

Product Specification

Universal AC Input with PFC
2" x 3" Footprint
Single Output

Key Product Features

- EN60950-1 2nd Ed. Safety Approved
- Class I or Class II input
- BF Leakage Current
- High Power Density—17W/in³
- Active PFC
- High Efficiency—up to 93% typ.

Safety and EMC

- CSA/UL 60950-1 ITE Safety
- IEC/EN60950-1 2nd Edition
- CAN/CSA C22.2 No. 60950-1-07
- Nemko, UL, cUL and CE Marks
- EN50022 (CISPR 22) FCC Part 15 Conducted—Level B
- EN61000-3-2 Class D Harmonics
- EN61000-4-2, 3, 4, 5 Level 3 Immunity

OF120 Series

120 Watt High Density AC/DC Power Supply



Description

The OF120 Series of open frame switching power supplies utilizes a highly advanced circuit topology to deliver 120 Watts in an industry standard package that has a 3.00 x 2.00 inch footprint and 1.18 in. height. The series has been designed meet the requirements of Telecom and Industrial applications and operates over the universal AC input range with active PFC. These supplies feature cutting edge efficiency and power density and are fully and compliant with worldwide safety and EMC standards.

Ratings

Input Voltage Range—AC Input	85–264 VAC (see derating curves)
Input Frequency Range	47–63Hz
Input Current	1.2A at 115VAC, 0.65A at 230VAC
Output Power—forced convection	120W with 300LFM airflow—see derating curves
Output Power—natural convection	100W natural convection—see derating curves
Operating Temperature Range	-40°C to +50°C, to +70°C with derating
Power Factor	>0.95 at full load

Model Selection

Model	Output Voltage, VDC	Rated Current, A (300 LFM Convection)	Rated Current, A (Natural Convection)
OF120-Z120	12.0	10.0	8.33
OF120-Z150	15.0	8.0	6.66
OF120-Z240	24.0	5.0	4.16
OF120-Z300	30.0	4.0	3.33
OF120-Z480	48.0	2.5	2.08
OF120-Z580	58.0	2.07	1.72
OF120-CK	Cover Kit		

Complete model number as follows:

Replace Z in model number with 2 for Molex 172286 type header connectors or 1 for Euro Style Terminal Blocks.

Electrical Specifications

Input

Input Voltage	85-264 VAC/390 VDC5, Universal (see derating under output power)
Input Frequency	47-63 Hz
Input Current	115 VAC: 1.2 A max.; 230 VAC: 0.65 A max.
No Load Power	less than 0.3W typical
Inrush Current	115 VAC – 25 A, 230 VAC – 45 A, 264 VAC – 75 A
Leakage Current	300 uA Typical, (N.A. For Class II Option), Touch current <100uA
Efficiency	93% (48V,58V), 91% (24V,30V), 90% (12V,15V)
Hold-up Time	10 ms typical
Power Factor	exceeds 0.95 with Full Load, Active PFC

Output

Output Voltage Adjustability	+/-3%
Line Regulation	+/-0.5%
Load Regulation	+/-1%
Transient Response	25% step load change, at 0.1A/uS slew rate, 50% duty cycle, 50Hz=4% , recovery time < 5 ms
Rise Time	55ms typical
Set Point Tolerance	+/-1%
Over Current Protection	Typ 110%
Over Voltage Protection	110 to 140%, Latch type (AC recycling required)
Short Circuit Protection	Hiccup mode

EMC and Safety Certifications

EMC

CE Mark	Complies with LVD Directive
Conducted Emissions	EN55022-B, CISPR22-B, FCC PART15-B
Static Discharge	EN61000-4-2, Level-3
RF Field Susceptibility	EN61000-4-3, Level-3
Fast Transients/Bursts	EN61000-4-4, Level-3
Radiated Emissions	Level A radiated, Level B radiated with external core (King core K5B RC 25x12x15-M in input cable with 5 Turns)
Surge Susceptibility	EN61000-4-5, Level-3
Harmonic Current	EN61000-3-2, Class D

Safety

Safety Standard(s)	IEC/EN 60950-1: 2006/A11: 2009/A1: 2010/A12: 2011/A2: 2013, UL 60950-1 2nd Ed., CAN/CSA C22.2 No. 60950-1-07, 2nd Ed.
Approval Agency	Nemko, UL, C-UL
Isolation Voltage	Input to Output—3000 VAC ITE applications. Input to GND—1500 VAC

