Digital Power®
Flexible Power Solutions

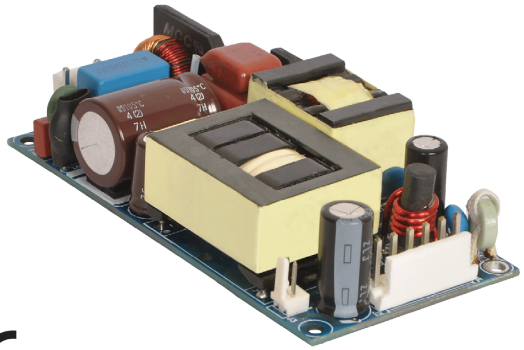
(877) 634-0982
www.digipwr.com

DPULP40 Series

40 Watt High AC/DC Power Supply

Product Specification

Universal AC Input
3" x 2" x 0.75" Footprint



Key Product Features

- IEC 60950-1 Safety Approved
- Class I or Class II

Safety and EMC

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

Description

The ULP40 Series of open frame switching power supplies utilizes a highly advanced circuit topology to deliver 40 Watts in an industry standard package that has a 3.00 x 2.00 inch footprint and 0.75 in. height. The series has been designed meet the requirements of Telecom and Industrial applications and operates over the universal AC input range. These supplies are fully compliant with worldwide safety and EMC standards.

Ratings

Input Voltage Range—AC Input	85–264VAC/390VDC, Universal
Input Frequency Range	47–63Hz
Input Current	0.8A at 115VAC max. , 0.4A at 230VAC max.
Output Power—natural convection	40W natural convection—see derating curves
Operating Temperature Range	-40°C to +70°C

Model Selection

Model	Output Voltage, VDC	Rated Current, A	
		Natural Convection	Min. Load
%1ULP40-1Z05	5.0	5.0	0.0
%1ULP40-1Z12	12.0	3.33	0.0
%1ULP40-1Z15	15.0	2.67	0.0
%1ULP40-1Z24	24.0	1.67	0.0
%1ULP40-1Z30	30.0	1.33	0.0
%1ULP40-1Z48	48.0	0.83	0.0
%1ULP40-1Z58	58.0	0.69	0.0
ULP40-CK	Metal Cover Kit		

Complete model number as follows:
Replace Z in model number with 3 for Header connectors Tyco: 640445-3(J1), 640445-4 (J2) or with 2 for PCB Mounting or with 0 for Euro Style Terminal Blocks. Add –II for class II.

Electrical Specifications

Input

Input Voltage	85–264VAC/390VDC, Universal
Input Frequency	47–63Hz
Input Current	0.8A at 115VAC max., 0.4A at 230VAC max.
No Load Power	<0.3W typical
Inrush Current	115VAC – 25A, 230VAC – 45A, 264VAC – 75A
Leakage Current	300uA Typical, (N.A. For Class II option)
Efficiency	85% Typical
Hold-up Time	40W: 6ms @230VAC

Output

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 < 5ms
Rise Time	50ms typical
Set Point Tolerance	2% (3% for 5V model)
Over Current Protection	> 110%
Over Voltage Protection	110 to 140%
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 (5 turns))
Surge Susceptibility	EN61000-4-5, Level-3
Harmonic Current	EN61000-3-2, Class D

Safety

Safety Standard(s)	IEC 60950-1 (ed.2), EN 60950-1, UL 60950-1 (2nd ed.) CSA C22.2 No. 60950-1 (2nd ed.) Class 1 SELV
Approval Agency	Nemko, UL, C-UL
Isolation Voltage	Input to Output—4242VDC

Environmental Specifications

Operating Temperature*	-40 to +70°C
Storage Temperature	-40 to +85°C
Relative Humidity	5% to 95%, noncondensing
Altitude	Operating: 16,000ft.; Nonoperating: 40,000ft.
MTBF	2m Hours, Telcordia-SR332-isue 3

Mechanical Specifications

AC Input Connector (J1) Option 1 (with Header) Option 2 (PCB Mount) Option 3 (Screw Terminal)	Tyco: 640445-3 Mating: 647402-3; Pins: 3-647409-1
DC Output Connector (J2) Option 1 (with Header) Option 2 (PCB Mount) Option 3 (Screw Terminal)	Tyco: 640445-4 Mating: 647402-4; Pins: 3-647409-1
Dimensions	3 x 2 x 0.75 inches (76.20 x 50.8 x 19.05 mm)
Weight	100gm Max.

