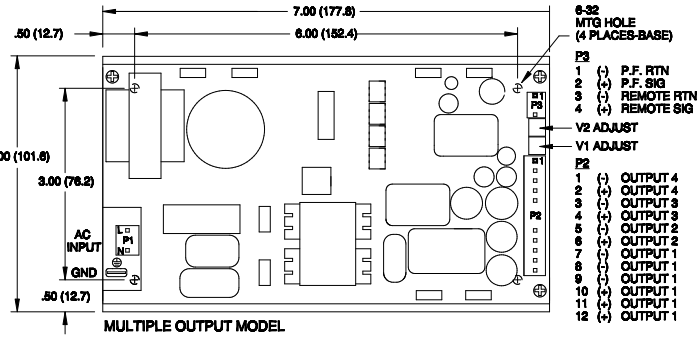
EMISSIONS:

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. Installation of the power supply, output cables and loads in a shielded enclosure.
2. Use of optional cover.
3. Use of shielded I/O cables.
4. Use of ferrite beads on I/O cables.
5. Grounded output returns as specified under GROUNDING above.

CONNECTIONS / DIMENSIONS:





AIR FLOW DIRECTION:

1. Recommended 2. Good

CONNECTORS:

P1: AC Input – 0.156 inch 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 (Single Output) – 6-32 screw down terminal mates with #6 ring tongue terminal (10 in.-lb. max.).
P2: DC Output (Multiple Output) – 0.156 inch friction lock header mates with Molex 09-50-3121 or equivalent crimp terminal housing with Molex 08-50-0189 or equivalent crimp terminal.
G: Protective Earth (Ground) – 0.187 quick disconnect terminal.
P3: Option / Sense (Single Output) – 0.100 friction lock header mates with Molex 22-01-2067 or equivalent crimp terminal housing with Molex type 6459 or equivalent crimp terminal.
P3: Option / Sense (Multiple Output) - 0.100 friction lock header mates with Molex 22-01-2047 or equivalent crimp terminal housing with Molex type 6459 or equivalent crimp terminal.