Environmental Specifications

Operating Temperature*	-40 to +70°C
Storage Temperature	-40 to +85°C
Relative Humidity	5% to 95%, noncondensing
Altitude	Operating: 16,000 ft.; Nonoperating: 40,000 ft.
MTBF	>3.00m Hours, Telcordia -SR332-issue 3

Mechanical Specifications

AC Input Connector (J1) Option 1	Molex: 39357-0003, Tyco-2-1776112-3
AC Input Connector (J1) Option 2	Molex: 1722861103 (Mating conn: Molex 172256100)
DC Output Connector (J2) Option 1	Molex: 39357-0004, Tyco-2-1776112-4
DC Output Connector (J2) Option 2	Molex: 1722861104 (Mating conn: Molex 1722561004)
Dimensions	3 x 2 x 1.18 inches (76.2 x 50.8 x 30.1mm)
Weight	200gm Max.

Connector Pin Assignments

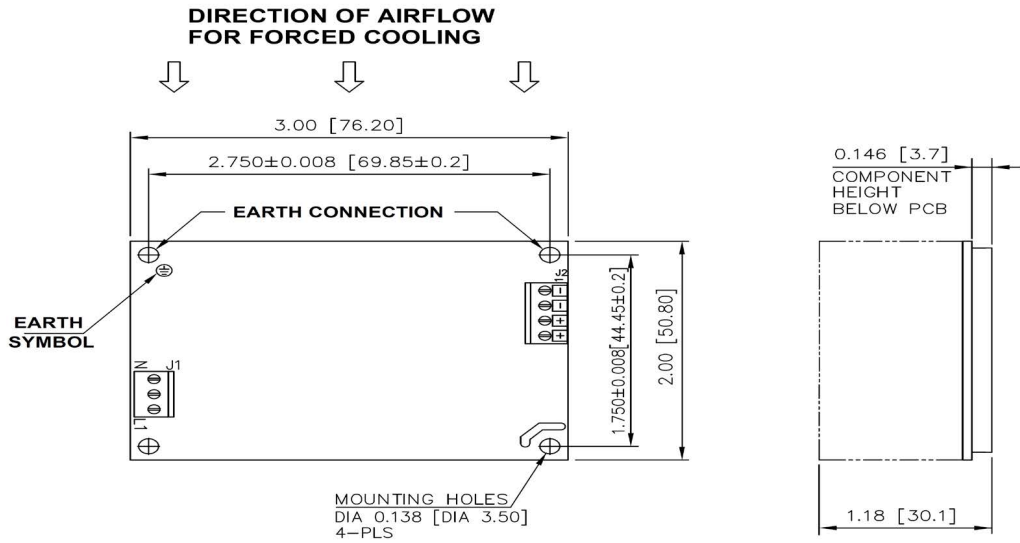
Connector	Pin	Function
J1	1	AC Line
	2	Not Provided
	3	AC Neutral
J2	1	-Vout
	2	-Vout
	3	+Vout
	4	+Vout

Notes:

1. Ripple is peak to peak with 20 MHz bandwidth and 10 μ F (Tantalum capacitor) in parallel with a 0.1 μ F capacitor at rated line voltage and load ranges.
2. Specifications are for nominal input voltage, 25°C unless otherwise stated.
3. -40 to 0°C startup is guaranteed with spec deviation in output ripple and voltage regulation.
4. Functional, not approved.