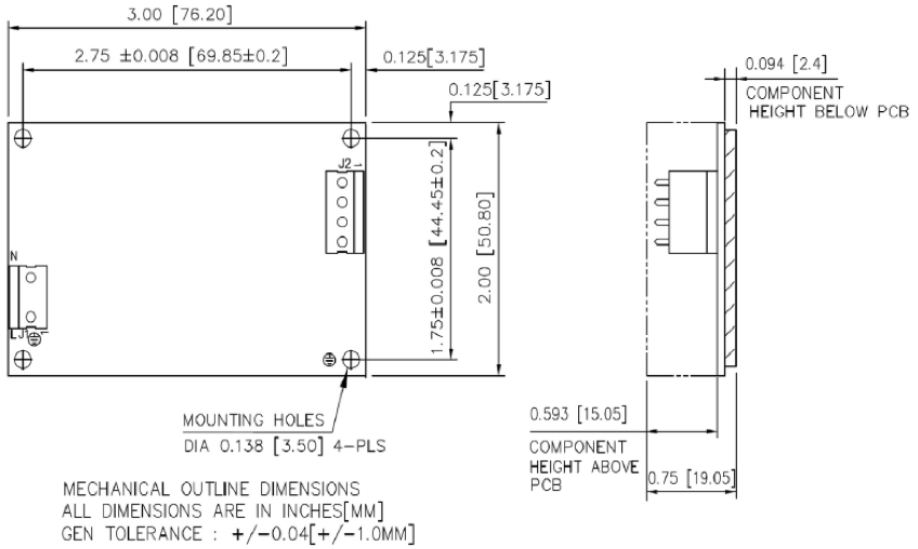
Connector Pin Assignments

Connector	Pin	Function
J1 (Option 1 & 3)	1	AC Line
	2	Not Provided
	3	AC Neutral
J2 (Option 1 & 3)	1, 2	+Vout
	3, 4	-Vout

Notes:
1. Ripple is peak to peak with 20MHz bandwidth and 10μF (Tantalum capacitor) in parallel with a 0.1μF capacitor at rated line voltage and load ranges.
2. Class II means without Earth pin.
5. Specifications are for nominal input voltage, 25°C unless otherwise stated.
7. -40 to 0°C startup is guaranteed with spec deviation in output ripple can be more than 10%.

