

50 Watt Metal Enclosed, Single Output

INPUT SPECIFICATIONS

All specifications are typical at nominal input, full load.

INPUT SPECIFICATIONS

Input Voltage	90Vac–264Vac, 127~370Vdc
Input Frequency	47Hz– 63Hz
Input Current	<2.5A Max
Protection	Internal Primary Current Fuse Inrush Limiting

OUTPUT SPECIFICATIONS

Output Voltage	See Chart
Efficiency	79-89%
Protection	Over Load
	Over Voltage
	Short Circuit
Ripple and Noise	<80mV - <200mV
Hold-Up Time	>20mS (115Vac input, Full load); >50mS(230Vac input, Full load)
Transient Response	0.5mS for 50% Load Change(typ)
Load Regulation	± 1%
Leakage Current	Input-output: <0.25mA Input-PG: <0.75mA

GENERAL SPECIFICATIONS

MTBF(MILHDBK-217F)	More than 200,000Hrs (25°C, Full load)
Withstand Voltage	Primary-Secondary 3,0KVac ≤10mA. Primary-PG:1.5KVac; ≤10mA. Secondary-PG:0.5KVDC; ≤10mA
EMI Conduction & Radiation	Compliance to EN55022, EN55024 CLASS B
Harmonic Current	Compliance to EN61000-3-2,-3
EMS Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11; EN55024 heavy industry level
Safety Approvals	UL60950-1 2 ND Ed; IEC 60950-1; 2005(2 ND Ed); EN60950-1:2006



FEATURES

- No load power consumption <0.5W
- Withstand 300VA surge input for 5 secs.
- All using 105°C long life electrolytic capacitors
- 100% full load burn-in test
- Suitable for critical applications
- 3 years warranty

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C~+70°C with derating
Storage Temperature	-40°C~+85°C
Cooling.	Cooling by free air convection
Operating Humidity	20 – 90% RH No condensing
Storage Humidity	10 – 95% RH

MECHANICAL SPECIFICATIONS

Case Dimension	L99 x W82 x H35mm
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Model Number	Output Voltage	Output Current	Max Output Power
PDN-50-5	5.0V	0~8A	40.0W
PDN-50-12	12.0V	0~4.2A	50.4W
PDN-50-15	15.0V	0~3.4A	51.0W
PDN-50-24	24.0V	0~2.2A	52.8W
PDN-50-48	48.0V	0~1.12A	53.76W

Mechanical Specification Unit: mm

The mechanical drawing shows the following dimensions and features:

- Top View Dimensions:** Total width 99mm, mounting hole offset 91.5mm, terminal block width 58mm, terminal pitch 4.5mm, terminal offset 8.1mm, terminal width 6.7mm, terminal offset 20.5mm, terminal block length 55mm, mounting hole offset 91.5mm, mounting hole diameter 4mm (4-M3), mounting hole offset 36.5mm, mounting hole offset 6.7mm, mounting hole offset 9mm.
- Side View Dimensions:** Total height 35mm, mounting hole offset 28mm, mounting hole diameter 5.5mm, mounting hole offset 87mm, mounting hole offset 1.5mm, mounting hole offset 3.5mm, mounting hole offset 10mm, mounting hole offset 17.5mm, mounting hole offset 74mm, mounting hole offset 13mm.
- Terminal Block:** Terminals are labeled +V, -V, L, and N. Terminal pitch is 9.53mm.
- Assembly:** Shows a cross-section of the Customer plate, SMPS Cover, and Assemble Screw. The cover thickness is L ≤ 4mm.

Block Diagram

The block diagram illustrates the power flow and control components:

- Input:** VP (Voltage Protection) and FG (Ground).
- EMI Filter:** Connected to the input.
- RECTIFIERS & FILTER:** First stage of power conversion.
- POWER SWITCHING:** The main power conversion stage.
- RECTIFIERS & FILTER:** Second stage of power conversion.
- Output:** +V and -V terminals.
- Control:** O.L.P. (Over Load Protection) is connected to the POWER SWITCHING stage. PWM CONTROL is connected to the POWER SWITCHING stage. DETECTION CIRCUIT is connected to the output and provides feedback to the PWM CONTROL.

Derating Curve

The derating curve shows the relationship between ambient temperature and load capacity:

- Y-axis:** LOAD (%) from 0 to 100.
- X-axis:** AMBIENT TEMPERATURE (°C) from -25 to 70.
- Performance:** The power supply can operate at 100% load from -25°C to 50°C. Between 50°C and 70°C, the load capacity derates linearly from 100% to approximately 65%. Above 70°C, the load capacity drops to 0%.