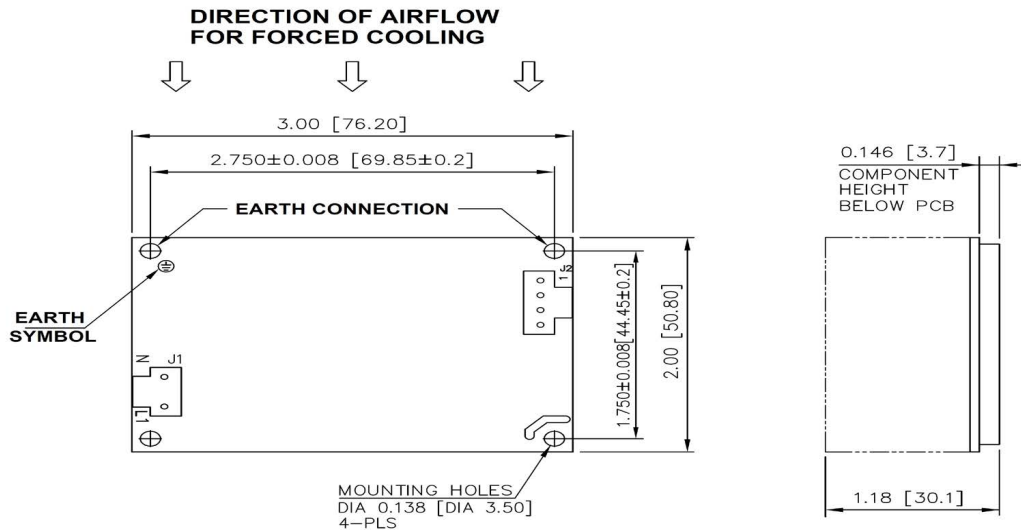
Mechanical Outline

Option -1



MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: ±0.06

Option -2



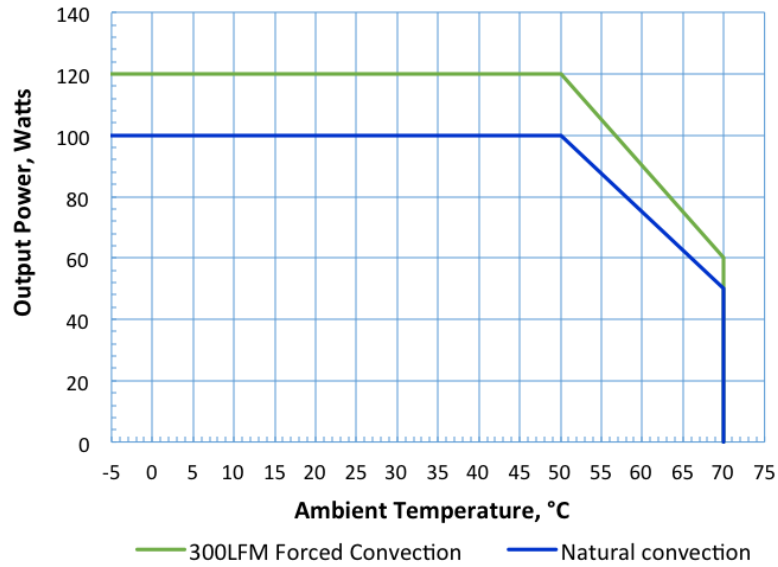
MECHANICAL OUTLINE DIMENSIONS
ALL DIMENSIONS ARE IN INCHES[MM]
GEN TOLERANCE: ±0.06

Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

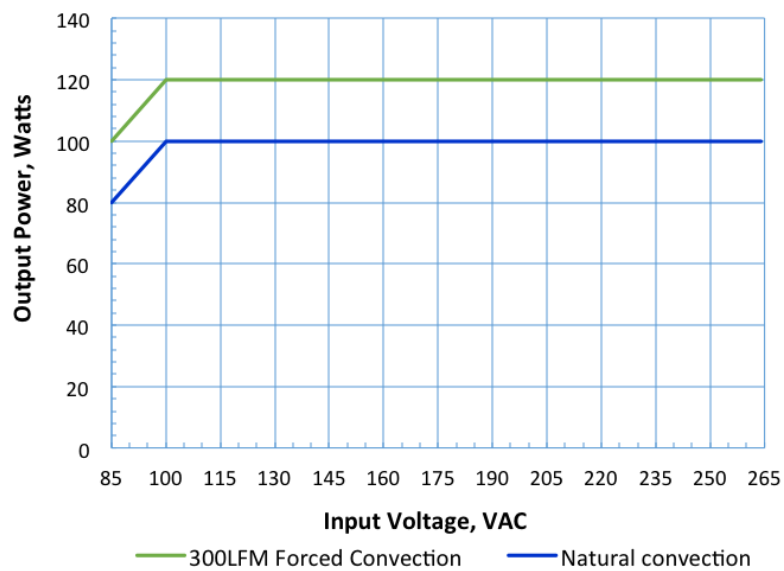
1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.

Derating Curve

**Output Power Temperature Derating
OF120-ZXXX**



**Output Power Line Voltage Derating
OF120-ZXXX**



Key Product Features

- Noncorrosive
- Easy assembly
- Low weight
- Fully safe

OF120-CK Cover Kit

120 Watt High Density AC/DC Power Supply



Derating Guidelines

OF120/OFM120: Ambient > 50°C, derate by 50% to 70°C. 300 LFM air flow to be maintained.

Contents

Mounting Base, Cover, Insulator, Fixing Screws

Mechanical Dimensions

Cover and Base Material	EG(Zintec)/CRCA/GI 1.0mm thick (Powder coating/ Passivation/ ED coating black)
Marked	A: PCB MTG; B: COVER MTG; C: SYSTEM MTG, M3 Thread ; D : EARTH CONNECTION

All dimensions are in mm. General tolerance :+/-1.0

Mechanical Outline