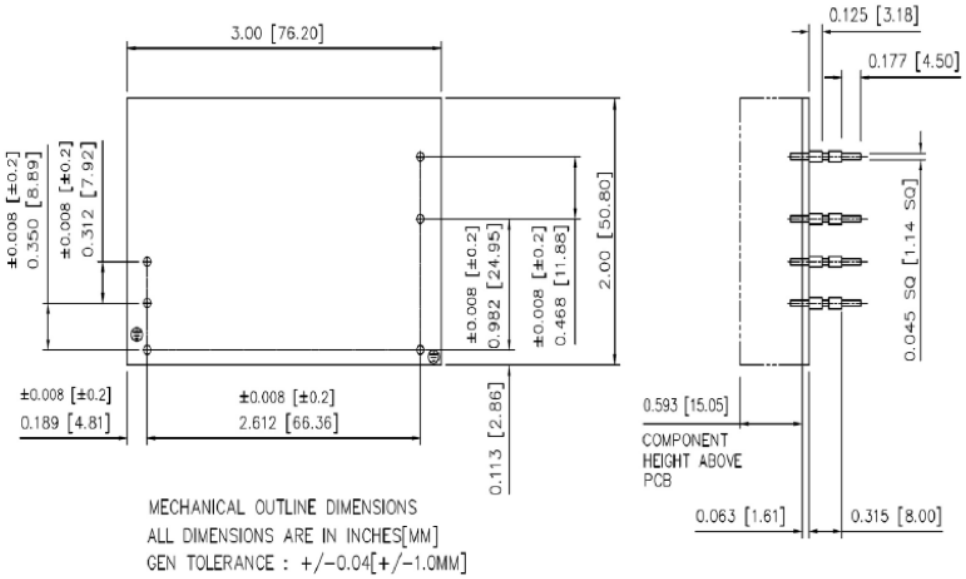
Mechanical Outline

Option 1 & 3



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

Option 2



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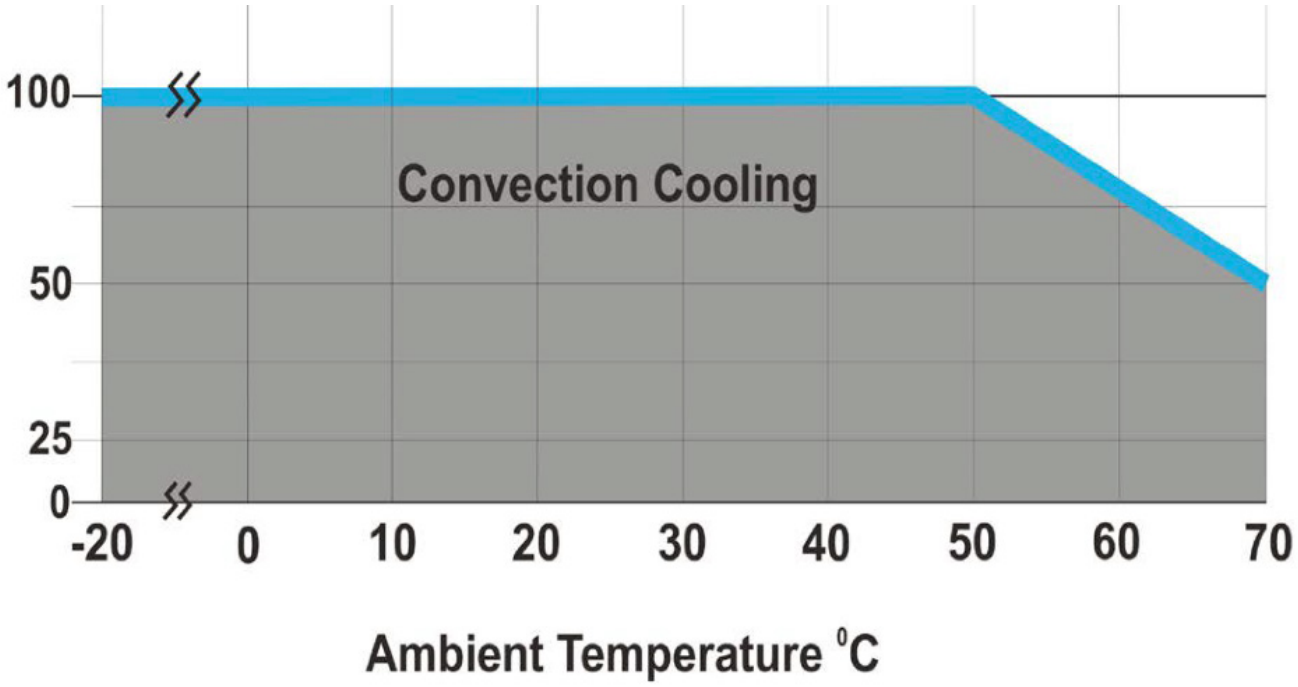
Derating Curve



Key Product Features

- Noncorrosive
- Easy assembly
- Low weight
- Fully safe

ULP40-CK Cover Kit

40 Watt High AC/DC Power Supply

Derating Guidelines

ULP40/MULP40: For Ambient > 50°C, derate by 50% to 70°C

Contents

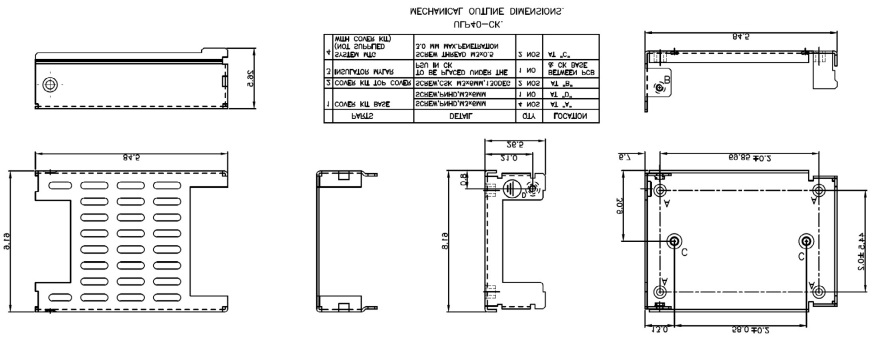
Mounting Base, Cover, Insulator, Fixing Screws

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

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

Mechanical Outline



Digital Power® Flexible Power Solutions

T: (877) 634-0982 | F: (510) 657-6634
sales@digipwr.com

Digital Power Corporation | USA
48430 Lakeview Blvd., Fremont, CA 94538, USA
www.digipwr.com | (877) 634-0982

Gresham Power Electronics | UK/Europe
Telford Rd, Salisbury, Wiltshire SP2 7PH, UK
www.greshampower.com | +44 (0)1722 413 060

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